SCOTTISH HYDRO ELECTRIC POWER DISTRIBUTION PLC

Marine Environmental Appraisal

Ardmore to Loch Pooltiel Distribution Cable

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Marine Environmental Appraisal

Ardmore to Loch Pooltiel Distribution Cable

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GLOSSARY

AA
Appropriate Assessment

AIS
Automatic Identification Systems

ALARP
As Low As Reasonably Practicable

BSH
Broadscale Habitat

BWM
Ballast Water Management

CEMP
Construction Environmental Management Plan

CES
Crown Estate Scotland

CFE
Controlled Flow Excavator

CITES
Convention on International Trade in Endangered Species

CLV
Cable Lay Vessel

CMS
Convention on Migratory Species

CNES
Comhairle nan Eilean Siar

COLREGs
International Regulations for the Prevention of Collision

DSV
Diver Support Vessel

EIA
Environmental Impact Assessment

EM
Embedded Mitigation

EMODnet
European Marine Observation and Data Network

EPA
Environment Protection Agency

EPS
European Protected Species

ESCA
European Subsea Cable Association

EU
European Union

FEAST
Feature Activity Sensitivity Tool

FIR
Fishing Industry Representatives

FLMAP
Fisheries Liaison Mitigation Action Plan

FLO
Fisheries Liaison Officer

GES
Good Ecological Status

GT
Giga Tonne

GtGP
Guide to Good Practice on Port Marine Operations

HDD
Horizontal Directional Drilling

HES
Historic Environment Scotland

HIRA
Hazard Identification and Risk Assessment

HMPA
Historical Marine Protected Area

HRA
Habitats Regulations Appraisal

HVAC
High Voltage Alternating Current

IBA
Important Bird Area

ICES
International Council for the Exploration of the Sea

ICG-C
Intersessional Correspondence Group on Cumulative Effects

IMO
International Maritime Organisation

INNS
Invasive Non-Native Species

IUCN
International Union for Conservation of Nature

JNCC
Joint Nature Conservation Committee

KIS-ORCA

Kingfisher Information Service - Offshore Renewable & Cable Awareness Project	
Km	kilometers
kV	kilovolt
LSE	Likely Significant Effect
MarLIN	Marine Life Information Network
MARPOL	International Convention for the Prevention of Pollution from Ships.
MCA	Maritime and Coastguard Agency
MCAA	Marine and Coastal Access Act
MCS	Marine Conservation Society
MD-LOT	Marine Directorate Licencing Operations Team
MEA	Marine Environmental Appraisal
MEPC	Marine Environmental Protection Committee
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MoD	Ministry of Defence
MPA	Marine Protected Area
MPS	Marine Policy Statement
MSFD	Marine Strategy Framework Directive
MU	Management Unit
NM	Nautical Miles
NMP	National Marine Plan
NRA	Navigational Risk Assessment
NSTA	North Sea Transition Authority
NtM	Notice to Mariners
OCT	Open Cut Trench
OIMD	Operation, Inspection, Maintenance and Decommissioning
OSPAR	Oslo/Paris Convention
OREIs	Offshore Renewable Energy Installations
PAC	Pre-Application Consultation
PAD	Protocol for Archaeological Discoveries
PLGR	Pre-Lay Grapnel Run
PMF	Priority Marine Feature
PMSC	Port Marine Safety Code
PTS	Permanent Threshold Shift
pUXO	Potential Unexploded Ordnance
RBMP	River Basin Management Plans
ROI	Republic of Ireland
ROV	remotely operated vehicle
RSPB	Royal Society for the Protection of Birds
RYA	Royal Yachting Association
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SCOS	Special Committee on Seals
SEL	Sound Exposure Levels
SEPA	Scottish Environment Protection Agency
SFF	Scottish Fishermen’s Federation
SHEPD	

Scottish Hydro Electric Power Distribution plc
SMWWC Scottish Marine Wildlife Watching Code
SOLAS Safety of Life at Sea
SOPEP Shipboard Oil Pollution Emergency Plans
SPA Special Protection Area
SSE Scottish and Southern Energy plc
SSSI Site of Special Scientific Interest
SWFPA Scottish White Fish Producers Association
TCE The Crown Estate
TTS Temporary Threshold Shift
UK United Kingdom
UKBF UK Biodiversity Framework
UKHO UK Hydrographic Office
UNCLOS United Nations Convention on the Law of the Sea
USBL Ultra-Short Baseline
UXO Unexploded Ordnance
VMS Vessel Monitoring System
WCA Wildlife and Countryside Act
WFD Warter Framework Directive
ZoI Zone of Influence

1. INTRODUCTION

Scottish Hydro Electric Power Distribution plc (SHEPD), part of the Scottish and Southern Energy plc (SSE) group of companies, holds a licence under the Electricity Act 1989 for the distribution of electricity in the north of Scotland including the islands. This region covers a quarter of the total United Kingdom (UK) landmass, with electricity being delivered to 740,000 customers. In the marine environment SHEPD maintains connections to 60 Scottish islands with over 100 subsea cable links totalling approximately 454km. SHEPD has a statutory duty to provide an economic and efficient system for the distribution of electricity and to ensure that its assets are maintained to ensure a safe, secure and reliable supply to customers.

1.1 Purpose of this Document

The purpose of this Marine Environmental Appraisal (MEA) is to support a Marine Licence application being made under the Marine (Scotland) Act 2010 and The Marine Licensing (Pre-application Consultation) (Scotland) Regulations 2013, by SHEPD, for the installation of the Skye (Ardmore) - Skye (Loch Pooltiel) submarine electricity distribution subsea cable (referred to hereafter as the Ardmore – Loch Pooltiel cable). Following consultation with Marine Directorate Licencing Operations Team (MD-LOT), it was confirmed that this Project will require formal Pre-Application Consultation (PAC). Continued stakeholder consultation has been undertaken on an ongoing basis alongside this process.

This MEA provides the baseline information and an assessment of the potential impacts on sensitive environmental receptors. Where potentially significant adverse effects have been identified, appropriate mitigation has been detailed to reduce the magnitude of effect to an acceptable level. The mitigation requirements identified by this MEA are also included in the supporting marine Construction Environmental Management Plan (CEMP), to ensure they are effectively disseminated to, and implemented by SHEPD and the cable installation contractor during the proposed works.

1.1.1 Objectives and Scope of the Marine Environmental Appraisal

This MEA provides an overview of the baseline environment within the proposed installation corridor The baseline environment includes physical and biological processes, and the human environment. The MEA identifies and assesses potential impacts from the proposed installation activities. A series of supporting documents are available for the Project which will be drawn upon or referenced throughout this MEA (listed in Table 1-1).

Table 1-1 Supporting Documents for the Marine Licence Application

Appendix	Document
A	Ardmore – Loch Pooltiel Distribution Cable Project Description (P2816_R6681)
B	West Highlands Fisheries Liaison Mitigation Action Plan (FLMAP) 2021
C	West Highland EPS Risk Assessment
D	Ardmore – Loch Pooltiel Construction Environmental Management Plan (CEMP) (P2816_R6691)

1.2 Overview of the Project

The electricity networks of Skye and South Uist are connected via a single 33 kilovolt (kV) subsea cable which has been in service for 34 years. In the Electricity Distribution 2 Price Control Period, which runs from 2023 – 2028, the existing Skye – South Uist subsea cable was identified as requiring replacement.

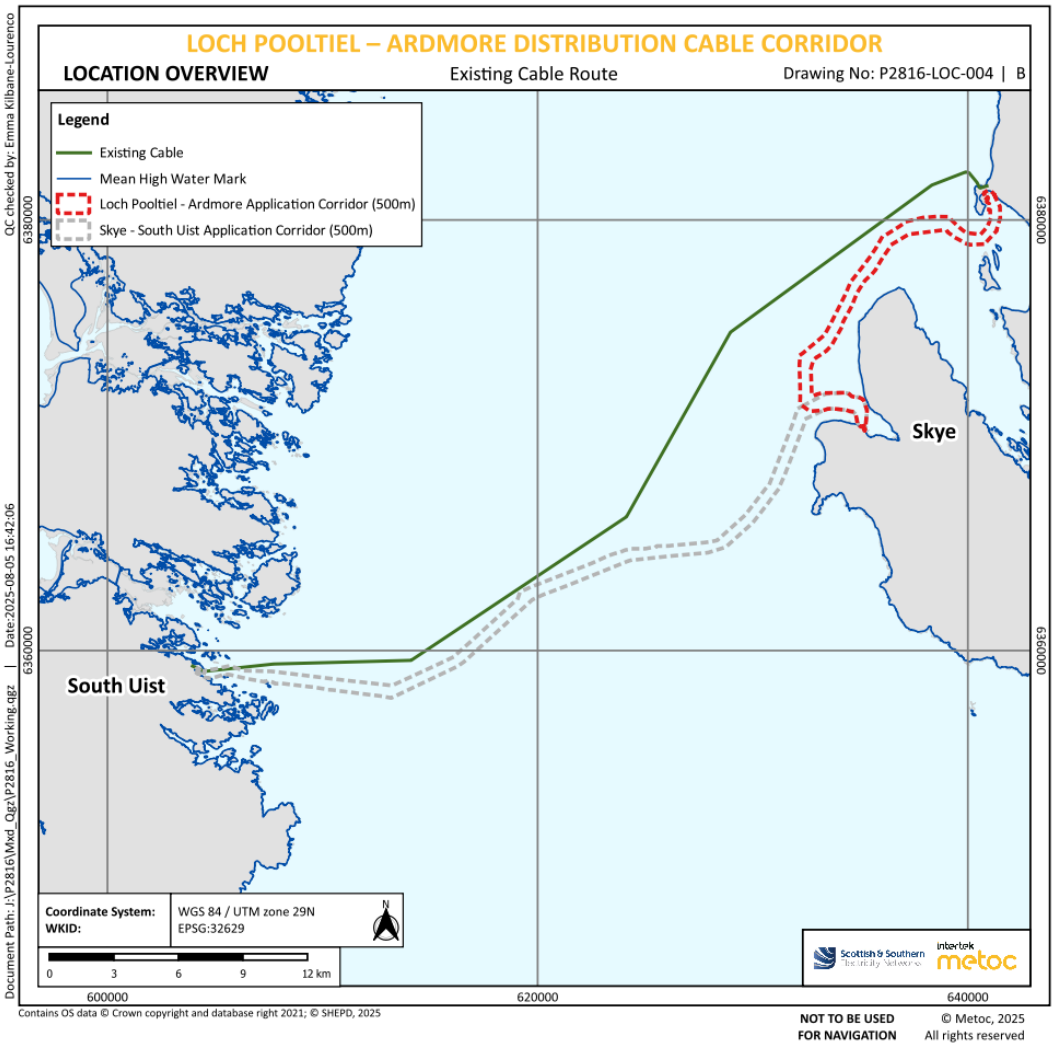
To facilitate this, the replacement cable is being progressed through two separate Projects:

- A new cable from Ardmore to Loch Pooltiel, Skye, which is the subject of this application.
- A separate Project connecting Skye (Loch Pooltiel) to South Uist, which will be subject to its own Marine Licence application.

The route discussed in this document will be a 33kV cable interlinking Skye, Ardmore – Loch Pooltiel. The cable will be approximately 20 Kilometres (km) in length.

An overview of the proposed Ardmore – Loch Pooltiel cable Application Corridor is shown in Figure 1-1.

Figure 1-1 Overview of the Proposed Cable Application Corridor



1.3 Consideration of Alternatives

Various alternative landfall sites were assessed as possibilities for the Ardmore – Loch Pooltiel cable. Following review of the existing landfall sites, the sites were considered not feasible for the landing of an additional cable. Below outlines the final selected landing points along with the alternative sites that were considered:

Loch Pooltiel:

- Loch Pooltiel (Meanish Pier) – It is planned to utilise this landfall for the Loch Pooltiel landfall. This landfall provides a suitable amount of room for new infrastructure and enables for the both the Skye (Loch Pooltiel) – South Uist and Ardmore – Loch Pooltiel cables to landfall at the same site. Additionally, this site offers a reduced route length. **Therefore, this site has been considered further.**
- Loch Pooltiel East – This landing site had rock outcrops, required an additional 1.4km of cable length, required the crossing of a chartered anchorage, had a limited extent and therefore was not suitable to land more than one cable and had a limited soil thickness. **Therefore, this site was not considered further.**
- Milovaig Beach – This landing site had poor access, required both an increased subsea and terrestrial cable length, had challenging landing geomorphology and crossed anchorages and moorings within the Meanish Community Pier. **Therefore, this site was not considered further.**

On Ardmore:

- Ardmore South – This site has been identified as capable of accommodating multiple cables while also allowing for the avoidance of crossing existing Scottish and Southern Electricity Networks (SSEN) cable infrastructure. **Therefore, this site has been considered further.**
- Ardmore West – This landing site is the proposed landing point for the Skye-Uist Replacement and Skye-Uist North cables. The rocky outcrops at this site highly restrict options for another landing site within this bay. **Therefore, this site was not considered further.**
- Ardmore East – This landing site is preferable to the Ardmore West alternative. However, it would require the cable to cross several existing cables. **Therefore, this site was not considered further.**

Following the consideration of the above alternatives it was concluded that the Meanish Pier and Ardmore South landing sites were the most suitable for the Ardmore – Loch Pooltiel cable.

1.4 Exclusions from Assessment

This assessment covers the marine cable installation activities related to the installation of the cable below Mean High Water Springs (MHWS). SHEPD realise that there is a need to consider options regarding potential future activities relating to maintenance and/or future decommissioning of the installed cable, specifically whether it shall be removed or left *in situ*. A separate Operation, Inspection, Maintenance and Decommissioning (OIMD) plan will be produced which presents SHEPD's proposed approach to these aspects at this point in time.

Geophysical survey operations including, pre, during and post installation may be conducted as part of the proposed cable installation works. However, these survey operations are subject to existing consents held by SHEPD. No geophysical survey operations are included within the scope of this MEA.

1.5 Consultation

1.5.1 Fisheries

SHEPD have engaged with the Scottish Fishermen's Federation (SFF) and Scottish White Fish Producers Association (SWFPA) Ltd to provide information on the progress of the Project and the planned survey and installation timescales as well as to understand patterns of fishing activity across the route.

1.5.2 NatureScot

Consultation with NatureScot has taken place on a regular basis regarding the Ardmore – Loch Pooltiel Project. NatureScot provided advice on receptor sensitivities along the Application corridor and have been kept informed of previous marine survey campaigns.

1.5.3 Maritime and Coastguard Agency (MCA)

SHEPD have held multiple meetings with MCA to provide regular updates on the Project and present the proposed routes.

1.5.4 Northern Lighthouse Board

SHEPD have held various meetings with the Northern Lighthouse Board to provide updates on the current progress of the Project and the additional consultations being held to ensure all requirements discussed with the MCA are met.

1.5.5 Royal Society for the Protection of Birds (RSPB)

RSPB have been kept informed of the progress of the Project, with SHEPD providing regular updates on the marine and land-based surveys. There are potential requirements to carry out a breeding bird survey if required.

1.5.6 Marine Directorate Licencing Operations Team (MD-LOT)

Consultation with MD-LOT has been ongoing to discuss the Marine Licence Application submission timeline and PAC requirements.

1.5.7 Historic Environment Scotland (HES)

SHEPD have held multiple meetings with HES throughout 2024 and 2025 (to date) to provide updates on the progress of the Project. Discussions have been held regarding wrecks off the coast of Skye, as well as non-designated assets.

1.5.8 Comhairle nan Eilean Siar (CNES)

Consultation with CNES to inform them of the proposed shore end positions of the routes, the outcomes of archaeological and marine surveys and the Marine Licence submission timeline has been ongoing throughout 2024 and 2025.

1.5.9 Skye Public PAC Event

Public consultation engagement events took place on the 15/07/2025.

1.5.10 Benbecula Public PAC Event

Public consultation engagement events took place on the 15/07/2025.

2. LEGISLATION AND POLICY

2.1 Introduction

This Section describes the key relevant policy, legislation and guidance which relates to the proposed cable installation activities and explains how and where these have been considered in the production of this MEA. This Section outlines the statutory legislation which SHEPD must adhere to during the installation and operation of the distribution cable.

2.2 UK Marine Policy Statement

Prepared and adopted for the purposes of Section 44 of the Marine and Coastal Access Act (MCAA) 2009, the UK Marine Policy Statement (MPS) was published to provide a framework for preparing marine plans and making effective decisions affecting the marine environment (HM Government, 2011). The MPS applies to all UK waters and has been adopted by the UK government and all devolved administrations, with all regional and national plans required to conform to the MPS. The MPS also states that in relation to energy infrastructure several factors must be considered when any decision makers are examining and determining applications. Of these factors, one is relevant to this Project:

- The national level of need for energy infrastructure, as set out in the National Planning Framework which applies in Scotland.

2.3 Marine (Scotland) Act 2010

The Marine (Scotland) Act 2010 gained Royal Assent in 2010 and provides the legal mechanism to help protect Scotland's coastal and territorial waters through new and improved management systems (Scottish Government, 2014). The act comprises five key elements, which are:

1. A Strategic Marine Planning System;
2. Streamlined Marine Licensing System;
3. Improved Marine Nature Conservation Measures;
4. Improved Measures for the Protection of Seals; and
5. Improved Enforcement Measures.

Installation and operation of submarine cables in Scottish waters requires a Marine Licence under Part 4 of the Marine (Scotland) Act (Scottish Parliament, 2010).

2.4 Marine Licence and Supporting Information Requirements

Submarine cables do not require an Environmental Impact Assessment (EIA) to be conducted as they are not listed under Schedule A1 or A2 of The Marine Works (EIA) (Amendment) Regulations 2017 (HM Government, 2017).

Marine Directorate advise that a Marine Licence applicant should consider the scale and nature of the submarine cable Project and consider the need for a proportionate environmental assessment. This should also include the extent to which an activity is in accordance with any marine plan for the area. Where there exists the potential for the environment, human health, legitimate uses of the sea or designated sites (such as Marine Protected Areas (MPAs)) to be impacted by the Project, the Marine Directorate recommends that these impacts should be assessed (Marine Scotland, 2015). The results of the assessment, along with other supporting information such as a cable-route study and cable-burial plan (if required), should be provided to the Marine Directorate to support the Marine Licence Application. This MEA report presents an overview of the baseline environment and provides the

necessary environmental assessment to support the Marine Licence Application through consideration of the potential impacts of the Project to the marine environment.

2.5 Conservation (Natural Habitats,&c) Regulations 1994 (as amended in Scotland) (also known as 'The Habitats Regulations') and the revision to The Conservation (Natural Habitats) (EU Exit) Scotland)(Amendment) Regulations 2019

The Conservation (Natural Habitats, &c) Regulations 1994 (also known as the 'Habitats Regulations') transposed the European Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC) into Scottish law. The Habitats Regulations set out the requirement for the Habitats Regulations Appraisal (HRA) process in law, requiring that any proposal which has the potential to result in a negative Likely Significant Effect (LSE) to a European site or its designated features be subject to HRA, and if necessary Appropriate Assessment (AA). The regulations also make it an offence to deliberately or recklessly capture, kill, injure harass or disturb a European Protected Species (EPS). When European protected species are present, licences to permit works that will affect them can only be granted when:

- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

The regulations were amended further in 2019 following the UK leaving the European Union (EU), by the Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019 (Scottish Government, 2019).

2.6 Wildlife and Countryside Act 1981 (as amended) and the Nature Conservation (Scotland) Act 2004

Basking sharks are protected under Schedule 5 of the Wildlife and Countryside Act (WCA) (1981 as amended) which prohibits the killing, injuring or taking by any method of those wild animals listed on Schedule 5 of the Act. The Nature Conservation (Scotland) Act 2004, Part 3 and Schedule 6 make amendments to the WCA, strengthening the legal protection for threatened species to include 'reckless' acts, and specifically makes it an offence to intentionally or recklessly disturb or harass basking sharks. A derogation licence under the WCA will therefore be required for any activity which may result in disturbance or injury to basking sharks.

In addition, the primary legislation for the protection of birds in the UK is the WCA in combination with the Nature Conservation (Scotland) Act 2004. Under these acts, it is an offence to harm or disturb wild bird species, their eggs and nests. Additional protection is provided for certain bird species listed on Schedule 1 of the WCA, and it is an offence to disturb those species at their nest while it is in use. Licensing for wild birds does not cover development purposes, so any activity that could result in disturbance of a nesting Schedule 1 species should not proceed unless out-with the breeding season, unless a disturbance licence is in place. In addition, the Conservation (Natural Habitats) (European Union (EU) Exit) (Scotland) (Amendment) Regulations 2019 also instrument an amendment to Section 27 of the WCA 1981 to ensure that existing protections continue.

2.7 Protection of Seals (Designated Sea Haul-out Sites) (Scotland) Order 2014

The Protection of Seals (Designated Sea Haul-out Sites) (Scotland) Order 2014 (made in exercise of the power conferred by section 117 of the Marine (Scotland) Act 2010) made it an offence to harass a seal (intentionally or recklessly) at a designated haul-out site, with the Order designating 194 such sites around the Scottish coastline. A haul-out site is defined as a location on land where seals come ashore at times to rest, breed, have pups or moult. Section 117 of the Marine (Scotland) Act 2010, in conjunction with this Order, is designed to offer protection to seals on land, when they are at their most vulnerable.

2.8 Scottish National Marine Plan

Adopted by the Scottish Government in March 2015 (Marine Scotland, 2015), the Scottish National Marine Plan (NMP) establishes policies and objectives to enable the sustainable development and management of Scotland's marine resources, in both Scottish inshore (out to 12 nautical mile (NM)) and offshore waters (12 to 200NM). The NMP details 21 general policies that are applicable to all future developments and uses within Scottish waters. The Scottish NMP2 is currently in development.

Relevant policies to this Project within the NMP are detailed in Table 2-1.

Table 2-1 General Policies Applicable to the Project

Policy Name	Policy Detail
GEN 1: General planning principle	There is a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of this Plan.
GEN 2: Economic Benefit	Sustainable development and use which provides economic benefit to Scottish communities is encouraged when consistent with the objectives and policies of this Plan.
GEN 4: Co-existence	Proposals which enable coexistence with other development sectors and activities within the Scottish marine area are encouraged in planning and decision making processes, when consistent with policies and objectives of this Plan.
GEN 9: Natural heritage	Development and use of the marine environment must: (a) Comply with legal requirements for protected areas and protected species. (b) Not result in significant impact on the national status of Priority Marine Features. (c) Protect and, where appropriate, enhance the health of the marine area.
GEN 12: Water quality and resource	Developments and activities should not result in a deterioration of the quality of waters to which the Water Framework Directive, Marine Strategy Framework Directive or other related Directives apply.
GEN 13: Noise	Development and use in the marine environment should avoid significant adverse effects of man-made noise and vibration, especially on species sensitive to such effects.
GEN 15: Planning Alignment A	Marine and terrestrial plans should align to support marine and land-based components required by development and seek to facilitate appropriate access to the shore and sea.
GEN 16: Planning Alignment B	Marine plans should align and comply where possible with other statutory plans and should consider objectives and policies of relevant non-statutory plans where appropriate to do so.
GEN 18: Engagement	Early and effective engagement should be undertaken with the general public and all interested stakeholders to facilitate planning and consenting processes.

These general policies are supplemented by sector-specific policies, enabling policies and objectives to be targeted at particular industries. With regards to this Project, the two most relevant sectoral policy sections are sea fisheries (due to the potential impacts to local fishermen) and submarine cables.

2.8.2 Sea fisheries

The Sea Fisheries chapter of the NMP details five marine planning policies that should be taken into account when developing within the vicinity of areas used for fishing purposes. Of these five, three are relevant to this Project. These are: Fisheries 1, Fisheries 2 and Fisheries 3.

Table 2-2 NMP Relevant Sea Fisheries Policies

Policy Name	Policy Detail
FISHERIES 1	Taking account of the EU's Common Fisheries Policy, Habitats Directive, Birds Directive and Marine Strategy Framework Directive, marine planners and decision makers should aim to ensure: ▪ Existing fishing opportunities and activities are safeguarded wherever possible. ▪ An ecosystem-based approach to the management of fishing which ensures sustainable and resilient fish stocks and avoids damage to fragile habitats. ▪ Protection for vulnerable stocks (in particular for juvenile and spawning stocks through continuation of sea area closures where appropriate). ▪ Improved protection of the seabed and historical and archaeological remains requiring protection through effective identification of high-risk areas and management measures to mitigate the impacts of fishing, where appropriate. ▪ That other sectors take into account the need to protect fish stocks and sustain healthy fisheries for both economic and conservation reasons. ▪ Delivery of Scotland's international commitments in fisheries, including the ban on discards. Mechanisms for managing conflicts between fishermen and/or between the fishing sector and other users of the marine environment.
FISHERIES 2	The following key factors should be taken into account when deciding on uses of the marine environment and the potential impact on fishing: ▪ The cultural and economic importance of fishing, in particular to vulnerable coastal communities. ▪ The potential impact (positive and negative) of marine developments on the sustainability of fish and shellfish stocks and resultant fishing opportunities in any given area. ▪ The environmental impact on fishing grounds (such as nursery, spawning areas), commercially fished species, habitats and species more generally. The potential effect of displacement on: fish stocks; the wider environment; use of fuel; socio-economic costs to fishers and their communities and other marine users.

2.8.3 Submarine Cables

Relevant objectives to this Project listed in the NMP regarding submarine cables include:

- Protect submarine cables whilst achieving successful seabed user co-existence;
- Achieve the highest possible quality and safety standards and reduce risks to all seabed users and the marine environment; and

- Support the generation, distribution, and optimisation of electricity from traditional and renewable sources to Scotland, UK and beyond.

In addition to these objectives, the NMP details four planning policies to be considered in the development of new submarine cable Projects. These are: Cables 1, Cables 2, Cables 3 and Cables 4.

2.8.4 Shipping, Ports, Harbours and Ferries

The Transport section of the NMP details Transport policies that should be taken into account when within the vicinity of areas used for shipping and transport. The relevant objectives to this Project listed in the NMP regarding submarine cables include Transport 1 and Transport 6.

2.9 Scottish Marine Regions

After multiple years of public consultation and specialist studies establishing the support for, and potential areas of marine regions in Scottish waters (Scottish Government, 2020), the Scottish Marine Regions Order 2015 came into force on the 13th May 2015 and details the boundaries of the final 11 Scottish marine regions (Scottish Government, 2015). The Project is in the West Highlands region. Regional Marine Plans will be developed by Marine Planning Partnerships, allowing more local ownership and decision making about specific issues within their area. Within these marine regions, Regional Marine Plans will be developed by Marine Planning Partnerships. These partnerships will comprise of groups of local marine stakeholders, allowing for more focused decision making by the local community to target the issues specific to each marine region.

Regional Marine Plans: The National Marine Plan sets the wider context for planning within Scotland, including what should be considered when creating local, regional marine plans. Eleven Scottish Marine Regions have been created which cover sea areas extending out to 12 nautical miles. Regional Marine Plans will be developed in turn by Marine Planning Partnerships, and this is an evolving process, being taken forward in phases.

2.9.1 West Highlands Local Development Plan

The West Highland Local Development Plan was formally adopted on the 30th September 2019 and provides guidance on future development, land use, and infrastructure planning in the Highlands. The Plan area comprises Wester Ross, Skye and Lochalsh, Lochaber and a small, mountainous part of Badenoch. The implementation of the plan is facilitated by the WestPlan Delivery Program which sets out the infrastructure and development required to support the implementation of the Plan's vision, spatial strategy, policies and proposals (The Highland Council, 2019).

2.10 Marine Wildlife Watching Code

NatureScot developed the Code as part of its duties under the Nature Conservation (Scotland) Act 2004. The Code was first published in 2006 and was revised in 2017 in light of recent legislation. The Code isn't a law or a regulation; its main purpose is to raise awareness and offer practical guidance for responsible marine wildlife watching. The Code aims to:

- Help minimise disturbance to marine wildlife
- Helps the public and organisations to enjoy watching marine wildlife
- Improve the chances of seeing wildlife
- Provide a standard for the wildlife watching industry
- Help you to stay within the law

Prior to operations taking place all vessel crew will be made aware of all protected species within the marine environment through the following guidance; the Marine Conservation Society (MCS) Basking

Shark Code of Conduct and good practice measures for boat control near basking sharks and the Scottish Marine Wildlife Watching Code and Guide to Best Practice for Watching Marine Wildlife. More information on this is provided in the Construction Environmental Management Plan (CEMP) (Appendix D).

3. PROJECT DESCRIPTION

This Section provides an overview of the activities associated with installation of the cable between Ardmore – Loch Pooltiel. A detailed Project description is provided in Appendix A to this MEA.

The proposed cable lies between Ardmore – Loch Pooltiel, Isle of Skye. The proposed cable is approximately 20km in length. Where possible, the route will be carefully micro-routed around any potential environmental and technical constraints as informed by pre-installation surveys.

The Application Corridor within which the cable will be laid, is approximately 500m wide and allows for flexibility in route engineering. The Application Corridor is presented in Figure 1-1 of this MEA, with the co-ordinates of the Application Corridor provided in Table 3-1.

Table 3-1 Application Corridor Co-Ordinates

Degrees and Decimal Minutes (WGS 84)	
Latitude	**Longitude**
57° 31.898' N	006° 43.251' W
57° 29.896' N	006° 45.718' W
57° 29.108' N	006° 46.996' W
57° 28.864' N	006° 47.201' W
57° 28.195' N	006° 47.191' W
57° 28.122' N	006° 45.266' W
57° 28.036' N	006° 44.813' W
57° 27.779' N	006° 44.662' W
57° 27.259' N	006° 44.775' W
57° 27.741' N	006° 45.309' W
57° 28.074' N	006° 47.754' W
57° 29.664' N	006° 46.584' W
57° 29.770' N	006° 46.435' W
57° 30.714' N	006° 45.468' W
57° 32.465' N	006° 42.508' W
57° 32.150' N	006° 39.814' W
57° 32.090' N	006° 39.077' W
57° 33.122' N	006° 38.498' W
57° 33.108' N	006° 38.893' W
57° 33.162' N	006° 38.690' W
57° 33.054' N	006° 38.389' W
57° 32.759' N	006° 38.155' W
57° 32.442' N	006° 38.161' W

Degrees and Decimal Minutes (WGS 84)	
Latitude	**Longitude**
57° 32.871' N	006° 38.639' W
57° 32.687' N	006° 38.624' W
57° 32.430' N	006° 38.635' W
57° 32.260' N	006° 38.774' W
57° 32.153' N	006° 38.341' W
57° 31.870' N	006° 38.865' W
57° 31.826' N	006° 39.641' W
57° 32.019' N	006° 40.298' W
57° 32.161' N	006° 40.633' W
57° 32.202' N	006° 40.677' W
57° 32.134' N	006° 42.458' W
57° 31.018' N	006° 44.562' W
57° 29.292' N	006° 46.459' W
57° 27.381' N	006° 45.045' W
57° 27.452' N	006° 45.128' W
57° 27.659' N	006° 45.186' W
57° 27.793' N	006° 45.621' W
57° 27.839' N	006° 46.486' W
57° 27.794' N	006° 47.313' W
57° 29.22' N	006° 47.675' W
57° 30.981' N	006° 45.236' W
57° 31.820' N	006° 43.998' W
57° 32.085' N	006° 43.700' W
57° 32.544' N	006° 40.585' W

*For the avoidance of doubt, the landward boundaries of the installation corridor covered by this application shall be Mean High Water Springs. The landfall boundaries defined by the coordinates within this application should be considered approximations, due to the requirement to limit the number of vertices.

A summary of the installation activities considered by this assessment is detailed below, with further detail provided in Appendix A of this MEA. The marine cable will be buried where seabed conditions allow, with additional cable protection utilised in area where burial is not feasible.

The installation activities will comprise of:

- Boulder re-location using a boulder grab, where required;

- A Pre-Lay Grapnel Run (PLGR) which may be required prior to operations commencing to remove any boulders or debris which may cause abrasion/disturbance;
- Surface laying of subsea cable using a cable lay vessel (CLV);
- The post lay burial of the cable via use of a trenching Remotely Operated Vehicle (ROV);
- Use of an Remotely Operated Vehicle (ROV) and associated Ultra-Short Baseline (USBL) positioning systems for pre- and post- lay survey works;
- Use of split pipe for nearshore approaches where cable burial is not achievable;
- Placement of rock bags, concrete mattresses and grout bags for any crossings and to provide further shallow water protection and stabilisation;
- Use of a cable protection system involving plastic/synthetic cable protection in rocky areas and areas of freespan; and
- Associated vessel presence.

4. ASSESSMENT METHODOLOGY

4.1 Assessment Criteria

The environmental assessment presented in this document reports on the impacts associated with the licensable activities of the cable installation process and presents its findings and conclusions. The key stages of the assessment process are listed as follows and align with the Institute of Environmental Management & Assessment (2004) guidelines which state, "*The assessment stage of the Environmental Impact Assessment (EIA) should follow a clear progression; from the characterisation of 'impact' to the assessment of the significance of the effects including the evaluation of the sensitivity and value of the receptors*." (p11/2) (IEMA, 2004):

- Characterisation of the baseline environment;
- Establish potential impacts from the Project and zone of influence (ZoI);
- Characterisation of the change in impact;
- Evaluation of significant of effects; and
- Establish mitigation.

ZoIs have been identified regarding the spatial extent over which the activities of the Project are predicted to have an impact on the receiving environment. These are referred to in topic chapters and identify the extent of assessment and include mobile species or mobile users of the sea with the potential to enter the ZoI.

4.1.1 Pressure Identification

Pressures are the mechanism through which an activity has an effect on any part of the ecosystem. The nature of the pressure is determined by the activity type, intensity and distribution. A list of marine physical/chemical and biological pressures and their definitions has been formally agreed by the OSPAR Intersessional Correspondence Group on Cumulative Effects (ICG-C) (OSPAR 2016) and has been used in this assessment. The ICG pressure list does not include human pressures, and therefore, categories have been developed based on industry experience. In order to identify the appropriate pressures on biological features the following guidance has been considered:

- JNCC Marine Pressures and Activity database (PAD v1.5) (JNCC, 2022); and
- Feature Activity Sensitivity Tool (FEAST) for identifying the sensitivity of marine habitats and features to the effects of cable installation (Marine Scotland 2021).

Biological receptors which have protected status have been fully considered in Chapter 5 'Protected sites' and summarised in the biological Sections of this Marine Environmental Appraisal (MEA) report.

The interaction of the Project with other sea users has been considered within Appendix B – Fisheries Liaison Mitigation Action Plan (FLMAP) and referred to accordingly in the human environment Sections of this MEA report.

4.1.2 Evaluation of Significance

Effects only occur when an impact is present within an environment that is sensitive to it. An impact is the consequence of the pressure i.e. a predicted change in the baseline environment. The effect is the consequence of the impact and is usually measurable.

If appropriate, and typically based on the findings of supporting studies, pressures have been screened out for further assessment in the MEA. The screening decision and justification is provided in Section 4.4, Table 4-2.

In assessing the significance of the effect, the magnitude (the spatial extent of the impact, the duration and frequency) and sensitivity, recoverability and importance of the receptor are considered. The following definitions of significance, as adapted from the Environment Protection Agency (EPA) (2017) have been used in the assessment:

- Imperceptible – An effect capable of measurement but without significant consequences.
- Not Significant – An effect which causes noticeable changes in the character of the environment but without significant consequences.
- Slight – An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Moderate – An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- Significant – An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
- Very Significant – An effect which, by its character, magnitude, duration or intensity alters most of a sensitive aspect of the environment.
- Profound – An effect which obliterates sensitive characteristics.

Effects which are Imperceptible, Not Significant and Minor typically do not require mitigation measures other than compliance with environmental statute and best practice. Effects which are classified as Moderate or above would typically be unacceptable without the implementation of Project specific mitigation designed to avoid, abate or reduce the significance of the effect

4.2 Mitigation Requirements

Certain measures are incorporated into the Project design as adherence to standard industry best practices or embedded mitigation which is fundamental to how the Project will be executed. Details of the embedded mitigation which SHEPD are committed to implementing, and hence has been considered by this MEA are presented in Table 4-1. All embedded mitigation will be included within the Construction Environmental Management Plan (CEMP). Additional mitigation has been suggested on a receptor specific basis informed by the impact assessments. During the assessment of impacts in the receptor specific assessment chapters, all proposed mitigation is considered when assessing the significance of an impact.

Table 4-1 Embedded Mitigation and Best Practice Measures Relevant to the Project

Short-hand	Measure	Details
EM1	Production of a Construction Environmental Management Plan (CEMP).	Measures will be adopted to ensure environmental impacts are minimised, and to reduce the potential for release of pollutants from installation works. This will be informed by the results of this MEA.
EM2	All Project personnel will be trained and informed of their responsibility to implement the environmental and ecological mitigation outlined in the CEMP.	Toolbox talks, inductions, and awareness notices will be used to disseminate this information among all relevant Project personnel.
EM3	Preconstruction surveys will be conducted to inform detailed route engineering.	Appropriate preconstruction geophysical surveys and visual inspection will be conducted to confirm the locations of potentially sensitive features.

Short-hand	Measure	Details
EM4	Environmental planning.	The final cable route will be optimised as part of the final engineering design to avoid impacts on sensitive environmental features, including Annex I habitats and wrecks insofar as possible. Cable protection methods and quantities will be carefully selected and considered to minimise any potential impact on environmentally sensitive habitats.
EM5	Scottish Marine Wildlife Watching Code (SMWWC).	All vessels will adhere to the provisions of the SMWWC during installation works. NatureScot developed the Code as part of its duties under the Nature Conservation (Scotland) Act 2004. The Code was first published in 2006 and was revised in 2017. The code aims to minimise disturbance to marine wildlife.
EM6	Lighting on board will be kept to a minimum.	Lighting on-board the cable installation vessel will be kept to the minimum level required to ensure safe operations. This will minimise disturbance to seabird species.
EM7	Deployment of anchor chains and spud legs will be kept to a minimum.	Reduces the potential for disturbance to benthic habitats and species including those which utilise the seabed.
EM8	Vessels will be travelling at a slow speed during installation works.	The slow speed of installation vessels will minimise the risk of disturbance and injury impacts to seabird and marine mammal receptors.
EM9	Production of an Emergency Spill Response Plan.	An Emergency Spill Response Plan will help to ensure that the potential for release of pollutants from cable installation works is minimised.
EM10	Control measures and shipboard oil pollution emergency plans (SOPEP) will be in place and adhered to under The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I requirements for all vessels. In the event of an accidental fuel release occurring appropriate standard practice management procedures will be implemented accordingly.	As per the MARPOL 73/78 requirement under Annex I, all ships with 400 Giga Tonne (GT) and above must carry an oil prevention plan as per the norms and guidelines laid down by International Maritime Organization under MEPC (Marine Environmental Protection Committee) act. Production of this plan will help to ensure that the potential for release of pollutants from construction, operation and future decommissioning is minimised.
EM11	Vessels will be equipped with waste disposal facilities (sewage treatment or waste storage) to IMO MARPOL Annex IV Prevention of Pollution from Ship standards.	Measures will be adopted to ensure that the potential for release of pollutants from installation vessels is minimised.
EM12	Ballast water discharges from vessels will be managed under International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention).	The BWM Convention, adopted in 2004, aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments. Measures will be adopted to ensure that the risk of Invasive Non-Native Species (INNS) introduction during cable installation works is minimised.
EM13	A Fisheries Liaison Officer (FLO) will be employed to manage interactions between cable installation vessels, personnel, equipment and fishing activity. This will be managed through	Employment of a FLO will ensure all commercial fisheries operators in the vicinity of the Project will be proactively and appropriately communicated with in terms of proposed Project operations including exclusions, dates and durations.

Short-hand	Measure	Details
	the Fisheries Liaison Mitigation Action Plan (Appendix B).	
EM14	Notice to Mariners (including local), Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices include the time and location of any work being carried out, and emergency event procedures. The contractor may also use NAVTEX to inform mariners of the proposed works.	Details of the cable lay schedule will be communicated to local ports, ship operators, fishermen, and recreational sailing organisations via Notices to Mariners. This will help ensure navigational safety and minimise the risk of equipment snagging
EM15	Compliance with International Regulations for the Prevention of Collision at Sea 1972 (COLREGs) and the International Regulations for the Safety of Life at Sea 1974 (SOLAS).	COLREGs are the international standards designed to ensure safe navigation of vessels at sea. All installation vessels will adhere to these rules, including displaying appropriate lights and shapes. SOLAS is an international maritime treaty which sets minimum safety standards in the construction, equipment and operation of merchant ships. The convention requires signatory flag states to ensure that ships flagged by them comply with at least these standards. In relation to the Project its compliance will ensure navigational safety.
EM16	As built survey data will be provided to the UK Hydrographic Office (UKHO), and Kingfisher for inclusion on Admiralty Charts and Kingfisher Information Service - Offshore Renewable & Cable Awareness Project (KIS-ORCA) Awareness Charts.	This will help ensure navigational safety and minimise the risk of equipment snagging
EM17	Marine Mammal Protection Plan.	All works will be undertaken in accordance with the Marine Mammal Protection Plan.
EM18	Stakeholder engagement.	Continuing effective positive liaison with all interested parties through the pre-construction, construction and operational phases of the cable installation .
EM19	Automatic Identification Systems (AIS) Tracking.	The cable installation vessel has will have AIS as a legal requirement.
EM20	Safety zone.	Implementation of safety zones (of up to 500m) around the cable lay vessel will reduce the risk of collision between the cable laying vessel and other vessels transiting the area.
EM21	Fishing Industry Representatives (FIR) and Standard Operating Procedures (SOP).	Should a FIR not be present on a vessel, the Fishing Gear Interaction SOP will be followed as outlined in the FLMAP.
EM22	Consultation.	Early consultation with relevant contacts to notify of impending activity.
EM23	Guard vessel (if required).	A guard vessel may be used where a risk to the asset or a danger to navigation has been identified.
EM24	Cable protection.	Appropriate cable protection to be installed as applicable along the cable route. Any cable protection installed will ensure any

Short-hand	Measure	Details
		reductions to the navigable depth in the area are below 5%, unless discussed with, and approved by, the MCA in advance.
EM25	Avoidance over the cable.	Guidance provided by the UKHO and International Convention for the Safety of Life at Sea (SOLAS) recommend that fishing vessels should avoid trawling over installed seabed infrastructure. Vessels are advised in the Mariners Handbook not to anchor or fish (trawl) within 500 m of the cable (UKHO, 2020).
EM26	Potential Unexploded Ordnance (pUXO).	If pUXO items are discovered during any phase of the Project, the location of the item will be recorded, and immediate advice sought from relevant authorities. Munitions awareness briefings will be given to all relevant personnel.
EM27	Marine archaeology mitigation during installation.	All works will be undertaken in accordance with the Marine Archaeology Management Plan. As stated in the Plan, if required as a licence condition a Protocol for Archaeological Discoveries (PAD) will be produced based on The Crown's Estate's guidance (2014).
EM28	Monitoring and Reporting Plan.	To ensure works are carried out as per legislation, consent and licence conditions and in line with the Employer requirement, monitoring and reporting of activities is to be undertaken in accordance with the Monitoring and Reporting Plan.
EM29	Preinstallation equipment checks.	All equipment will be checked and recorded prior to the commencement of installation activities to ensure that following completion of the cable installation all equipment has been recovered. The list of checks is to be determined during the Hazard Identification and Risk Assessment (HIRA) process prior to commencement of the works.
EM30	Post installation equipment checks.	Upon completion of the cable installation operation, post installation equipment checks will be completed to confirm that all equipment has been recovered in its entirety and no unlicenced deposits in the marine environment result from the Project operations. The list of checks is to be determined during the HIRA process prior to commencement of the works.
EM31	Rafting seabirds.	The installation vessel will be slow moving, which will allow any rafting birds time to disperse. When not completing operational activities, vessels will avoid bird rafts where operationally possible, and it is safe to do so.
EM32	Breeding and nesting birds.	For any nesting or protected breeding populations in close proximity to the Application Corridor or the landfall, further consultation will be undertaken with NatureScot on the potential requirement for any seasonal restriction to be implemented for cable installation in order to avoid disturbance to qualifying species.
EM33	Basking Shark Code of Conduct.	All vessels will adhere to the Basking Shark Code of Conduct (Shark Trust, 2014) to minimise potential disturbance to basking shark.
EM34	European Protected Species (EPS) and Basking Shark Licence.	Obtain EPS and Basking Shark Licences and adhere to conditions during all phases of works.
EM35	Dropped objects.	Licensees must report dropped object incidents to the nearest local coastguard station by telephone at the first opportunity. In instances where the dropped object poses a hazard to other mariners, a Notice to Mariners will be issued to alert relevant parties. To ensure other sea users are aware of any hazard, incidents must also be reported through a Marine Directorate – DROPOB1 - Offshore Wind & Marine Renewables Dropped Objects Form no later than 24 hours after the event.

Short-hand	Measure	Details
EM36	Waste management.	All waste produced by the Project will be handled and disposed of following the Waste Management Plan.

4.3 Cumulative Impact Assessment

Information sources used to inform the potential cumulative effects that may be occurring in the region included the following:

- SEAFISH Kingfisher Bulletin;
- North Sea Transition Authority (NSTA): Oil and gas industry information;
- KIS-ORCA: Marine cables information;
- The Crown Estate Website: Offshore wind farm and marine aggregate digital data; and
- Marine Directorate: Marine licensing website

The MEA will examine potential cumulative impacts of the distribution cable installation between Ardmore and Loch Pooltiel and other plans and Projects. It will also include the interactions with other environmental topics and inter-Project interactions, for example the interaction of the offshore infrastructure with the onshore infrastructure which may share the same ZoI.

There is the potential for the cable installation operation to coincide with harbour development works at Staffin, Skye (located approximately 28km north-east of the Application Corridor). This Project involves the construction of a sheltered berthing area and improved boat launching facilities by installing a pontoon, breakwater and new slipway, as well as the construction of onshore infrastructure to support the harbour operations. The works have been granted a Marine Licence from MD-LOT for the period 1st June 2023 to 31st May 2026. Therefore, there is potential for works to overlap. Based on the ZoIs identified in Table 4-2, there will be no overlap in pressure footprint for any receptor, however due to the location of both Projects within protected sites, the Staffin harbour development Project has been included in the assessment for Section 5 (Protected Sites).

It is also noted that the replacement of the Skye (Loch Pooltiel) – South Uist power cable is scheduled in the area during 2026. However, as these Projects are both being developed by SHEPD and will be Project under the management of the same Principal Contractor as the Ardmore – Loch Pooltiel Project, they will be carefully coordinated, as such, cumulative impacts will not occur.

4.4 Pressure Identification, Zones of Influence and Screening

As detailed in Section 4.1.2 above, the pressures considered in this assessment have been identified from the ICG-C pressure list (OSPAR, 2016) in addition to review of the JNCC Pressure Activity Database (JNCC 2022) and the Feature Activity Sensitivity Tool (FeAST), for identifying the sensitivity of marine habitats and features to the effects of cable installation (Marine Scotland, 2023). Where receptors are not assessed on FeAST, the Marine Life Information Network (MarLIN) Marine Evidence based Sensitivity Assessment (MarESA) tool has been used. Several pressures have been identified for each topic area as outlined in Table 4-2. For each pressure identified, Table 4-2 presents any applicable embedded mitigation, the installation footprint and associated zone of influence and a screening decision as to whether assessment within the MEA is required.

Table 4-2 Pressures, Zone of Influence and Screening Decision

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
Physical change (to another substratum)					
Protected Sites	Low - the Application Corridor is contained within a NCMPA designated for the Marine Geomorphology of the Scottish Shelf Seabed however changes to other substratum will result mainly from the deposit of protection material which will have a negligible footprint in comparison to the area of the site.	<u>Permanent:</u> Trench (including cable and cast iron split pipe and width of trenching equipment on seabed) subtidal (10m x 19,700m = 197,000m^2) + intertidal (20m x 300m = 6000m^2) = 203,000m^2 Rock bags 2.4m x 0.6m x 54 bags = 244.1m^2 Concrete mattresses 6m x 3 x 0.3m x 6 = 108m^2 Grout bags 0.9m x 0.9m x 20 bags = 12.8m^2 Earthing clump weights π x 0.5^2 x 4 weights = 3.1m^2 Rock anchors π x 0.01^2 x 20 anchors = 0.0063m^2 Earthing conductors 25mm x 150m x 4 conductors = 15m^2 Earthing rods 20mm x 3m x 24 rods = 1.44m^2 <u>Temporary:</u> Anchors 6m^2 x 4 anchors x 20 relocations = 480m^2 Anchor chains = 2m x 100m x 4 anchors x 20 relocations = 16,000m^2 Anchor clump weights 2m x 2m 4 weights x 20 relocations = 320m^2	The final cable route and positioning of rock, protective material or armouring will be optimised as part of the final engineering design to avoid impacts on sensitive environmental features as far as possible.	No	N/A
Seabed and water quality	Low – sensitive features have been micro-routed around			Yes	Section 6
Benthic and Intertidal Ecology	High – Annex I habitats and Priority Marine Features (PMFs) present in Application Corridor and highly sensitive.			Yes	Section 8

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
		Spud legs π x 1^2 x 4 legs x 20 relocations = 251.3m^2 Intertidal pull-in aids 20m^2 per landfall = 40m^2			
Abrasion / disturbance at the surface of the substratum					
Protected sites	Medium – the Application Corridor is contained within a NCMPA designated for the Marine Geomorphology of the Scottish Shelf Seabed.	<u>Permanent:</u> Trench (including cable and cast iron split pipe and width of trenching equipment on seabed) subtidal (10m x 19,700m = 197,000m^2) + intertidal (20m x 300m = 6000m^2) = 203,000m^2 Rock bags 2.4m x 0.6m x 54 bags = 244.1m^2 Concrete mattresses 6m x 3 x 0.3m x 6 = 108m^2 Grout bags 0.9m x 0.9m x 20 bags = 12.8m^2 Earthing clump weights π x 0.5^2 x 4 weights = 3.1m^2 Rock anchors π x 0.01^2 x 20 anchors = 0.0063m^2 Earthing conductors 25mm x 150m x 4 conductors = 15m^2 Earthing rods 20mm x 3m x 24 rods = 1.44m^2 <u>Temporary:</u> Anchors 6m^2 x 4 anchors x 20 relocations = 480m^2 Anchor chains = 2m x 100m x 4 anchors x 20 relocations = 16,000m^2	Deployment of anchor chains and spud legs will be kept to a minimum. All wrecks or features of archaeological significance will be avoided by a buffer of ≥50 m during detailed route design, and the known location of these features will be utilised to guide installation operations. If required by a condition of the Marine Licence, The Crown Estate's 'Protocol for Archaeological Discoveries' (The Crown Estate, 2014) will be implemented during installation works.	Yes	Section 5
Seabed and water quality	Medium – works have the potential to result in sediment suspension greater than that caused by natural wave action.			Yes	Section 6
Benthic and intertidal ecology	High – Annex I habitats and PMFs present in Application Corridor and highly sensitive.			Yes	Section 8
Marine archaeology	Medium – There are five archaeological assets listed within the Application Corridor			Yes	Section 10
Commercial fisheries and other marine users	Medium – Works will result in disturbance of the substrate surface with potential interactions with UXO.			Yes	Section 12

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
		Anchor clump weights 2m x 2m 4 weights x 20 relocations = 320m^2 Spud legs π x 1^2 x 4 legs x 20 relocations = 251.3m^2 Pull-in aids 20m^2 per landfall = 40m^2			
Water flow (tidal current) changes – local					
Water quality	Low – No changes to local currents within the Application Corridor will occur.	No change to water flow (tidal current) expected	N/A	No	N/A
Changes in suspended solids (water clarity)					
Seabed and Water Quality	Medium – the use of a trenching vehicle has the potential to result in sediment suspension greater than that caused by natural wave action.	Sediment is expected to settle within 100m of the Application Corridor (Gooding *et al.*, 2012). Fine material will be rapidly diluted and dispersed in the water. Far field deposition is predicted to be less than 1mm for trenching activities.	The methods selected can be directly controlled to focus on burial of the cable, minimising disturbance to the surrounding sediment and therefore the potential amount of sediment suspension.	Yes	Section 6
Penetration and / or disturbance of the substrate below the surface of the seabed					
Protected Sites	Medium – the Application Corridor is contained within a NCMPA designated for the Marine Geomorphology of the Scottish Shelf Seabed.	Anchors 6m*2* x 4 anchors x 20 relocations = 480m^2 Anchor chains = 2m x 100m x 4 anchors x 20 relocations = 16,000m^2 Anchor clump weights 2m x 2m 4 weights x 20 relocations = 320m^2	Deployment of any mooring spreads will be kept to a minimum to reduce disturbance to the seabed. All works will be undertaken in accordance with the Marine Archaeology Management Plan.	Yes	Section 5
Seabed and Water Quality	Medium – The use of a trenching vehicle will result in disturbance below the substrate surface .			Yes	Section 6

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
Benthic and Intertidal Ecology	High – Annex I habitats and PMFs present in Application Corridor and highly sensitive.	Spud legs π x 1^2 x 4 legs x 20 relocations = 251.3m^2 Sediment is expected to settle within 100m of the Application Corridor (Gooding *et al.,* 2012).		Yes	Section 8
Marine Archaeology	Medium – The use of a trenching vehicle will result in disturbance below the substrate surface .			Yes	Section 10
Commercial Fisheries and Other Marine Users	Medium – The use of trenching equipment will result in disturbance below the substrate surface and potential interactions with UXO.			Yes	Section 11
Smothering and siltation rate changes					
Benthic and intertidal ecology	High – PMFs present in Application Corridor and highly sensitive.	Sediment is expected to settle within 100m of the Application Corridor (Gooding *et al*., 2012). Fine material will be rapidly diluted and dispersed in the water.	N/A	Yes	Section 8
Accidental hydrocarbon or chemical release from installation vessel					
Benthic and intertidal ecology	High – Annex I habitats and PMFs present in Application Corridor and sensitive.	Within the Application Corridor.	Best practice and compliance measures will be in place to minimise the likelihood of any accidental releases and provide an action plan if they do occur to minimise any effects.	Yes	Section 8
Introduction or spread of invasive / non-native species					
Benthic and intertidal ecology	High – Annex I habitats and PMFs present in Application Corridor may be susceptible to invasive or non-native species	Immediately within the vicinity of the Application Corridor.	Best practice and compliance measures will be in place to minimise the likelihood of any INNS from Project vessels or equipment, including following legal requirements on the management of ballast water.	Yes	Section 8
Underwater noise changes					

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
Protected sites	Medium - due to the Application Corridor passing through/in the vicinity of protected sites designated for basking shark, pinniped and cetacean species.	Immediately within the vicinity of the Application Corridor.	All works will be undertaken in accordance with the Marine Mammal Protection Plan. All vessels will adhere to the provisions of the Scottish Marine Wildlife Watching Code (SNH, 2017) and the Basking Shark Code of Conduct (Shark Trust, 2014). Installation personnel will be made aware of all protected species within the marine environment, and their responsibility to implement the mitigation in this document.	Yes	Section 5
Marine Megafauna	Medium - due to known presence of basking shark, pinniped and cetacean species within/in the vicinity of the Application Corridor.			Yes	Section 7
Visual (and above water noise) disturbance					
Protected sites and species	High – Due to the Application Corridor passing within/in the vicinity of protected sites.	Within the Application Corridor	The duration of the works will be limited, ensuring any potential visual and above water noise disturbance effect is temporary in nature. Vessel speeds will be slow moving. Disturbance licence(s) will be obtained where required and all conditions adhered to.	Yes	Section 5
Marine Megafauna	Medium – due to the presence of otter within/in the vicinity of the Application Corridor.			Yes	Section 7
Ornithology	Medium – due to the presence of Atlantic puffin, razorbill and white-tailed sea eagle in the vicinity of the Application Corridor.			Yes	Section 9
Changes in supporting habitat and prey availability					
Protected Sites	Low - there will be no significant loss of fish and benthic species during cable installation. There will be no significant changes in underwater noise or sediment suspension such that sound and vision used to locate prey items will not be impaired.	N/A	N/A	No	N/A
Ornithology	Low - there will be no significant loss of fish and benthic species during cable installation	N/A	N/A	No	N/A

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
Marine Megafauna	Low – Cetacean utilise sound and vision to locate prey items. There will be no significant loss of fish and benthic species during cable installation. Cetacean echolocation of prey items will mean that prey availability is not impaired during cable installation. Pinniped and basking shark also use sight to locate prey items. The duration of sediment suspension will not be significant to pinniped species. Otter may be present in the vicinity of operations. however the scale of activities are unlikely to affect prey availability or impair their predatory cues. The footprint of installation is not sufficient to reduce the available prey items within the region.	N/A	N/A	No	N/A
Death or injury by collision					
Protected Sites	Low – due to the low speed of the vessels, along with the limited spatial and temporal extent of the installation vessels within the Application Corridor.	Within the Application Corridor	All vessels will adhere to the SMWWC (SNH, 2017) and Basking Shark Code of Conduct (Shark Trust, 2014), using slow vessel speed, disturbance licence(s) as required. The Marine Conservation Society Basking Shark Code of Conduct the Scottish Marine Wildlife Watching Code and Guide to Best Practice for Watching Marine Wildlife will be followed to minimise collision risk to any marine megafauna.	Yes	Section 5
Marine megafauna	Low – due to the low speed of the vessels, along with the limited spatial and temporal extent of the installation vessels within the Application Corridor.			Yes	Section 7
Ornithology	Low – due to the low speed of the vessels, along with the limited spatial			Yes	Section 9

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
	and temporal extent of the installation vessels within the Application Corridor.				
Temporary displacement / restricted access					
Commercial Fisheries and Other Marine Users	Medium – The transit of fishing and recreational vessels as well as deployment of fishing gear may be restricted though vessels will be operating at low speeds in a limited spatial and temporal extent within the Application Corridor. The risk of encountering UXO is minimised as far as practicable.	Within the Application Corridor	A Fisheries Liaison Officer (FLO) will be employed to manage interactions between cable installation vessels, personnel, equipment and fishing activity. This will be managed through the Fisheries Liaison Mitigation Action Plan (Appendix C). Notice to Mariners (including local), Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices include the time and location of any work being carried out, and emergency event procedures. The contractor may also use NAVTEX to inform mariners of the proposed works. As built survey data will be provided to the UKHO, and Kingfisher for inclusion on Admiralty Charts and KIS-ORCA Awareness Charts. The cable RPL has also been issued to UKHO and SFF for their information.	Yes	Section 11
Shipping and Navigation	Medium – Project vessels may restrict movement of other marine users, but vessels will be operating at low speeds in a limited spatial and temporal extent within the Application Corridor.	Within the Application Corridor	Notice to Mariners (including local), Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices include the time and location of any work being carried out, and emergency event procedures. Compliance with IRPCS (IMO, 1972) and the International Regulations for the SOLAS. The contractor may also use NAVTEX to inform mariners of the proposed works.	Yes	Section 12
Vessel collisions					

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
Shipping and Navigation	Medium – due to the moderate density of transiting vessels in the Sound and potential requirement for existing vessels to have to re-route around Project vessel thus creating pinch points.	Within the Application Corridor	Notice to Mariners (including local), Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices include the time and location of any work being carried out, and emergency event procedures. Compliance with IRPCS (IMO, 1972) and the International Regulations for the SOLAS. The contractor may also use NAVTEX to inform mariners of the proposed works.	Yes	Section 12
Increased snagging risk					
Commercial Fisheries and Other Marine Users	Medium – potting, trapping, trawling and seine fishing activity is recorded in the Application Corridor and fisheries activity at moderate levels	Within the Application Corridor	A Fisheries Liaison Officer (FLO) will be employed to manage interactions between cable installation vessels, personnel, equipment and fishing activity. This will be managed through the Fisheries Liaison Mitigation Action Plan (Appendix C). Notice to Mariners (including local), Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices include the time and location of any work being carried out, and emergency event procedures. The contractor may also use NAVTEX to inform mariners of the proposed works. As built survey data will be provided to the UKHO and Kingfisher for inclusion on Admiralty Charts and KIS-ORCA Awareness Charts. The cable RPL has also been issued to UKHO and the SFF for their information.	Yes	Section 11
Damage to third party assets					
Commercial Fisheries and Other Marine Users	Low – Although the Application Corridor overlaps with a BT Telecommunications cable, crossings	Within the Application Corridor	Stakeholder engagement and consultation will be undertaken with other marine users to inform them of the Project.	Yes	Section 11

Receptor	Sensitivity of Receptor to Pressure	Dimensions of Pressure footprint	Applicable Embedded Mitigation and Best Practice Measures	Further Assessment Required	Reference
	will be engineered in a way that both cables are protected from damage.				

5. PROTECTED SITES

5.1 Introduction

This Section provides details on the marine protected sites and species that may be present or have the potential to be present within the Application Corridor. Potential impacts on sites determined to be at risk of impact from the proposed installation activities have been assessed, along with the mitigation and management measures that will be utilised to remove or reduce these impacts. This Section should be read in conjunction with the separate West Highland EPS Risk and Protected Sites and Species Assessment (Xodus, 2023) which assessed the impacts of survey activities to protected sites and species over the West Highland region.

Protected sites including Special Areas of Conservation (SACs), Nature Conservation Marine Protected Areas (NCMPAs), Special Protection Areas (SPAs), Ramsar sites and Sites of Special Scientific Interest (SSSIs) in the immediate vicinity of the Application Corridor for physical features and within 50km for sites designated for mobile species, have been considered within the baseline. The potential for likely significant effects has been identified and assessed.

5.2 Data Sources

The preliminary baseline of protected sites in the region has been informed using the following sources:

- Skye Loop Cable Route Desktop Study, Document Reference: H24007-REP-001 Rev1 (Hydrofix, 2024); and
- EPS and Protected Sites and Species Risk Assessment – Wester Highland (Xodus, 2023)
- NatureScot SiteLink (NatureScot, 2025)

In order to establish baseline conditions a desktop review of published information has been undertaken supported by consultation with relevant bodies. Any other data sources used are referenced throughout the document.

5.3 Protected Sites and Species Description

There are three protected site located within the Application Corridor. Upon considering industry guidance (Bennun *et al*., 2021), a 50km screening distance was used and identified a further 41 sites designated for mobile species, with the potential to transit within the Application Corridor (Figure 5-1, Drawing reference: P2816-PROT-001).

The assessment of the potential presence of mobile species within the Application Corridor is based on the known movement ranges of these species. Table 5-1 outlines the foraging and transitory ranges of species found in the West Highland region.

Table 5-1 Range of Qualifying Species Receptors in the West Highland Region

Species	Range (km)
Ornithological features	
Black-throated diver (*Gavia arctica*)	10
Black-legged kittiwake (*Rissa tridactyla*)	156.1 ± 144GODI km
Black guillemot (*Cepphus grylle*)	4.8
Buzzard (*Butero buteo*)	-

Species	Range (km)
Common eider (*Somateria mollissima*)	21.5
Common guillemot (*Uria aalge*)	73.2
Corncrake (*Crex crex*)	7
Dunlin (*Calidris alpina schinzii*)	3
Fulmar (*Fulmarus glacialis*)	542.3
Golden eagle (*Aquila chrysaetos*)	6
Great northern diver (*Gavia immer*)	10
Greenland barnacle goose (*Branta leucopsis*)	7
Greylag goose (*Anser anser*)	20
Herring gull (*Larus argentatus*)	58.8
Little tern (*Sternula albifrons*)	5
Long-tailed duck (*Clangula hyemalis*)	1.2
Manx shearwater (*Puffinas puffinas*)	100
Oystercatcher (*Haematopus ostralegus*)	1.9
Puffin (*Fratercula arctica*)	137.1
Purple sandpiper (*Calidris maritima*)	-
Raven (*Corvus corax*)	-
Razorbill (*Alca torda*)	88.7 ± 75.9 km
Red-breasted merganser (*Mergus serrator*)	-
Red-throated diver (*Gavia stellata*)	40
Redshank (*Tringa totanus*)	1.5
Ringed plover (*Charadrius hiaticula*)	-
Sanderling (*Calidris alba*)	-
Shag (*Phalacrocorax aristotelis*)	13.2
short-eared owl (*Asio flammeus*)	5
Shoveler (*Spatula clypeata*)	-
Slavonian grebe (*Podiceps auritus*)	8
Snipe (*Gallinago gallinago*)	-
Teal (*Anas crecca*)	-
Tufted duck (*Aythya fuligula*)	-
Turnstone (*Arenaria interpres*)	-
White-tailed sea eagle (*Haliaeetus albicilla*)	13
Wigeon (*Anas Penelope*)	-
Marine megafauna	
Harbour seal (*Phoca vitulina*)	60

Species	Range (km)
Grey seal (*Halichoerus grypus*)	100
Otter (*Lutra lutra*)	4
Harbour Porpoise (*Phocoena phocoena*)	100
Flapper skate (*Dipturus batis*)	100
Minke whale (*Balaenoptera acutorostrata*)	3,700 (migratory species with large foraging grounds)
Atlantic salmon (*Salmo salar*)	2,940 (migratory species)

Source: Woodward *et al*.(2019); Hudson (1989); Sim *et al*. (2017); Savard & Dupuis (1999); Madsen *et al*. (2001); Doyle *et al*. (2023); Scottish Government (2019); Scottish Natural Heritage (2016); Kevin, K. C., *et al.* (2013); MacArthur Green (2021); SCOS (2016); Ottvall & Pettersson (1998); Podhrázský *et al*. (2016); Thorburn *et al*. (2018); UK Wild Otter Trust (2024); Shoji *et al*. (2015); JNCC (2019); Pampoulie *et al.,* 2016; Rikardsen *et al.,* 2021.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

PROTECTED SITES

Environmental Designations within 50km

Drawing No: P2816-PROT-001 | A

605000 655000 705000

6390000 6340000

North Harris Mountains SPA
Shiant East Bank
Priest Island (Summer Isles) SPA
The Shiant Isles SPA
Wester Ross
Inverasdale Peatlands
Little Gruinard River
Wester Ross Lochs SPA
Loch Maree SPA
River Kerry
Loch Maree Complex
Loch nam Madadh
Mointeach Scadabhaigh SPA
Mointeach Scadabhaigh
Monach Islands
Monach Isles
North Uist Machair
Trotternish Ridge
Ascrib, Isay and Dunvegan
Rigg - Bile
Beinn Bhan
Aird & Borve, Benbecula SPA
Inner Hebrides and the Minches
Red Rocks and Longay (Urgent MPA)
Loch Carron
Coille Mhèr
Lochs Duich, Long and Alsh
South Uist Machair and Lochs SPA
Cuillins SPA
Strath
Kinloch and Kyleakin Hills
Kilpheder to Smerclate, South Uist SPA
Sea of the Hebrides
Canna and Sanday SPA
Ascrib, Isay and Dunvegan
Eoligarry, Barra SPA
Small Isles
Rum
Rum SPA
Sound of Barra
Sea of the Hebrides
East Mingulay
Mingulay and Berneray SPA
0 1 2 3 4 km

605000 655000 705000

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Legend

- Application Corridor (500m)
- 50km Buffer

Environmental Designation

- SAC
- SPA
- MPA
- SSSI

NOT TO BE USED FOR NAVIGATION

Date	2025-07-03 15:33:47
Coordinate System	WGS 84 / UTM zone 29N
WKID	EPSG:32629
Scale @A3	1:500,000
Data Sources	OS; JNCC; NS; SHEPD; ESRI
File Reference	J:\P2816\Mxd_Qgz\03_PROT \P2816-PROT.qgz
Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

Scottish & Southern Electricity Networks

intertek metoc

0 8 16 24 32 km

5.4 Potential Impacts and Zones of Influence

Table 5-2 below summarises the protected sites in the vicinity of the cable Application Corridor and details which sites have been assessed further to determine whether there is potential for likely significant effect (LSE). Those sites or impacts for which no LSE is expected have not been considered further in this assessment.

Table 5-2 Protected Sites in the Vicinity of the Application Corridor

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
Sea of the Hebrides NCMPA	Within	Basking shark (*Cetorhinus maximus*) Minke whale (*Balaenoptera acutorostrata*) Geomorphology of the Scottish Shelf Seabed Fronts	To conserve the Protected features: - So far as already in favourable condition, remain in such condition; and - So far as not already in favourable condition, be brought into such condition, and remain in such condition.	Underwater noise changes Death or injury by collision Abrasion / disturbance at the surface of the substratum Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes have the potential to disturb qualifying interests of this site. Vessels also pose a collision risk. The installation of the cable and associated protection measures may impact the designated geomorphological features. Fronts are unlikely to be impacted	**Yes**
Inner Hebrides and the Minches SAC	Within	Harbour porpoise (*Phocoena phocoena*)	To ensure the SAC contributes to the species remaining at favourable conservation status and the integrity of the SAC is maintained through 2a, 2b and 2c: - 2a. Harbour porpoise within the SAC are not at significant risk from injury or killing; - 2b. The distribution of harbour porpoise throughout the site is maintained by avoiding significant disturbance; - 2c. The condition of supporting habitats and the availability of prey for harbour porpoise are maintained.	Underwater noise changes Death or injury by collision	Underwater noise changes have the potential to disturb qualifying interests of this site. Vessels also pose a collision risk.	**Yes**
Ascrib, Isay and Dunvegan SAC	Within	Harbour seal (*Phoca vitulina*)	To avoid deterioration of habitats or significant disturbance to harbour seal, thus maintaining the integrity of the site and contributing to achieving favourable conservation status for the qualifying interest.	Underwater noise changes Death or injury by collision	Underwater noise changes have the potential to disturb qualifying interests from	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
			Ensure the following are maintained in the long term: - Population of the species as a viable component of the site; - Distribution of the species within site; - Distribution and extent of habitats supporting the species; - Structure, function and supporting processes of habitats supporting the species; - No significant disturbance of the species.		the site. Vessels also pose a collision risk.	
West Coast of the Outer Hebrides SPA	17.7	Great northern diver (*Gavia immer*) Red-throated diver (*Gavia stellata*) Black-throated diver (*Gavia arctica*) Slavonian grebe (*Podiceps auritus*) Common eider (*Somateria mollissima*) Long-tailed duck (*Clangula hyemalis*) Red-breasted merganser (*Mergus serrator*)	To ensure the qualifying features of the SPA remain in favourable condition and contribute to Favourable Conservation Status, while maintaining the integrity of the site by meeting objectives 2a, 2b and 2c for each qualifying feature: - 2a. The populations of the qualifying features are a viable component of the site; - 2b. The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species; - 2c. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	Physical presence at the landfall site may potentially disturb species at the site and the presence of the installation vessels can potentially cause disturbance and proves a collision risk for bird species	**Yes**
Loch nam Madadh SAC/SSSI	21.3	Otter (*Lutra lutra*) Intertidal mudflats and sandflats Lagoons Reefs Shallow inlets and bays	To ensure that the qualifying features of the SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. To ensure that the integrity of the site is maintained in the context of environmental	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1 the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists.	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Subtidal sandbanks	changes by meeting objectives 2a, 2b and 2c for each qualifying features: - 2a. Otters are a viable component of Loch nam Madadh SAC; - 2b. The distribution of otters throughout the site is maintained by avoiding significant disturbance; - 2c. The supporting habitats and processes relevant to otters and their food resources are maintained.		No impacts are expected to the geological features of this site.	
Loch an Duin SSSI/RAMSAR	22.8	Breeding bird assemblage Otter (*Lutra lutra*) Brackish water cockle (*Cerastoderma glaucum*) Coastal Geomorphology of Scotland Intertidal mudflats and sandflats Saline lagoon Tidal rapids	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Underwater noise changes Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1 the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and the species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Mointeach Scadabhaigh SPA/SSSI	25.0	Black-throated diver (*Gavia arctica*) Red-throated diver (*Gavia stellata*) Breeding bird assemblage	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, red-throated diver and species comprising the breeding bird assemblage have the known potential to be present within the	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Blanket bog Dystrophic and oligotrophic lochs			Application Corridor where the presence of the installation vessels can potentially cause disturbance and proves a collision risk.	
Cuillins SPA	31.0	Golden eagle (*Aquila chrysaetos*)	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists.	**No**
North Uist Machair and Islands SPA/RAMSAR	32.8	Corncrake (*Crex crex*) Greenland barnacle goose (*Branta leucopsis*) Dunlin Ringed plover (*Charadrius hiaticula*) Turnstone (*Arenaria interpres*) Purple sandpiper (*Calidris maritima*) redshank (*Tringa totanus*) Oystercatcher (*Haematopus ostralegus*)	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists.	**No**
Loch Bee SSSI	33.3	Breeding bird assemblage Mute swan (*Cygnus olor*)	To maintain the population and distribution of the important birds and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the qualifying species designated within this site does not extend to	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Brackish water cockle (*Cerastoderma glaucum*) Coastal geomorphology of Scotland Machair Saline lagoon			the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features or brackish water cockles of this site.	
South Uist Machair and Lochs SPA/RAMSAR	33.3	Corncrake Little tern (*Sternula albifrons*) Dunlin Ringed plover Redshank Oystercatcher Sanderling (*Calidris alba*) Greylag goose (*Anser anser*) Loch trophic range Machair Machair loch Oligotrophic loch Saline lagoon	To avoid deterioration of the habitats of or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and To ensure for the qualifying species that the following are maintained in the long term: - Population of the species as a viable component of the site; - Distribution of the species within site; - Distribution and extent of habitats supporting the species; - Structure, function and supporting processes of habitats supporting the species; - No significant disturbance of the species.	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Baleshare and Kirkibost SSSI	33.3	Breeding bird assemblage Machair Saltmarsh Sand dunes	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
					the geological features of this site.	
Berneray SSSI	33.4	Greenland barnacle goose Machair	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the machair features of this site.	**No**
Loch Druidibeg SSSI	33.7	Breeding bird assemblage Coastal geomorphology of Scotland Sand dune Machair Machair loch Oligotrophic loch Blanket bog Subalpine dry heath Scrub	To maintain the population and distribution of the qualifying species and avoid significant disturbance. Objectives for the geological features of the site include: - To maintain the condition and extent of the dune and machair habitats - To maintain the condition and extent of the blanket bog and subalpine dry heath habitats - To maintain the condition and extent of the machair lochs and nutrient-poor lochs To maintain the condition and extent of the scrub	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the machair features of this site.	**No**
Aird and Borve, Benbecula SPA	34.6	Corncrake	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	As detailed in Table 5-1, the range of the qualifying species designated within this site does not extend to the Application Corridor	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
					and as such no pressure receptor pathway exists.	
South Uist Machair SAC	34.8	Otter (*Lutra lutra*) Annual vegetation of drift lines Calcium-rich nutrient-poor lakes, lochs and pools Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels Dune grassland Humid dune slacks Lagoons Machair Naturally nutrient-rich lakes or lochs which are often dominated by pondweed Naturally nutrient-rich lakes or lochs which are often dominated by pondweed Shifting dunes with marram Slender naiad (*Najas flexilis*)	To ensure for the qualifying species that the following are maintained in the long term: - Population of the species as a viable component of the site; - Distribution of the species within site; - Distribution and extent of habitats supporting the species; - Structure, function and supporting processes of habitats supporting the species; - No significant disturbance of the species.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
West Benbecula Lochs SSSI	34.9	Breeding bird assemblage Eutrophic loch	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	Species comprising the breeding bird assemblage do not have the potential to transit into the Application	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Open water transition fen			Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	
Shiant Isles SPA	36.3	Fulmar (*Fulmarus glacialis*) Greenland barnacle goose (*Branta leucopsis*) Guillemot (*Uria aalge*) Kittiwake (*Rissa tridactyla*) Puffin (*Fratercula arctica*) Razorbill (*Alca torda*) Shag (*Phalacrocorax aristotelis*) Seabird assemblage	Maintain the important bird populations	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, fulmar, guillemot, kittiwake, puffin and species comprising the seabird assemblage protected within this site have the known potential to be present within the Application Corridor where the presence of the installation vessels can potentially cause disturbance and proves a collision risk.	**Yes**
Loch Bee SSSI	37.0	Breeding bird assemblage Mute swan (*Cygnus olor*) Brackish water cockle (*Cerastoderma glaucum*) Coastal geomorphology of Scotland Machair Saline lagoon	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
Small Isles NCMPA	37.1	Black guillemot (*Cepphus grylle*) Burrowed mud Circalittoral sand and mud communities Fan mussel aggregations (*Atrina fragilis*) Horse mussel beds Northern feather star aggregations (*Leptometra celtica*) on mixed substrata Northern sea fan and sponge communities Quaternary of Scotland Shelf deeps White cluster anemones (*Parazoanthus anguicomus*)	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the habitats or geological features of this site.	**No**
Boreray SSSI	37.4	Greenland Barnacle goose Greylag goose	To maintain the grassland habitat in a favourable condition.	Visual (and above water noise) disturbance Death or injury by collision	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Pabbay SSSI	38.5	Breeding bird assemblage	To maintain the population of wintering barnacle geese and avoid significant disturbance of the population.	Visual (and above water noise) disturbance Death or injury by collision	The range of the qualifying species designated within this	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Greenland barnacle goose (*Branta leucopsis*) Bryophyte assemblage Coastal geomorphology of Scotland Machair Springs (including flushes)	To maintain the population and distribution of the important breeding and wintering birds and avoid significant disturbance of the populations.	Underwater noise changes	site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	
Howmore Estuary, Lochs Roag and Fada SSSI	38.8	Breeding bird assemblage Coastal geomorphology of Scotland Machair Oligotrophic loch Saline lagoon	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Vallay SSSI	40.1	Breeding bird assemblage Greenland barnacle goose (*Branta leucopsis*) Machair Saltmarsh Sand dunes	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision	The range of the qualifying species designated within this site do not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Shiant Islands SSSI	40.3	Greenland barnacle goose	To monitor and maintain the breeding sea bird populations, including the population size of	Visual (and above water noise) disturbance	As detailed in Table 5-1, razorbill, puffin, guillemot, and species	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Razorbill (*Alca torda*) Fulmar (*Fulmarus glacialis*) Shag (*Phalacrocorax aristotelis)* Puffin (*Fratercula arctica*) Guillemot (*Uria aalge*) Seabird assemblage Tertiary igneous geology	individual species and the number of different breeding species	Death or injury by collision Underwater noise changes	comprising the seabird assemblage protected within this site have the known potential to be present within the Application Corridor where the presence of the installation vessels can potentially cause disturbance and proves a collision risk. No impacts are expected to the geological features of this site.	
Bornish and Ormiclate Machairs SSSI	42.0	Breeding bird assemblage Loch trophic range Macahir Sand dunes	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Small Seal Islands SSSI	42.0	Grey seal (*Halichoerus grypus*)	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Underwater noise changes Death or injury by collision	Underwater noise changes have the potential to disturb qualifying interests of this site. Vessels also pose a collision risk.	**Yes**
Rum SPA	42.0	Golden eagle (*Aquila chrysaetos*) Guillemot (*Uria aalge*)	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, guillemot, kittiwake, Manx shearwater, red-throated diver and	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Kittiwake (*Rissa tridactyla*) Manx shearwater (*Puffinus puffinus*) Red-throated diver (*Gavia stellata*) Seabird assemblage			species comprising the seabird assemblage protected within this site have the known potential to be present within the Application Corridor where the presence of the installation vessels can potentially cause disturbance and proves a collision risk.	
Canna and Sanday SPA	42.2	Guillemot (*Uria aalge)* *Herring gull (Larus argentatus)* *Kittiwake (Rissa tridactyla*) Puffin (*Fratercula arctica*) Shag (*Phalacrocorax aristotelis*) Seabird assemblage	To ensure the qualifying features of the SPA remain in favourable condition and contribute to Favourable Conservation Status, while maintaining the integrity of the site by meeting objectives 2a, 2b and 2c for each qualifying feature: - 2a. The populations of the qualifying features are viable components of the Canna and Sanday SPA; - 2b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species; - 2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, guillemot, herring gull, kittiwake, puffin and species comprising the seabird assemblage protected within this site have the known potential to be present within the Application Corridor where the presence of the installation vessels can potentially cause disturbance and proves a collision risk.	**Yes**
Canna and Sanday SSSI	42.2	Seabird colony Shag (*Phalacrocorax aristotelis*) Machair	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	Species comprising the seabird colony have the potential to transit into the Application Corridor. The presence	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		Maritime cliff Moth assemblage Tertiary Igneous			of the installation vessels can potentially cause disturbance and proves a collision risk for bird species. No impacts are expected to the geological	
Balranald Bog and Loch nam Feithean SSSI	43.0	Breeding bird assemblage Greenland barnacle goose Machair Mudflat Saltmarsh Sand dune Basin gen Eutrophic loch	To maintain the population and distribution of qualifying species and avoid significant disturbance. To maintain the condition and extent of the qualifying habitats	Visual (and above water noise) disturbance Death or injury by collision	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
North Harris SAC/SSSI	44.3	Atlantic salmon (*Salmo salar*) Otter Bryophyte assemblage Subalpine wet heath Natural dystrophic lakes and ponds Northern Atlantic wet heaths with *Erica tetralix* Siliceous alpine and boreal grasslands Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea*	To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and to ensure for the qualifying species that the following are maintained in the long term: - Population of the species, including range of genetic types for salmon, as a viable component of the site - Distribution of the species within site - Distribution and extent of habitats supporting the species	Underwater noise changes Visual (and above water noise) disturbance Death or injury by collision	Underwater noise changes have the potential to disturb migratory pathways of Atlantic salmon. Foraging activities for otter are unlikely to extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
		uniflorae and/or of the *Isoëto-Nanojuncetea* European dry heaths Alpine and boreal heaths Blanket bogs Depressions on peat substrates of the Rhynchosporion Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) Siliceous rocky slopes with chasmophytic vegetation Freshwater pearl mussel (*Margaritifera margaritifera*)	- Structure, function and supporting processes of habitats supporting the species - No significant disturbance of the species - Distribution and viability of freshwater pearl mussel host species - Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species			
North Harris Mountains SPA	44.3	Golden eagle	To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and To ensure for the qualifying species that the following are maintained in the long term: - Population of the species as a viable component of the site - Distribution of the species within site - Distribution and extent of habitats supporting the species - Structure, function and supporting processes of habitats supporting the species - No significant disturbance of the species	Visual (and above water noise) disturbance Death or injury by collision	Golden eagle do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
Red Rocks and Longay NCMPA	45.0	Flapper skate (*Dipturus intermedius*) Quaternary of Scotland - moraines, crag and tails, rock drumlin	To maintain the population and distribution of the qualifying species and avoid significant disturbance.	Death or injury by collision	Flapper skate are considered potentially susceptible to collision risk with deployed devices. No impacts are expected to the geological features of this site.	**Yes**
Monach Isles NCMPA	45.0	Black guillemot (*Cepphus grylle*) Marine geomorphology of the Scottish Shelf Seabed Quaternary of Scotland	To ensure the qualifying features of the SPA remain in favourable condition and contribute to Favourable Conservation Status, while maintaining the integrity of the site. - Ensure the supporting habitats and prey availability relevant to the qualifying interests are maintained.	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	As detailed in Table 5-1, the range of the mobile qualifying species designated within this site does not extend to the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Monach Islands SAC	46.5	Grey seal Dune grassland Machair Shifting dunes with marram	To ensure the qualifying features of the SAC remain in favourable condition and contribute to Favourable Conservation Status, while maintaining the integrity of the site by meeting objectives 2a, 2b and 2c: - 2a. Grey seals are a viable component of the SAC; - 2b. The distribution of grey seal throughout the site is maintained by avoiding significant disturbance of grey seal; - 2c. The supporting habitats relevant to grey seal are maintained.	Underwater noise changes Death or injury by collision	Underwater noise changes have the potential to disturb grey seal within this site. Vessels also pose a collision risk. No impacts are expected to the geological features of this site.	**Yes**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
Loch Hallan SSSI	47.3	Breeding bird assemblage Machair Machair loch Open water transition fen Transition open fen	To maintain the population and distribution of the qualifying species and avoid significant disturbance	Visual (and above water noise) disturbance Death or injury by collision Underwater noise changes	Species comprising the breeding bird assemblage do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the geological features of this site.	**No**
Monach Islands SPA	47.3	Barnacle goose Little tern	To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and To ensure for the qualifying species that the following are maintained in the long term: - Population of the species as a viable component of the site - Distribution of the species within site - Distribution and extent of habitats supporting the species - Structure, function and supporting processes of habitats supporting the species - No significant disturbance of the species	Visual (and above water noise) disturbance Death or injury by collision	Qualifying species do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists.	**No**
Monach Isles SSSI	47.3	Black guillemot Greenland barnacle goose Breeding bird assemblage Machair Sand dune	- To maintain the population and distribution of the breeding birds and wintering barnacle geese - To avoid significant disturbance to the breeding birds (especially black guillemot and tern colonies), wintering barnacle geese and breeding grey seals	Visual (and above water noise) disturbance Death or injury by collision	Qualifying species do not have the potential to transit into the Application Corridor and as such no pressure receptor pathway exists. No impacts are expected to the	**No**

Protected Site	Distance from Application Corridor (km)	Protected Features Most Likely to be Affected	Conservation Objectives	Potential Pressures	Potential Pressure-receptor Pathway	Requirement for Further Assessment
					geological features of this site.	
Sound of Barra SAC	49.0	Harbour seal (*Phoca vitulina*) Reefs Subtidal sandbanks	To avoid deterioration of habitats or significant disturbance to harbour seal, thus maintaining the integrity of the site and contributing to achieving favourable conservation status for the qualifying interest. Ensure the following are maintained in the long term: - Population of the species as a viable component of the site; - Distribution of the species within site; - Distribution and extent of habitats supporting the species; - Structure, function and supporting processes of habitats supporting the species; - No significant disturbance of the species.	Underwater noise changes Death or injury by collision	Underwater noise changes have the potential to disturb qualifying interests of this site. Vessels also pose a collision risk. No impacts are expected to the reef or geological features of this site.	**Yes**

5.5 Assessment of Likely Significant Effects

5.5.1 Underwater Noise Impacts

5.5.1.1 Receptors

Underwater noise changes generated by Project vessels and installation equipment may pose a risk to cetaceans, pinnipeds and basking shark and diving birds. Such noise has the ability to impact these species in two ways as follows:

- Injury - physiological damage to an individuals' auditory or other internal organs; and
- Disturbance – either temporary or continuous. While this factor does not result in injury, disruptions to behavioural patterns such as migration, nursing, breeding, foraging, socialising and/or sheltering may occur.

Loud and prolonged noise may mask communicative or hunting vocalisations, preventing social interactions and effective hunting. Where the threshold of hearing is temporarily damaged, it is considered a Temporary Threshold Shift (TTS), and the animal is expected to recover. If there is permanent damage, this is referred to as Permanent Threshold Shift (PTS), where the animal does not recover, social isolation and a restricted ability to locate food may occur, potentially leading to the death of the animal (Southall *et al*., 2019).

To determine the potential impact of noise generated by the Project on cetaceans, pinnipeds and basking shark and diving birds, the sound levels that will be produced have been compared to the available estimated thresholds for injury and disturbance in cetaceans, pinnipeds, basking shark and diving birds. JNCC guidance (JNCC, 2019) recommends using the injury criteria proposed by Southall *et al*. (2019) based on a combination of linear (un-weighted) peak pressure levels and mammal hearing weighted (M-weighted) sound exposure levels (SEL).

If frequencies of the sound produced fall outside the predicted auditory bandwidth for a species, then disturbance is unlikely. Sufficiently high noise sources, however, can still cause damage to an individuals' auditory or other internal organs. For details on the typical auditory bandwidths of cetaceans and diving birds, see Table 5-3 below. The hearing range of basking sharks is not currently known. However, five other elasmobranchs have been found to have a hearing range between 20Hz to 1kHz. This range may or may not be transferable to basking sharks (Macleod *et al*., 2011).

Most diving bird species have a hearing range of approximately 500 Hz to 4 kHz (Crowell, 2014; Crowell *et al.*, 2015; Hansen *et al*., 2017) and as a result the very high frequency activities (such as multibeam and USBL) and very low frequency activities (such as Cable Lay vessel thrusters) would be inaudible to them.

Table 5-3 Auditory Bandwidths Estimated for Hearing Groups of Marine Mammals

Hearing Group	Estimated Auditory Bandwidth
Low-frequency cetaceans (deep diving species e.g. minke whale, pilot whale, etc.)	7Hz to 35kHz, with peak sensitivity around 100- 200Hz
Mid-frequency cetaceans (small dolphins e.g. bottlenose dolphin, common dolphin, white-beaked dolphin, etc.)	150Hz to 160kHz, with peak sensitivity above 10kHz (Except for killer whales: 50Hz to 100kHz)
High-frequency cetaceans (harbour porpoise)	180Hz to 200kHz, with peak sensitivity above 4kHz
Phocid pinnipeds (true seals, e.g. grey and harbour seal)	50Hz to 86kHz
Basking shark	20Hz to 1kHz
Diving birds	0.5kHz – 4kHz

Source: Danson (2005), Hopkins (2007), Genesis (2011), Lurton and DeReutier (2011)

5.5.1.2 Project Equipment

A pre-lay survey will be conducted prior to operations commencing. The pre-lay survey includes the use of USBL equipment for positioning of an ROV. The operation will also require the use of installation vessels. The use of vessels and this equipment has the potential to produce noise emissions and operate at frequencies within the hearing ranges of marine mammals. Table 5-4 presents the frequencies at which Project equipment may operate.

Table 5-4 Survey Equipment Noise Emissions

Equipment Type	Purpose	Frequency (min-max)	Source Level SPL (peak) in dB re 1 µPa@1m
Shipping noise	Shipping is a large contributor of low frequency background noise in oceans	50 - 300 Hz	160-175
Ultra-Short baseline (USBL)	A USBL system has a hull mounted transducer with a transceiver attached to survey equipment. It uses low frequency acoustic sound to verify subsea positioning.	19-34 kHz	184-202

Source: Danson (2005), Hopkins (2007), Lurton and DeReutier (2011)

5.5.1.3 Impact Assessment

As detailed in Table 5-5, there are 15 protected sites with qualifying that have the potential to be affected by underwater noise changes.

The main potential impact on the qualifying species of the conservation sites, results from the utilisation of the USBL device which operates with sound frequencies which overlap with the hearing range of marine mammals and as such has the potential to result in disturbance (see Table 5-3 and Table 5-4). However, the pressure levels and frequencies at which the USBL emit are not strong enough to pose a realistic risk of injury and any effects would be limited to temporary disturbance. Sound attenuation modelling indicates that the injury range for a hull-mounted USBL is up to 104 metres, and at most, 0.05 individuals per 0.13 km² may experience disturbance (Xodus, 2023). Since the USBL will be deployed from a moving vessel travelling over 2 m/s (around 4 knots), the likelihood of a cetacean being this close to operational equipment is extremely unlikely. It is noted that the sound frequencies at which the USBL operates does not overlap with the hearing range of diving birds and as such no impacts to protected diving bird species are expected to occur.

There is evidence that if in very close proximity to loud underwater noise, injury and mortality may occur in diving birds. However, the likelihood of a noise sensitive diving bird being in the vicinity of a noise generating operation is very low due to the surface activity associated with such operations disturbing the birds prior to commencement of noise generation (BEIS, 2019; Fliessbach *et al.*, 2019, Garthe & Hüppop, 2004; Leopold & Camphuysen, 2009). It should be noted, the noise generation of activities for this Project will not be considered loud in comparison with other marine activities, such as pile driving, which is the focus of most literature

While noise emissions generated by vessels and equipment also have the potential to result in impacts, the use of installation vessels is not expected to significantly increase the number of vessels in the

area. As a result, noise generated by the installation vessels is unlikely to represent a noticeable change from baseline conditions. Therefore, given the short-term, localised, and temporary nature of the installation activities, along with the limited range of potential disturbance, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of changes in underwater noise.

Atlantic Salmon

As detailed in Table 5-5, there is one protected site, the North Harris SAC/SSSI with Atlantic salmon as a qualifying feature. Underwater noise generated by installation activities has the potential to disturb the migratory pathway of Atlantic salmon.

Migratory Atlantic salmon are widely present in Scotland. Upon reaching maturity, they migrate downstream to the sea, returning after two to three years to spawn in their natal rivers (NatureScot, 2024c). Downstream migration typically occurs between April and May, while upstream migration can take place year-round, with peak activity in late summer and early autumn (SSE Renewables, 2022). Considering the operational period, there is therefore potential for operations to coincide with migration movements of Atlantic Salmon.

Atlantic salmon are known to detect low frequencies of noise, below 380 Hz. Therefore, noise generated by installation activities has the potential to cause barriers to the migratory pathways of these species. However, they have also been identified to have relatively low sensitivity to underwater noise (Chapman & Hawkins, 1973; Hawkins & Johnstone, 1978; SSE Renewables, 2022). Considering this and the short-term, localised, and temporary nature of activities, no significant effects to the migratory pathways of qualifying species of protected sites with sensitive receptors are expected as a result of changes in underwater noise.

Elasmobranch

As discussed in Table 5-5, two sites within 50km of the Application Corridor with elasmobranch qualifying features that have the potential to be affected under water noise. However, basking sharks and flapper skate do not have swim bladders, and as such are considered less likely to receive injury from underwater noise pressures (Popper *et al*. 2014).

5.5.2 Death or Injury by Collision

The presence of the installation vessels may pose a hazard of disturbance or injury to bird, cetacean and pinniped species as a result of collision risk. During the operation a maximum of six vessels are likely to be utilised including installation and support vessels. However, all vessels utilised during this operation will adhere to the SMWWC such that any risks resulting from vessel presence are minimised where possible.

5.5.2.1 Birds

As detailed in Table 5-5, there are 7 protected sites within 50km of the Application Corridor with qualifying features that have the potential to be affected by collision.

Bird species present within the Application Corridor could face risks such as vessel collisions and potential disruptions to their foraging activities. However, the slow movement (less than 4 knots) and the short-term, localised and temporary nature of the installation activities will reduce the likelihood of such impacts occurring. Therefore, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of death or injury by collision.

5.5.2.2 Cetaceans

As detailed in Table 5-5, there are 2 protected sites within 50km of the Application Corridor with qualifying features that have the potential to be affected by collision.

Due to the transitory nature of harbour porpoise and minke whale designated within the Inner Hebrides and Minches SAC and Sea of Hebrides NCMPA, respectively, their presence within the Application Corridor is likely. As presented in (Figure 5-2, Drawing Reference: P2816-MAMM-001), within the Application Corridor harbour porpoise densities range from low to moderate, crossing areas that represent the top 50%-10% of population density. Denser populations are observed at each end of the Application Corridor closer to land. Minke whale density is low to moderate within the Application Corridor, peaking at up to 1 individual per 25km^2 (Figure 5-3, Drawing Reference: P2816-MAMM-003). Therefore, these species may be at risk of collision with vessels during the proposed operations.

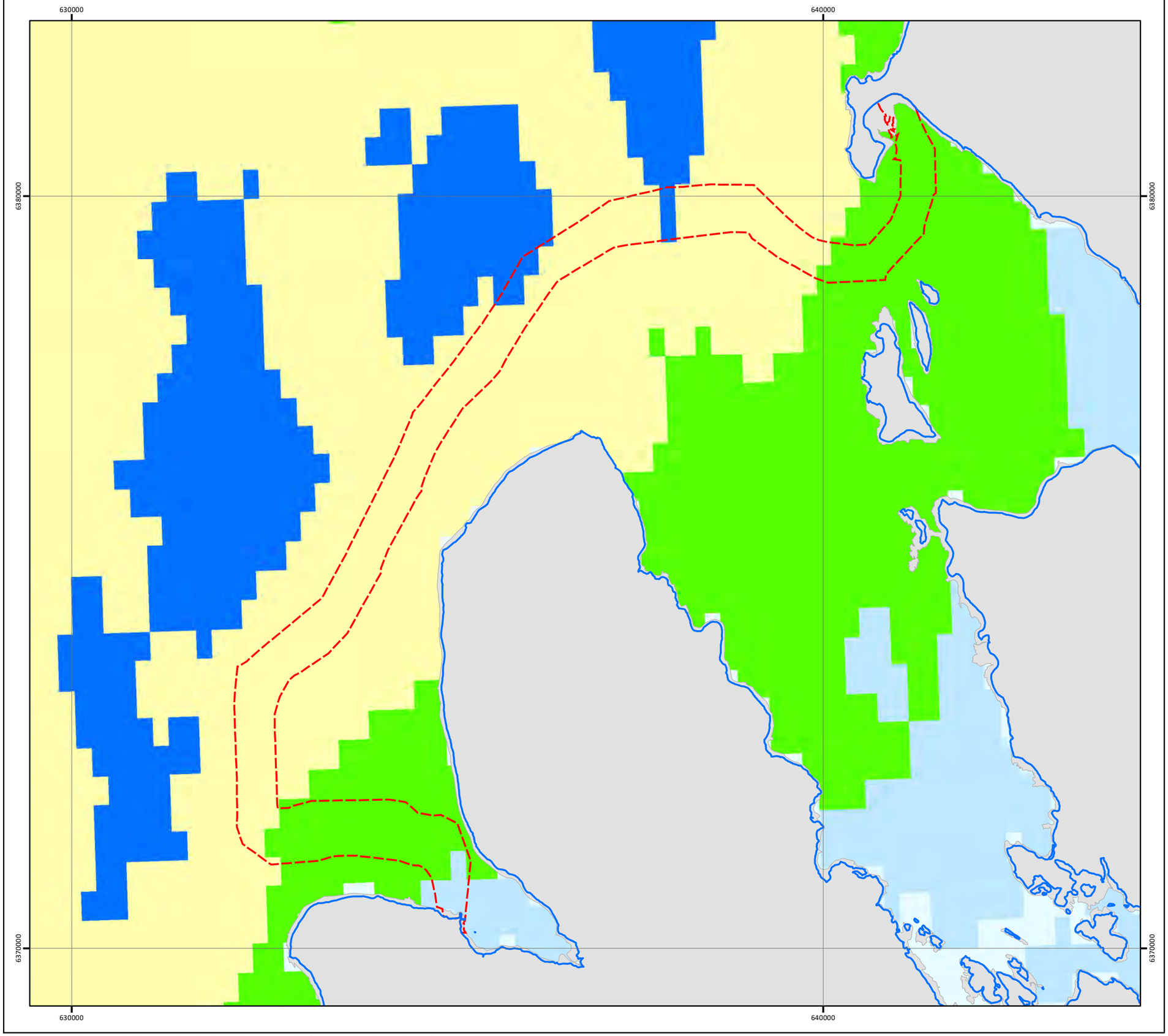
Harbour porpoise have been shown to swim up to speeds of 4.3 m/s (Xodus 2023) and minke whale up to maximum speeds of 8.3 m/s (Christiansen *et al.*, 2014). Given that the installation vessels will be moving slowly at the rate of cable lay (less than 4 knots), or stationary utilising spud legs during the installation campaign, any individuals present within the Application Corridor will have a suitable amount of time to leave the area, therefore reducing the risk of collision. As a result, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of death or injury by collision.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS

Areas of Predicted High Density of Harbour Porpoise (Visual) (2003 - 2010)

Drawing No: P2816-MAMM-001 | **A**



Legend

- Mean High Water Mark
- Application Corridor (500m)

Areas of Predicted High Density

Predicted Density

- Top 50%
- Top 20%
- Top 15%
- Top 10%
- Top 5%

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W
E
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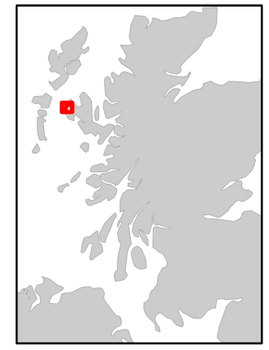

NOTE: Not to be used for Navigation

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Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

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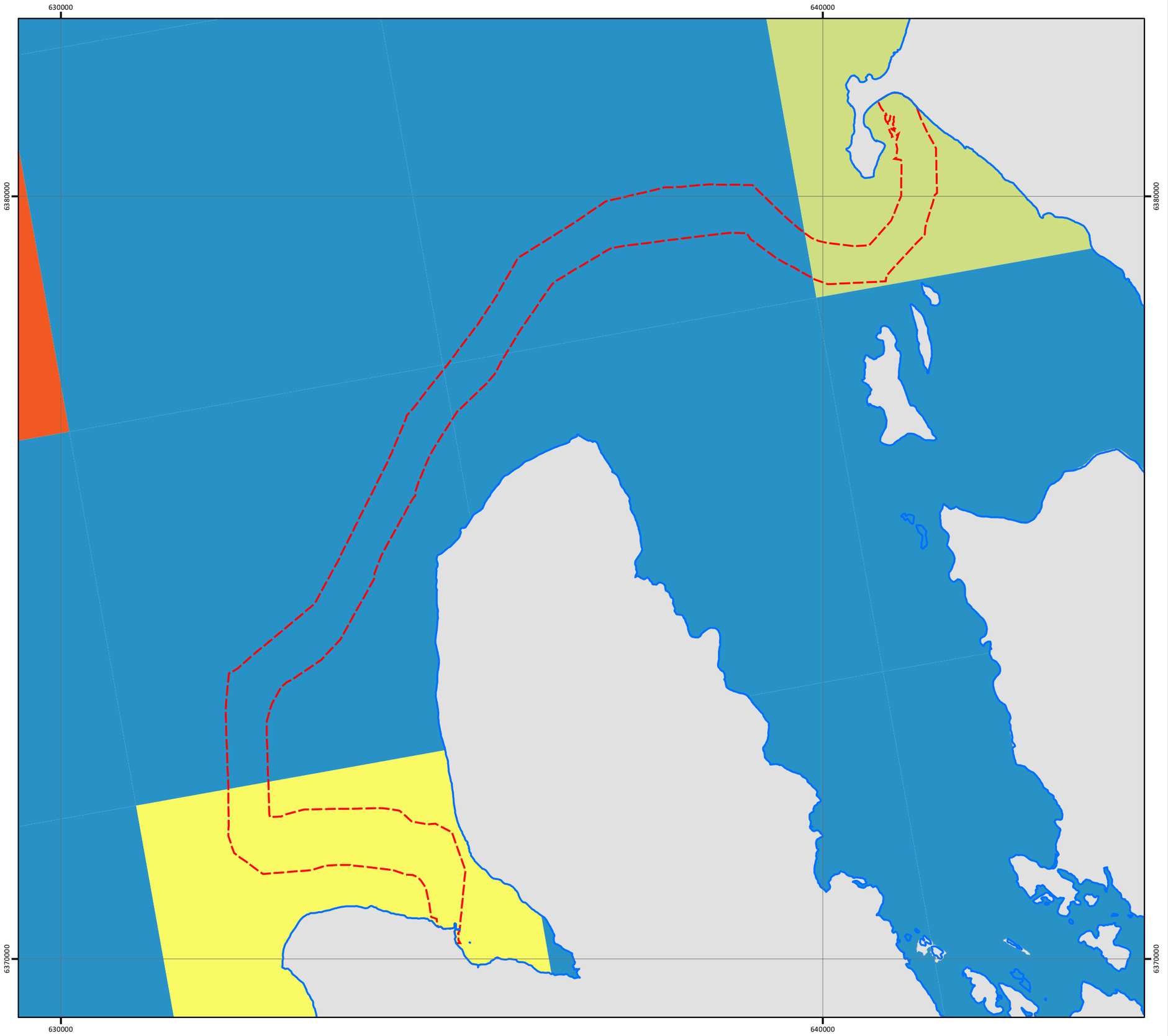
0 0.75 1.5 2.25 3 km



ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS
Observed Adjusted Densities of Minke Whale (2000 - 2012)

Drawing No: P2816-MAMM-003 | **A**

N
W E
S

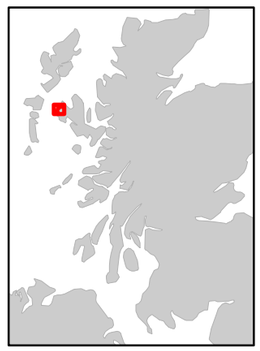
Legend

- Mean High Water Mark
- Application Corridor (500m)

Observed Adjusted Densities

Encounter Rate

- 0.00 - 0.10
- 0.10 - 0.20
- 0.20 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- 2.00 - 5.00
- 5.00 - 10.0
- > 10.0



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Reviewed By	[Redacted]
Approved By	[Redacted]

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0 0.75 1.5 2.25 3 km

5.5.2.3 Pinnipeds

As detailed in Table 5-5, there are 4 protected sites within 50km of the Application Corridor with qualifying features that have the potential to be affected by collision.

Grey seals designated within the Small Seal Islands SSS, Sound of Barra, Monach Islands SAC and the Sound of Barra SAC, as well as harbour seals designated within the Ascrib, Isay and Dunvegan SAC have the potential to transit into the Application Corridor during the installation operation. As presented in (Figure 5-4 and Figure 5-5, Drawing References: P2816-MAMM-005 and P2816-MAMM-007), harbour and grey seal densities within the vicinity of the Application Corridor are low to moderate at up to ten individuals per 25 km^2. Therefore, these species may be at risk of collision with vessels during the proposed operations.

The installation works will progress slowly along the route with vessels transiting at limited speeds (less than 4 knots). Therefore, pinniped species are anticipated to have sufficient time to move out of the path of any vessel thus reducing the risk of vessel strike. Therefore, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of death or injury by collision.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS
Density of Harbour Seals (1991 - 2016)

Drawing No: P2816-MAMM-005 | **A**

630000
640000
6380000
6370000

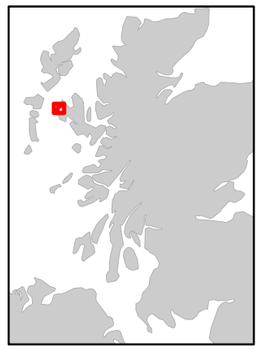
N
W
E
S

Legend

- Mean High Water Mark
- Application Corridor (500m)

Harbour Seal Density (5 km x 5 km)

- <=1
- 1 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- >=100



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Approved By	[Redacted]

Scottish & Southern Electricity Networks

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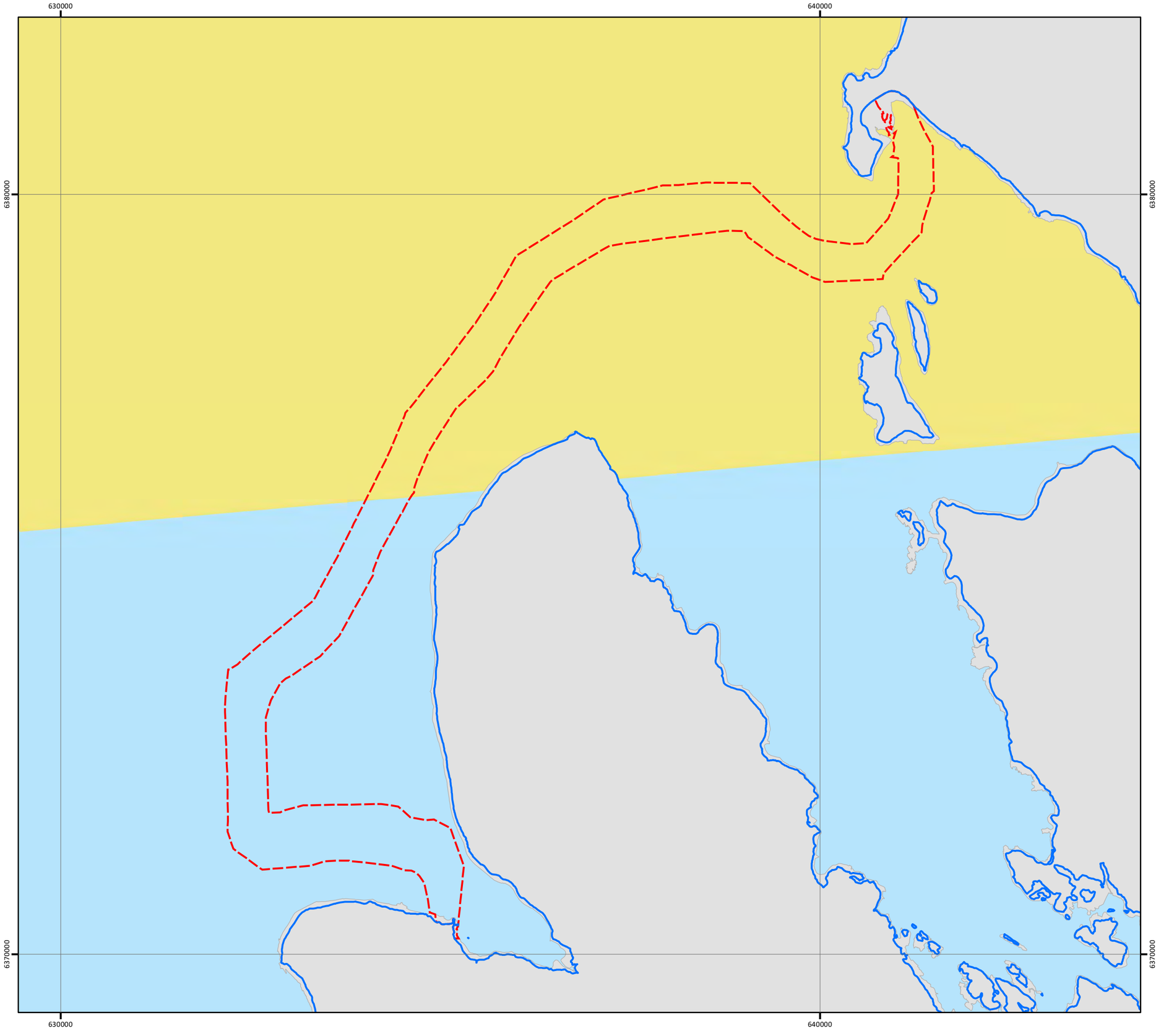
0 0.75 1.5 2.25 3 km

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS
Density of Grey Seals (1991 - 2016)

Drawing No: P2816-MAMM-007 | **A**



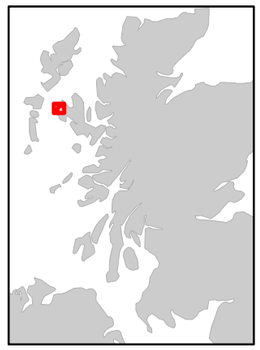
Legend

- Mean High Water Mark
- Application Corridor (500m)

Grey Seal Density (5 km x 5 km)

- <=1
- 1 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- >=100

N
W E
S



NOTE: Not to be used for Navigation

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Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

intertek metoc

0 0.75 1.5 2.25 3 km

5.5.2.4 Elasmobranch

Screening identified two sites within 50km of the Application Corridor with elasmobranch qualifying features that have the potential to be affected by collision. These are outlined below:

- Sea of the Hebrides NCMPA
- Red Rocks and Longay NCMPA

Basking shark protected within the Inner Hebrides and Minches SAC have the potential to be present within the Application Corridor at densities of 0 – 0.10 individuals per 25km^2 (Figure 5-6, Drawing Reference: P2816-FISH-001). In addition, while there is no recorded flapper skate within the Application Corridor, flapper skate within the Red Rocks and Longay NCMPA have the potential to transit into the vicinity of the Application Corridor and be present at densities of 1-2 individuals (Figure 5-7, Drawing Reference: P2816-FISH-014).

Basking shark are a slow moving species, particularly susceptible to collision risk with vessels transiting at high speeds. Given the limited transit speed of the installation vessel (less than 4 knots), no significant risks of injury to basking shark are anticipated.

Flapper skate are a primarily benthic species and as such the risk of collision arises from the deployment of items from the vessel such as anchor chains for the mooring spread and spud legs. The species is considered to have a medium tolerance to collision (FeAST, 2025) and as such significant impacts to the species from collision are not expected.

Overall, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of death or injury by collision.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES
Observed Adjusted Densities of Basking Shark (2000-2012)

Drawing No: P2816-FISH-001	A

630000
640000
6380000
6370000

Legend

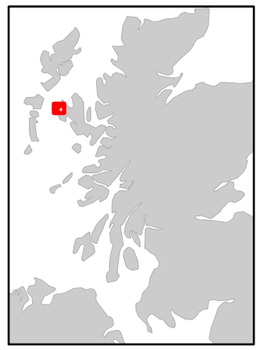
- Mean High Water Mark
- Application Corridor (500m)

Observed Adjusted Densities of Basking Shark

Encounter Rate

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- 2.0 - 5.0
- 5.0 - 10.0
- > 10.0

N
W
E
S



NOTE: Not to be used for Navigation

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Projection	Transverse Mercator
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Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

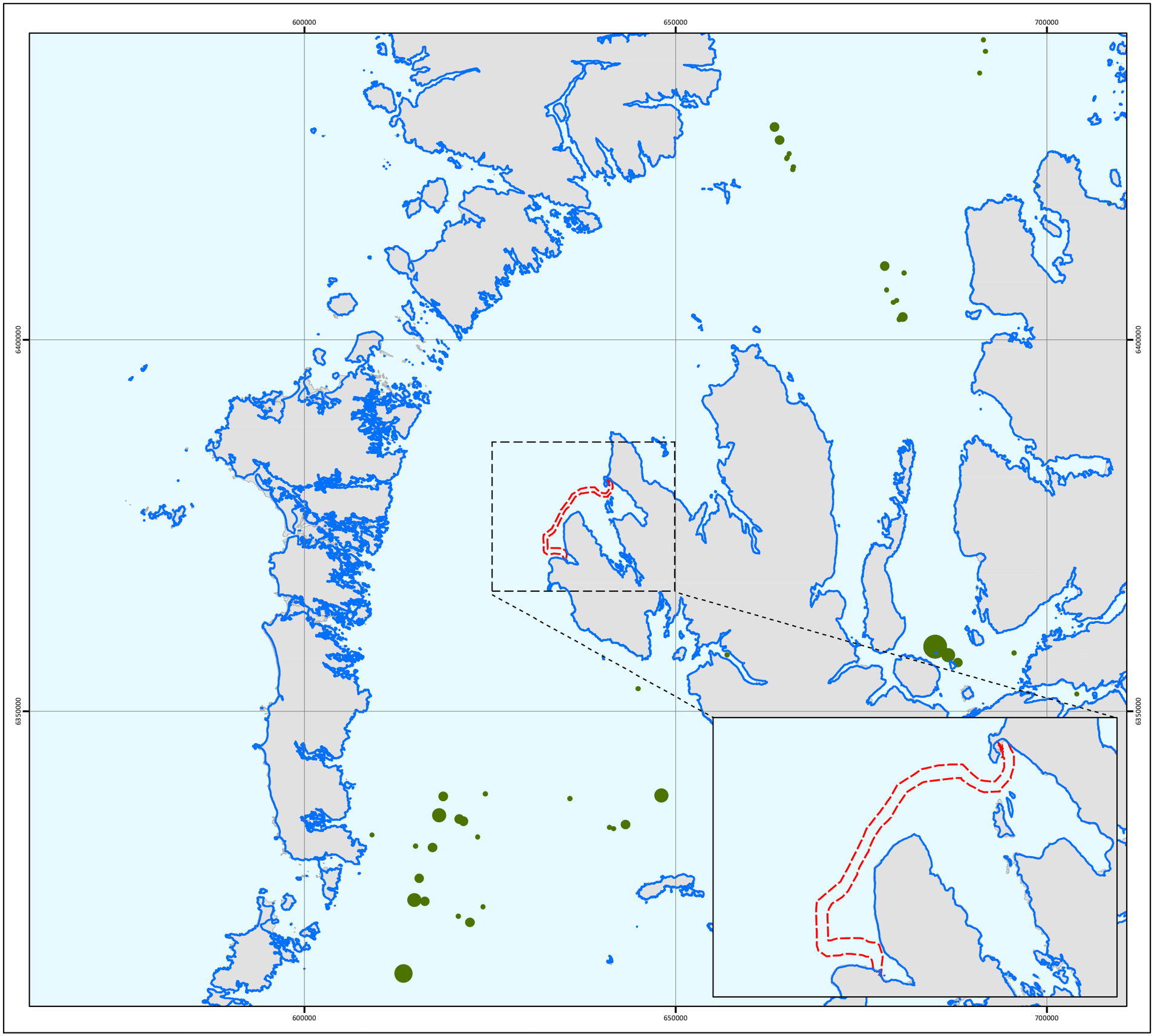
intertek metoc

0 0.75 1.5 2.25 3 km

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES
Flapper Skate and Blue Skate Distribution

Drawing No: P2816-FISH-014	A



Legend

- Mean High Water Mark
- Application Corridor (500m)

Flapper Skate and Blue Skate Encounter (Surveys from 1995 Onwards)

Count

- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 50
- > 50

N
W E
S

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
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Reviewed By	[Redacted]
Approved By	[Redacted]

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intertek metoc

0 7.5 15 22.5 30 km

5.5.3 Visual Presence and Above Water Noise

Visual disturbance is only relevant to species that respond to visual cues, for hunting, behavioural responses or predator avoidance, and that have the visual range to perceive cues at a distance. It is particularly relevant to fish, birds, reptiles and mammals that depend on sight (ICG-C, 2011).

Above water noise is not expected to be any greater than other vessels operating in the area. Vessel traffic in the area is from predominantly fishing and cargo vessels.

Pinnipeds can typically be disturbed at haul-out sites within a distance of 900m (Brassuer and Reijnders, 1994). The protected sites designated for pinnipeds are located more than 900m from the Application Corridor and therefore the visual disturbance of the installation vessels within the Application Corridor is considered a greater distance than that which would cause seals to flush and enter the sea (Brassuer and Reijnders, 1994). Considering this, visual presence and above water noise impacts to pinnipeds have been scoped out of the assessment.

5.5.3.1 Birds

There are seven screened in sites with birds as qualifying interest, as listed below. None of these sites overlap with the Application Corridor.

The presence of the installation vessels can result in potential impacts to bird species both within the waters of the Application Corridor and at the landfall sites. The potential impacts include disturbances to foraging, nesting and breeding behaviours as well as consequential affects to the species reproductive success and fitness. Visual and above water noise disturbance from the presence of vessels has the potential to disrupt feeding behaviours of bird species and reduce access to food resources. Potential disturbances can cause them to alter their feeding behaviour or abandon feeding areas thus impacting their energy intake and overall fitness. Displacement of seabirds from foraging grounds can lead to reduced survival of offspring during the breeding season, and reduced body mass of adults leading to lower survival in the following winter.

However, since installation activities will be temporary and only transit through foraging areas for a short period of time, although individual birds may be temporarily disturbed, they will be able to quickly return to any utilised feeding areas. Furthermore, given the evidence of habituation of bird species to vessel presence, as outlined by Schwemmer *et al.* (2011), and the baseline shipping density in the vicinity of the Application Corridor, it is expected that birds will show a degree of habituation to the vessels involved in this operation. Therefore, no significant effects on the qualifying species of protected sites with sensitive receptors are expected as a result of visual (and above water noise) disturbance.

5.5.4 Abrasion / Disturbance at the Surface of the Substratum

As detailed in Table 5-5, there is one protected site located within the Application Corridor with qualifying features that have the potential to be affected by abrasion / disturbance at the surface of the substratum.

During the operation, abrasion or disturbance at the surface of the substratum may occur due to the surface laying of the cable in areas where burial is not possible, installation of cast iron split pipe, protection material, clump weights and earthing deposits. However, as detailed in Table 4-2 the footprint of the operation is small with a worst case footprint of 0.24km^2 (assuming the entire cable is surface laid). When compared to the size of the protected site (10,039km^2), any disturbance to the substrate will affect a very small amount of the geomorphology of the site. Additionally, the cable will be micro-routed to avoid any PMF habitats wherever possible, therefore avoiding as much of the carbon-rich sediments as possible. Any sediment disturbed will also not be removed from the site and will be redistributed to within 100m of the Application Corridor (Gooding *et al*., 2012) so will stay within the system. Considering the size of the Project footprint versus the size of the site, it is unlikely

that there will be any significant impacts from abrasion or disturbance of the substrate to the geomorphology at this site.

5.5.5 Penetration and / or Disturbance of the Substratum Below the Surface of the Seabed

As detailed in Table 5-5, there is one protected site located within the Application Corridor with qualifying features that have the potential to be affected by penetration and / or disturbance of the substrate below the surface of the seabed.

During the operation penetration and / or disturbance of the substrate below the surface of the seabed will result during cable burial. However, as detailed in Table 4-2 the footprint of the operation is small with a worst case footprint of 0.24km^2. When compared to the size of the protected site (10,039km^2), any disturbance to the substrate will affect a very small amount of the geomorphology of the site. Additionally, the cable will be micro-routed to avoid any PMF habitats wherever possible, therefore avoiding as much of the carbon-rich sediments as possible. Considering the size of the Project footprint versus the size of the site, it is unlikely that there will be any significant impacts from penetration and / or disturbance of the substrate below the surface of the seabed.

5.5.6 Cumulative Assessment

As discussed in Section 4.3, there is the potential for cumulative impacts between the Ardmore – Loch Pooltiel cable installation and harbour development works in Staffin, Skye as the Project has been granted a Marine Licence that overlaps with the planned Ardmore – Loch Pooltiel cable installation schedule. Due to the planned works at Staffin harbour being located 28km from the Application Corridor, cumulative impacts from underwater noise changes are unlikely. However, the harbour development works will involve the use of vessels and disturbance of the seabed both above and below the substratum. As such the Project has the potential to disturb and restrict access to foraging ground for qualifying interests designated within the protected sites assessed above. This disturbance and restriction to foraging grounds may act in combination with the impacts resulting from the Skye (Loch Pooltiel) – South Uist cable installation. However, both Projects are highly localised and due to the short term and transient nature of the Ardmore – Loch Pooltiel cable operations, significant impacts to protected sites from in-combination effects with the Staffin harbour development works are not expected.

Table 5-5 Scoping Exercise Indicating Receptors which May be Impacted

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
Protected Site	**Sea of the Hebrides NCMPA**	**Basking shark**			✓		✓	The presence of installation vessels has the potential to pose a collision risk and contribute to changes in underwater noise levels. However, the addition of these vessels is not expected to result in a significant deviation from baseline shipping density, and all vessels will be travelling at slow speeds. As such, the likelihood of collision is low, and the existing baseline soundscape of the area is unlikely to be altered. The operational footprint will be negligible in comparison to the overall size of the Sea of the Hebrides NCMPA (with the operation having a footprint of 0.24km^2 within the 10,039km^2 protected site). Furthermore, micro-routing will ensure that all carbon-rich sediments and associated PMF habitats are avoided where possible. The impact is therefore assessed as **Not Significant.**
		Minke whale			✓		✓	
		Geomorphology of the Scottish shelf seabed	✓	✓				
	Inner Hebrides and the Minches SAC	**Harbour porpoise**			✓		✓	Harbour porpoise are amongst the most sensitive cetaceans to noise disturbance (Dyndo *et al.*, 2015). However, they are expected to move away from the noise source during the operation, such that the likelihood of injury is low. This also reduces the risk of collision, further exacerbated by the slow transit speed of the installation vessel, such that no likely significant effects to the Inner Hebrides and the Minches SAC are expected. The impact is therefore assessed as **Not Significant.**

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
	Ascrib, Isay and Dunvegan SAC	**Harbour seal**			✓		✓	Seals are considered to have variable responses to underwater noise (Mikkelsen *et al*., 2019) and studies have shown that individuals will quickly return to an area that was subjected to even high-intensity noise emissions within a short period of time (Russell *et al*., 2016). The vessels will be travelling at slow speeds such to reduce the risk of collision and there are no seal haul out sites located within a distance at which hauled-out individuals would be expected to experience disturbance. As such, no likely significant effects to the Ascrib, Isay and Dunvegan SAC are expected. The impact is therefore assessed as **Not Significant**.
	West Coast of the Outer Hebrides SPA	**Great northern diver**			✓	✓	✓	Diving bird species are considered to exhibit high sensitivity to vessel disturbance, having demonstrated strong escape behaviour at a large response distance (Furness *et al*., 2013). The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. The installation activities will be temporary, localised, and of short duration, with vessels transiting through foraging areas at slow speeds of less than 4 knots. In previous studies, great northern diver have been recorded tolerating vessels travelling at slow to moderate speeds (Gittings *et al*., 2015), with the species regularly occurring in areas subject to ongoing marine activity (Jarrett *et al*., 2018). The risk of impact of vessel collision or significant disturbance is low, such that no likely significant effects to the West Coast of the Outer Hebrides SPA are expected. The impact is therefore assessed as **Not Significant.**
		Red-throated diver			✓	✓	✓	
		Black-throated diver			✓	✓	✓	
		Slavonian grebe			✓	✓	✓	
		Common eider			✓	✓	✓	
		Long-tailed duck			✓	✓	✓	
		Red-breasted merganser			✓	✓	✓	

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
	Mointeach Scadabhaigh SPA/SSSI	**Red-throated diver**			✓	✓	✓	Red-throated diver are known to be highly sensitive to visual disturbance and above-water noise, with strong responses to vessel traffic observed (Burger *et al*., 2019; Schwemmer *et al*., 2011). The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. However, installation activities will be temporary, localised, and of short duration, with vessels transiting through foraging areas at slow speeds of less than 4 knots. Furthermore, evidence of habituation to vessel presence among bird species (Schwemmer *et al*., 2011), combined with the existing baseline level of shipping activity in the vicinity of the Application Corridor, suggests that the risk of vessel collision or significant disturbance is low. As such, no likely significant effects to the Mointeach Scadabhaigh SSSI are expected. The impact is therefore assessed as **Not Significant.**
		Black-throated diver			✓	✓	✓	
		Breeding bird assemblage			✓	✓	✓	
	Shiant Isles SPA	**Fulmar**				✓	✓	The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. Kittiwakes are sensitive to vessel disturbances, especially vessels travelling at high speeds. However, the species is known to exhibit habituation behaviour and given the existing baseline level of shipping activity in the vicinity of the Application Corridor, in combination with the slow transit speeds of the installation vessel, no likely significant effects to the Shiant Isles
		Kittiwake				✓	✓	
		Puffin				✓	✓	
		Guillemot			✓	✓	✓	
		Seabird assemblage						

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
								SPA are expected. The impact is therefore assessed as **Not Significant.**
	Shiant Islands SSSI	**Razorbill**				✓	✓	Diving and pursuit-diving seabirds are considered to exhibit higher sensitivity to vessel disturbance compared to surface-feeding species. The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. Installation activities will be temporary, localised, and of short duration, with vessels transiting through foraging areas at slow speeds of less than 4 knots. Furthermore, evidence of habituation to vessel presence among bird species (Schwemmer *et al.*, 2011), combined with the existing baseline level of shipping activity in the vicinity of the Application Corridor suggests that the risk of vessel collision or significant disturbance is low. As such, no likely significant effects to the Shiant Islands SSSI are expected. The impact is therefore assessed as **Not Significant.**
		Puffin				✓	✓	
		Guillemot				✓	✓	
		Seabird assemblage			✓	✓	✓	
	Small Seal Islands SSSI	**Grey seal**			✓		✓	Seals are considered to have variable responses to underwater noise (Mikkelsen *et al*., 2019) and studies have shown that individuals will quickly return to an area that was subjected to even high-intensity noise emissions within a short period of time (Russell *et al*., 2016). The vessels will be travelling at slow speeds such to reduce the risk of collision and there are no seal haul out sites located within a distance at which hauled-out individuals would be expected to experience disturbance. As such, no likely significant effects to the Small Seal

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
								Islands SSSI are expected. The impact is therefore assessed as **Not Significant**.
	Rum SPA	**Guillemot**			✓	✓	✓	Red-throated diver are known to be highly sensitive to visual disturbance and above-water noise, with strong responses to vessel traffic observed (Burger *et al*., 2019; Schwemmer *et al*., 2011). The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. Installation activities will be temporary, localised, and of short duration, with vessels transiting through foraging areas at slow speeds of less than 4 knots. Furthermore, evidence of habituation to vessel presence among bird species (Schwemmer *et al*., 2011), combined with the existing baseline level of shipping activity in the vicinity of the Application Corridor, suggests that the risk of vessel collision or significant disturbance is low. As such, no likely significant effects to the Rum SPA are expected. The impact is therefore assessed as **Not Significant.**
		Kittiwake				✓	✓	
		Manx shearwater			✓	✓	✓	
		Red-throated diver			✓	✓	✓	
		Seabird assemblage			✓	✓	✓	
	Canna and Sanday SPA	**Black-legged kittiwake**				✓	✓	Diving and pursuit-diving seabirds are considered to exhibit higher sensitivity to vessel disturbance compared to surface-feeding species. The sound frequencies at which the proposed
		Common guillemot			✓	✓	✓	
		Breeding bird assemblage			✓	✓	✓	

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
		Herring gull				✓	✓	equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. Installation activities will be temporary, localised, and of short duration, with vessels transiting through foraging areas at slow speeds of less than 4 knots. Furthermore, evidence of habituation to vessel presence among bird species (Schwemmer *et al.*, 2011), combined with the existing baseline level of shipping activity in the vicinity of the Application Corridor, suggests that the risk of vessel collision or significant disturbance is low. As such, no likely significant effects to the Canna and Sanday SPA are expected. The impact is therefore assessed as **Not Significant.**
	Canna and Sanday SSSI	**Seabird colony**			✓	✓	✓	The seabird colony of the Canna and Sanday SSSI likely consists of shag, common tern, northern fulmar, gull species, puffin and manx shearwater (NatureScot, 2011). Manx shearwater are known to have limited flight manoeuvrability and a high sensitivity to construction and pre-construction operations (Scottish Government, 2022). The sound frequencies at which the proposed equipment operates does not overlap with the hearing range of diving birds. Combined with equipment sound level outputs hich are either relativly low or will decipate in the water column quickly, no signigicant impacts are expected to occur from underwater noise changes. Installation activities will be temporary and vessels will transit through foraging areas for a short period of time only. Although individual birds may experience short-term disturbance, they are expected to return

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
								quickly to any utilised feeding grounds. The slow transit speed of the installation vessel will also minimise the risk of collision, such that no likely significant effects to the Canna and Sanday SSSI are expected. The impact is therefore assessed as **Not Significant**
	North Harris SAC/SSSI	**Atlantic salmon**			✓			While installation-related underwater noise could potentially disrupt Atlantic salmon migration, particularly during the key periods of April to May (downstream migration) and late summer–autumn (upstream migration), Atlantic salmon are considered to have low sensitivity to such noise (Chapman & Hawkins, 1973 ; Hawkins & Johnstone 1978 ; SSE Renewables, 2022). Given the short-term and localised nature of the activity, no significant impacts on their migratory pathways are anticipated. The impact is therefore assessed as **Not Significant.**
	Red Rocks and Longay NCMPA	**Flapper skate**					✓	Flapper skate are considered susceptible to collision with deployed devices and are assessed to have a medium tolerance to collision risk (FeAST, 2024). However, the slow speeds of the installation vessels and localised deployment footprint of associated deposits, combined with the evidence that skate species commonly avoid approaching vessels and subsea infrastructure (Wilson *et al*., 2007), mean that the risk of death or injury from collision is low. As such, no likely significant effects to the Red Rocks and Longay NCMPA are expected. The impact is therefore assessed as **Not Significant.**

			Pressures					
			Abrasion / disturbance at the surface of the substratum	Penetration and / or disturbance of the substrate below the surface of the seabed	Underwater noise changes	Visual (and above water noise) disturbance	Death or injury by collision	Impact Assessment
		Relevant Qualifying Species						
	Monach Islands SAC	**Grey seal**			✓		✓	Seals are considered to have variable responses to underwater noise emissions (Mikkelsen *et al*., 2019) and studies have shown that individuals will quickly return to an area that was subjected to even high-intensity noise emissions within a short period of time (Russell *et al*., 2016). The vessels will be travelling at slow speeds such to reduce the risk of collision and there are no seal haul out sites located within a distance at which hauled-out individuals would be expected to experience disturbance. As such, no likely significant effects to the Monach Islands SAC are expected. The impact is therefore assessed as **Not Significant**.
	Sound of Barra SAC	**Harbour seal**			✓		✓	Seals are considered to have variable responses to underwater noise (Mikkelsen *et al*., 2019) and studies have shown that individuals will quickly return to an area that was subjected to even high-intensity noise emissions within a short period of time (Russell *et al*., 2016). The vessels will be travelling at slow speeds such to reduce the risk of collision and there are no seal haul out sites located within a distance at which hauled-out individuals would be expected to experience disturbance. As such, no likely significant effects to the Sound of Barra SAC are expected. The impact is therefore assessed as **Not Significant**.
		Grey seal			✓		✓	

5.6 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1. Following assessment, there are no additional mitigation measures proposed.

5.7 Conclusion

The above assessment has demonstrated that installation activities associated with the cable installation will not adversely affect the conservation objectives of any designated site within or in the vicinity of the Application Corridor. Any disturbance caused by the installation of the cable will be minor and temporary due to the short-term and localised nature of the activities, therefore the effects are concluded to be not significant.

6. SEABED AND WATER QUALITY

6.1 Introduction

This Section characterises the seabed and water quality conditions influencing the baseline environment, outlines the potential impacts associated with the cable installation activities on the seabed and water quality and presents the findings of the environmental assessment.

6.2 Data Sources

The baseline has been informed using the following primary sources:

- Skye Loop Cable Route Desktop Study, Document Reference: H24007-REP-001 Rev1 (Hydrofix, 2024);
- Skye Interlink Results Report – Geophysical and Geotechnical (A2Sea, 2025)
- Skye-South Uist Benthic Full Habitat Assessment Report (Revision 5) (A-2-Sea, 2025)
- Consenting Support Information (Jan De Nul, 2025)

In order to establish baseline conditions a desktop review of published information has been undertaken supported by consultation with relevant bodies. Any other data sources used are referenced throughout the document.

6.3 Seabed and Water Quality Description

6.3.1 Seabed Quality

The water depth in the vicinity of the operational area ranges from 2m to 198m (A-2-Sea, 2025). There are a number of locations along the Application Corridor where seabed slopes exceed 10°, with the steepest slope being 69.3° (Jan De Nul, 2025).

The geology of north-western Skye and the Outer Hebrides is distinct from the rest of Scotland and formed part of the foreland area of the Caledonian Orogeny in the Early Palaeozoic. The solid geology comprises of Lewisian metamorphic rocks, typically gneiss, and Palaeogene basalt (OceanIQ, 2023). The Application Corridor does not overlap any recorded fault lines (OceanIQ, 2023).

Based on British Geological Survey reports, sediment type within the Application Corridor comprises gravelly sand at Loch Pooltiel, crossing areas of mud, mixed sediment and macrophyte-dominated sediment towards Ardmore (A-2-Sea, 2025). Analysis of bathymetric data showed that within the Application Corridor the seabed is relatively consistent with areas of wave and ripple bedforms present (A-2-Sea, 2025). Rock outcrops are present along the route, with significant outcropping expected on approaches to Dunvegan (OceanIQ, 2023).

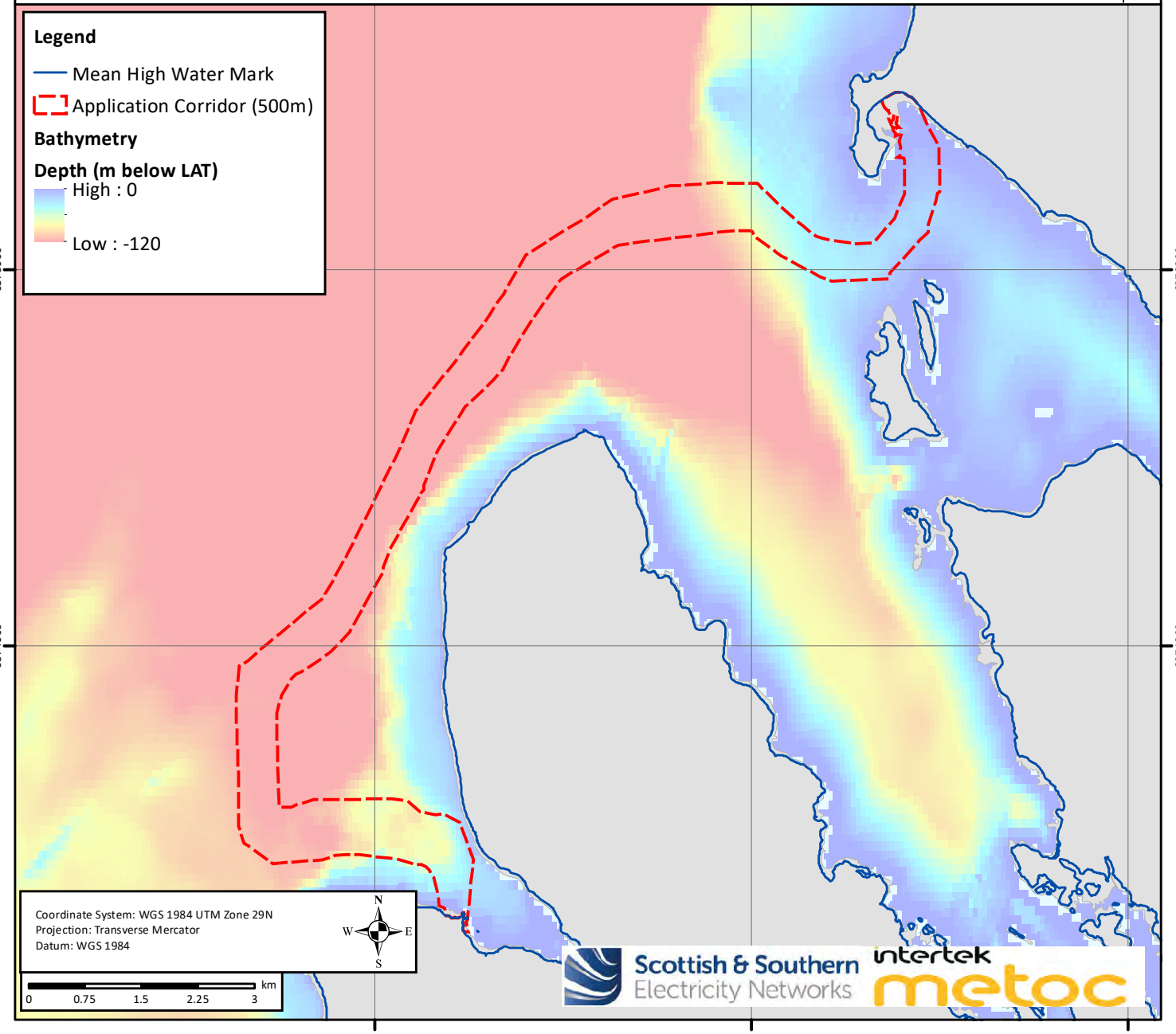
Natural and anthropogenic compounds can result in seabed contamination. Anthropogenic contamination is entirely dependent on the level of development at the nearshore areas of the Application Corridor. No areas of contaminated land were identified within the Application Corridor or surrounding area.

The bathymetry of the Application Corridor is displayed in (Figure 6-1, Drawing reference: P2816-BATH-001).

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

BATHYMETRY - EMODnet Bathymetry Within Application Corridor

Drawing No: P2816-BATH-001 | A



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6.3.2 Water Quality

The European Union (EU) Marine Strategy Framework Directive (MSFD) adopted in 2008 requires that the UK takes "the necessary measures to achieve or maintain "Good Environmental Status" in the marine environment (Buckley *et al.*, 2010). The majority of water across Skye are of a high environmental status (SEPA, 2022). There are no known bathing waters or shellfish waters located within the Application Corridor. The closest bathing water is located 55km to the east and closest shellfish water 4.1km east.

The requirement for monitoring UK rivers and near-shore waters has increased as a result of the implementation of the EU Water Framework Directive (WFD), with more stringent criteria for water quality in rivers applied. River Basin Management Plans (RBMP) are being developed as a requirement of the WFD and report on the 'ecological status' of surface and ground water in coastal waters (out to 1 nautical mile (nm) from the baseline) and 'chemical status' of surface and ground waters in territorial waters (out to 12nm from the baseline). SEPA is responsible for producing RBMPs for the Scotland and the Solway Tweed River Basin Districts. The MSFD assessments are carried out at subregion level, i.e. the Greater North Sea and the Celtic Seas. The MSFD and WFD overlap in coastal waters as the WFD extends to three nm seaward from the Scottish territorial baseline. Any proposed development within these waters must have regards to the WFD and ensure that all surface water bodies achieve 'Good Ecological Status (GES)' and that there is no deterioration in status.

6.4 Impact Assessment

The Ardmore – Loch Pooltiel cable will be buried, where possible, for the entire proposed route. The seabed footprint of the works will be largely confined to the physical footprint of the cable (and associated trench) itself, along with the potential for cable protection measures.

Associated impacts on benthic and intertidal features are discussed in Section 8.

6.4.1 Physical Change (to another substratum)

Physical change to the seabed within the proposed Application Corridor may arise from installation activities such as cable laying and potential placement of protective deposits on the seabed, which has the potential to lead to permanent seabed substrate (habitat) loss. This could modify sediment supply and movement of presently occurring bedforms within the Application Corridor. Loss of substrate may result within the footprint of the cable installation, while bedform alteration may occur from operations towards the landfalls.

Disturbance from direct substratum loss is expected to be highly localised in extent, limited to the footprint of the cable and associated trench, and any protection materials if required. The cable route and protection deposits have been optimised and micro-routed to minimise their impact.

Overall, given the small footprint of the cable installation activities (as defined in Section 4, Table 4-2), and minimisation of impacts where possible, long term impacts to habitats or features are unlikely to be significant.

6.4.2 Abrasion / Disturbance at the Surface of the Substratum

The seabed could be disturbed due to the installation activities, such as cable laying and trenching, and operational activities, such as cable remedial works, which have the potential to result in damage to the seabed. Use of protective measures and deployment of spud legs could have an abrasive effect on hard substrate or in sensitive sites in both the subtidal and intertidal zones.

Whilst disturbance of the sediment is unavoidable during trenching, sediment is expected to backfill where it was originally located such that disturbances will be localised and temporary. Any track marks left by the trenching equipment will dissipate over time due to normal movement of sediment on the

seabed. Intertidal works will be tide dependent (working at low water when the intertidal zone is exposed), using traditional terrestrial-based plant excavators at low tide. As a result of conducting trenching activity in the intertidal area at low tide, it is expected that there will be temporary and localised disturbance.

6.4.3 Changes in Suspended Solids (water clarity)

Where the cable is buried, jetting techniques may be used which involve a directed flow of water to bury a cable through suspension and subsequent fall of sediment. This process will result in temporary sediment suspension, and any disturbance is expected to last between a few hours and a few days only (Taormina *et al*., 2018). No contaminants are known to be present in the sediment along the Application Corridor that could negatively affect local water quality. Considering this, along with the limited spatial extent of sediment dispersion, with sediment expected to settle within 100 metres of the Application Corridor (Gooding *et al*., 2012), no significant changes in suspended solids are anticipated as a result of the Project.

6.4.4 Penetration and / or Disturbance of the Substrate Below the Surface of the Seabed

Trenching during cable installation will result in localised disturbance of subsurface sediments. Additionally, up to four spud legs may be deployed, each with a footprint of a 2m diameter. These disturbances will be spatially constrained to the cable route, trench, and spud legs locations, representing a very small area relative to the wider seabed. There also includes the potential for four anchors to be used, with associated chain deposit resulting in a disturbance of 16,480m^2.

Disturbance is expected to be temporary in nature, with natural recovery of sediments occurring over time through hydrodynamic processes such as sediment reworking and deposition. Micro-routing will also be applied to avoid sensitive habitats and species, and minimise impacts as far as practicable. Any impacts will be limited in extent and temporary in nature such that it is unlikely that there will be any significant impacts from penetration and / or disturbance of the substrate below the surface of the seabed.

6.5 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1. Following assessment, there are no additional mitigation measures proposed.

6.6 Conclusion

The above assessment has concluded that the installation and operation of the Ardmore – Loch Pooltiel cable is unlikely to significantly affect the seabed and water quality within or in the vicinity of the Application Corridor. Any sediment dispersed as a result of the cable installation activities will settle rapidly and within a limited area, quickly becoming imperceptible in the water column to levels associated with strong tidal and wave action. Disturbance from direct habitat loss is expected to be highly localised in extent, limited to the footprint of the cable, spud legs, and protective materials deployed. Therefore, significant impacts to seabed and water quality features are unlikely to occur.

7. MARINE MEGAFAUNA

7.1 Introduction

This Section characterises the marine megafauna (cetaceans, pinnipeds, otters and basking shark) in the vicinity of the Application Corridor, outlines the potential pressures associated with the proposed cable installation activities on marine megafauna and presents findings of the environmental assessment. Given their mobile nature, marine megafauna recorded within a 50km radius of the Application Corridor are considered in this section.

7.1.1 Data Sources

The baseline has been informed using the following primary sources:

- ED2: Skye – Uist South Cable Route Desktop Study (OceanIQ, 2023)
- EPS and Protected Sites and Species Risk Assessment – West Highland (Xodus, 2023)

In order to establish baseline conditions a desktop review of published information has been undertaken supported by consultation with relevant bodies. Consultation completed as part of the planning for these activities is summarised in Section 1.5. Any other data sources used are referenced throughout the document.

7.2 Marine Megafauna Description

7.2.1 Cetaceans

Under Annex II of the Habitats Directive and subsequently Schedule 2 of the Habitats Regulation (Conservation (Natural Habitats, &c.) Regulations 1994), harbour porpoise (*Phocoena phocoena*) and bottlenose dolphin (*Tursiops truncatus*) are listed as species of community interest whose designation within a SAC facilitates their conservation (as discussed in Section 2 (Legislation and Policy)). Furthermore, all cetacean species found in the UK are listed under Annex IV of the Habitats Directive as EPS and are protected in Scottish territorial waters under Section 39 of the Conservation (Natural Habitats, &c.) Regulations 1994, with it being an offence to capture, kill or disturb any EPS.

Section 5 (Protected Sites) considers all protected species which are designated features of SACs. This section therefore considers all protected species that have the potential to be present within or around the Application Corridor, not just those which are designated features.

The SCANS-IV survey undertaken in 2022 identified that the Application Corridor is located within SCANS Block CS-H. Six species of cetacean have been recorded in this block: harbour porpoise, bottlenose dolphin, Risso's dolphin, white-beaked dolphin, white-sided dolphin and common dolphin (Gilles *et al.*, 2023). These species, along with other species classed as infrequent visitors, are detailed in Table 7-1.

Table 7-1 Cetacean Species Recorded within the Application Corridor

Species	Description of Species and Occurrence	Density Estimates in Vicinity of Application Corridor (individuals/km²)[1]	Management Unit (MU) Population Estimate[2]
Commonly Observed Species			
Harbour porpoise (*Phocoena*	Harbour porpoise are the most abundant cetacean species on the west coast of Scotland, constituting one of the highest densities of porpoise found in	0.3911	28,936

Species	Description of Species and Occurrence	Density Estimates in Vicinity of Application Corridor (individuals/km²)[1]	Management Unit (MU) Population Estimate[2]
phocoena)	Europe. Harbour porpoise are resident year-round in Hebridean waters and tend to be observed in groups of one to three animals (Reid *et al*., 2003). The Application Corridor overlaps the Inner Hebrides and Minches SAC designated for harbour porpoise.		
Bottlenose dolphin (*Tursiops truncatus*)	The west coast of Scotland is home to one of the four groups of bottlenose dolphin present around UK waters. Around 30 individuals are known to reside around the Inner Hebrides (UKMMAS, 2018). There are no protected sites within 50km of the Application Corridor for bottlenose dolphin.	0.3421	45
Risso's dolphin (*Grampus griseus*)	The waters around the Hebrides have been highlighted to support breeding populations of Risso's dolphin. These cetaceans have been observed in most months of the year in waters located on the West coast of Scotland (Marine Mammal Protected Areas Task Force, 2024). There are no protected sites within 50km of the Application Corridor for Risso's dolphin.	0.0244	12,262
White-beaked dolphin (*Lagenorhynchus albirostris*)	White-beaked dolphin are resident and seasonally abundant along the west coast of Scotland, including inshore and offshore waters off the Outer Hebrides (NatureScot, 2020a). There are no protected sites within 50 km of the Application Corridor for white-beaked dolphin.	0.1380	43,951
White-sided dolphin (*Lagenorhynchus acutus*)	White-sided dolphin occur year-round in continental shelf waters off the Outer Hebrides and the west coast of Scotland, with seasonal peaks during summer (MacLeod, 2004). There are no protected sites within 50 km of the Application Corridor for white-sided dolphin.	0.0279	18,128
Common dolphin (*Delphinus delphis*)	Common dolphins are known to inhabit the Hebrides, with their presence primarily concentrated in shelf waters, particularly during the summer months (Hebrides Whale and Dolphin Trust, 2024). There are no protected sites within 50km of the Application Corridor for common dolphin.	0.9266	102,656
Infrequent visitors			
Minke whale (*Balaenoptera acutrostrata*)	Minke whales are known to visit the waters around the Hebrides seasonally, from March to November, using areas near the Application Corridor as feeding grounds (MacLeod *et al*., 2004). There is one protected site designated for minke whale (Sea of Hebrides NCMPA), which is located within the Application Corridor; therefore, there may be connectivity between animals using the Application Corridor and this SAC.	0.0353	20,118

Sources: [1] Gilles *et al*. (2023); [2] IAMMWG, (2022)

7.2.2 Pinnipeds

Two seal species inhabit UK waters: the harbour seal (*Phoca vitulina*) and the grey seal (*Halichoerus grypus*). Both species are protected under multiple pieces of legislation, including The Conservation (Natural Habitats &c.) Regulations 1994 which prohibits certain methods of catching and killing seals and the Marine (Scotland) Act 2010 which strengthened this protection to include killing, injuring or taking a live seal. The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014 also designated separate seal haul-out sites where harassing a seal is considered an offence. This species is listed as a PMF species, within the UK Post-2010 Biodiversity Framework, Bern Convention, Scottish Biodiversity List and is an Annex II and Annex IV species under the Habitats Regulations. There has been a decline in *Phoca vitulina* numbers and the species is under threat due to anthropogenic factors such as fishing, gear entrapment, disturbance and toxic chemicals (NatureScot, 2024a). Both species occur year-round throughout the Hebrides and have been recorded within and around the Isle of Skye (SCOS, 2021).

During the breeding and moulting season, seals are particularly vulnerable to disturbance as this may cause seals to flush into the sea before they have replenished the necessary oxygen, heat and energy needed to moult and breed (Bellman *et al*., 2019). For harbour seals, the breeding season occurs in June to July, and moulting season in August to September (Merkel, B. *et al* 2015). For grey seals, breeding occurs mid-September to December and moulting from December to April (Sea Mammal Research Unit, 2018).

The latest population estimate for harbour seals in Scotland is around 37,300 individuals, with approximately 75% (28,000 individuals) of those occurring in Western Scotland (Morris *et al*., 2021). The Application Corridor does not overlap with any SACs designated for harbour seal, and there are no designated seal haul out sites in the immediate vicinity of the Corridor. However, as outlined in Section 5 (Protected Sites), there are two protected sites with harbour seals listed as qualifying features within 50km of the Application Corridor. Within the Application Corridor, the at-sea density for harbour seals is estimated to be between 1-10 individuals per 25km^2 (Figure 7-1, Drawing Reference: P2816-MAMM-005).

The latest population estimate for grey seals in Scotland is around 106,300 individuals (Morris *et al*., 2021), with 5,064 individuals counted on land in the West Scotland Seal Management Area in 2014 and 4,541 pups born in the Area in 2016 (FeAST, 2025). The Application Corridor does not overlap with any SACs designated for grey seal, and there are no designated seal haul out sites in the immediate vicinity of the Corridor. However, as outlined in Section 5 (Protected Sites), there are two protected sites with grey seals listed as qualifying features within 50km of the Application Corridor. Within the Application Corridor, the at-sea density for grey seals is estimated to be up to 10 individuals per 25km^2 (Figure 7-2, Drawing Reference: P2816-MAMM-007).

The OceanIQ (2023) Cable Route Desktop Study observed evidence of seal activity on Loch Pooltiel however all known seal haul and pupping sites have been avoided during routing.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS
Density of Harbour Seals (1991 - 2016)

Drawing No: P2816-MAMM-005 | **A**

630000
640000
6380000
6370000

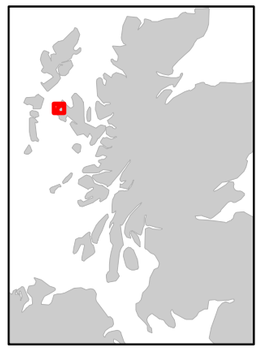
N
W
E
S

Legend

- Mean High Water Mark
- Application Corridor (500m)

Harbour Seal Density (5 km x 5 km)

- <=1
- 1 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- >=100



NOTE: Not to be used for Navigation

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Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

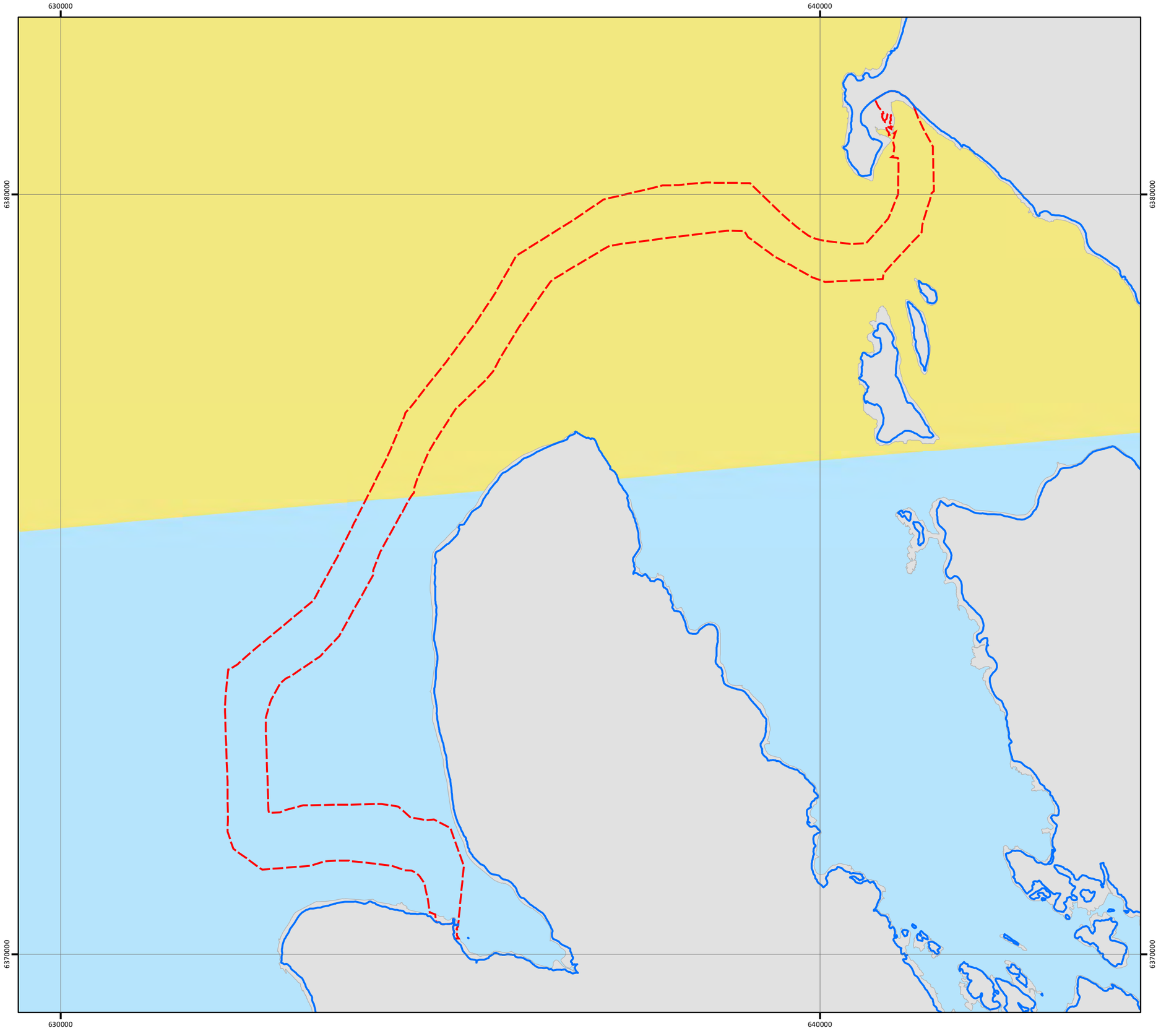
intertek metoc

0 0.75 1.5 2.25 3 km

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

MARINE MAMMALS
Density of Grey Seals (1991 - 2016)

Drawing No: P2816-MAMM-007 | **A**



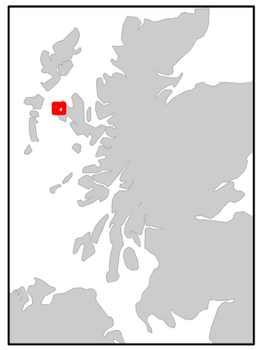
Legend

- Mean High Water Mark
- Application Corridor (500m)

Grey Seal Density (5 km x 5 km)

- <=1
- 1 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- >=100

N
W E
S



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0 0.75 1.5 2.25 3 km

7.2.3 Otters

Otter are semi-aquatic mammals which may inhabit rivers, lakes, coastal areas, and marshy areas some distance from open water. Coastal populations utilise shallow, inshore marine areas for feeding but depend on fresh water for bathing and terrestrial areas for resting and breeding holts. They are commonly seen foraging within a narrow zone close to the shore (<100m) and only rarely cover larger distances, moving between islands (BEIS, 2022). Otter prefer low peat-covered coastlines with a strong freshwater supply and shallow, seaweed rich waters offshore. Otter are listed as a PMF species, on the UK Post-2010 Biodiversity Framework (formally UK BAP) and on the Bern Convention. It is also included in the Scottish Biodiversity List. This species is protected due to its large decline and is becoming increasingly threatened by fishing (NatureScot, 2020d). Otter are an Annex IV species under the Habitats Directive (European Commission, 2021). It is also an Annex II species.

The OceanIQ (2023) Cable Route Desktop Study observed evidence of otter on Loch Pooltiel during site visits. Additionally, although no otter were visually observed during Protected Species Surveys of the Meanish Pier and Ardmore landfalls, multiple otter spraints in both a dried intact and dried fragmented condition were found at Meanish Pier and single otter spraints in a dried intact (Di) condition were found at two separate locations on Ardmore, suggesting that the areas are regularly used as couches (Purple Plover Consulting Ltd, 2025a; Purple Plover Consulting Ltd, 2025b).

As outlined in Section 5, there are seven sites with otter as a designated feature located within 50km of the Application Corridor, however due to the limited foraging ranges of otter it is unlikely for any individuals protected within these sites to be present within the Application Corridor.

7.2.4 Elasmobranchs

Basking shark are the second largest fish in the world and one of the few species of filter feeding shark (Sims, 2008). Basking shark are a PMF in Scotland and are listed under Annex I of the Convention on Migratory Species (CMS) and Appendix II of the Convention on International Trade in Endangered Species (CITES) (NatureScot, 2020c; CITES, 2023; CMS, 2023). They are a wide-ranging species occurring from warm temperate waters of the European continental shelf as far north as the arctic (Sims, 2008). Basking sharks are migratory and have the potential to be present in Hebridean waters mainly between June and October (NatureScot, 2020b). The Application Corridor overlaps with the Sea of the Hebrides NCMPA designated for basking shark. Therefore, there is potential for their presence within the Application Corridor. Basking shark density is low within the Application Corridor, with 0-0.10 individuals animals per km^2 (Figure 7-3, Drawing reference: P2816-FISH-001).

25 species of skates and rays are known to inhabit Scotland's coastal water (The Scottish Government, 2011). One of these, the flapper skate (*Dipturus intermedius*) is a PMF designated within the Red Rocks and Longay NCMPA located 45.0km from the Application Corridor. Although there is evidence that this species are non-migratory and resident to the West coast of Scotland (Neal & Pizzolla, 2006) they are present across the Scottish west coast. Within the Application Corridor, there were no occurrences of flapper skate encounters (Figure 7-4, Drawing Reference P2816-FISH-014). Flapper skate are transient in nature known to travel distances up to 100km (Thorburn *et al.*, 2018). They are adapted to tidal channels with strong currents which they exploit as favourable foraging habitats (NatureScot, 2022b). It is therefore possible for flapper skate to be present within the Application Corridor.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES
Observed Adjusted Densities of Basking Shark (2000-2012)

Drawing No: P2816-FISH-001	A

630000
640000
6380000
6370000

Legend

- Mean High Water Mark
- Application Corridor (500m)

Observed Adjusted Densities of Basking Shark

Encounter Rate

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- 2.0 - 5.0
- 5.0 - 10.0
- > 10.0

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E
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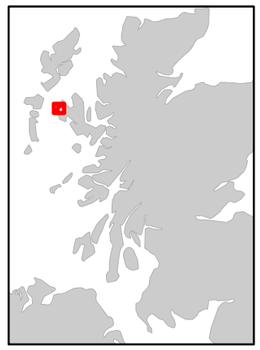

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Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

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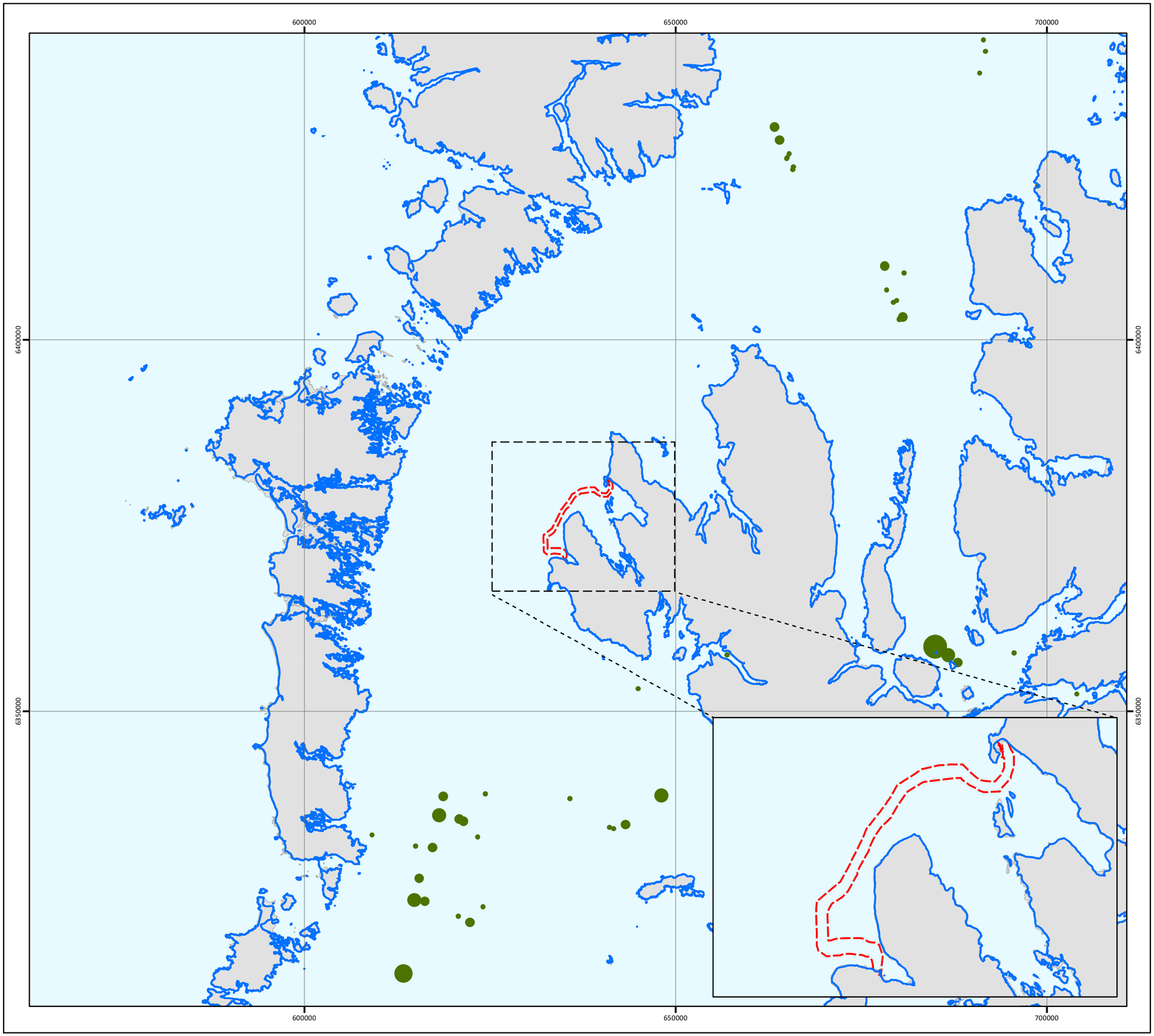
ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES
Flapper Skate and Blue Skate Distribution

Drawing No: P2816-FISH-014	A



Legend

- Mean High Water Mark
- Application Corridor (500m)

Flapper Skate and Blue Skate Encounter (Surveys from 1995 Onwards)

Count

- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 50
- > 50

N
W E
S

NOTE: Not to be used for Navigation

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Projection	Transverse Mercator
Datum	WGS 1984
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Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

intertek metoc

0 7.5 15 22.5 30 km

7.3 Impact Assessment

7.3.1 Underwater Noise Changes

As described in Section 5 "Protected sites", underwater noise changes resulting from the installation activities primarily result from the noise associated with vessels and Ultra-short baseline (USBL). The assessment below focusses on the cetacean and pinniped species in the vicinity of the Application Corridor, and the effects that USBL devices may have on these species.

If frequencies of the sound produced fall outside the predicted auditory bandwidth for a species, then disturbance is unlikely. Sufficiently loud noise sources, however, can still cause damage to an individuals' auditory or other internal organs. For details on the typical auditory bandwidths of cetaceans, see Table 7-2.

Table 7-2 Auditory Bandwidth Estimated for Hearing Groups of Cetaceans and Other

Hearing Group	Estimated Auditory Bandwidth
Low-frequency cetaceans (deep diving species e.g. minke whale, pilot whale, etc.)	7Hz to 35kHz, with peak sensitivity around 100- 200Hz
Mid-frequency cetaceans (small dolphins e.g. bottlenose dolphin, common dolphin, white-beaked dolphin, etc.)	150Hz to 160kHz, with peak sensitivity above 10kHz (Except for killer whales: 50Hz to 100kHz)
High-frequency cetaceans (harbour porpoise)	180Hz to 200kHz, with peak sensitivity above 4kHz
Phocid pinnipeds (true seals, e.g. grey and harbour seal)	50Hz to 86kHz
Basking shark	20Hz to 1kHz

Source: NMFS (2018); Southall *et al*. (2019)

7.3.1.2 Cetaceans

Cetaceans present within the Application Corridor may experience impacts from the installation activities such as injury to auditory and internal organs and disturbance to behavioural patterns. USBL in a worst-case scenario would disturb less than 0.05 individuals of any cetacean species per 0.13km² (Xodus, 2023). As such, potential disturbance impacts from USBL on harbour porpoise, Risso's dolphin, bottlenose dolphin, common dolphin, white beaked dolphin and white-sided dolphin would be negligible. Given the baseline shipping density within the Application Corridor (See Section 12), the addition of vessels associated with installation activities will not substantially increase vessel numbers or the existing baseline soundscape in the vicinity of the Application Corridor. Given that the presence of the installation vessels will not result in a significant change to the number of vessels in the area and that cable installation activities will be a temporary occurrence, no adverse effects to cetaceans from the installation activities are expected. There will therefore be no significant disturbance to cetacean species as a result of installation activities.

7.3.1.3 Pinnipeds

While less sensitive to underwater noise emissions than cetaceans, noise from vessels has been shown to elicit behavioural responses in seals (Mikkelsen *et al*., 2019). For details on the typical auditory bandwidths of pinnipeds, see Table 7-2. Underwater noise emissions from vessels associated with the Project will be localised, temporary and transient, such that any disturbance to seals will be short-term. Seals in the water could also be susceptible to disturbance from USBL devices, given the overlap in their hearing ranges and sound generated by USBL devices (NMFS, 2018). Studies have shown however, that individuals will quickly return to an area that was subjected to even high-intensity noise emissions within a short period of time (Russell *et al*., 2016). At-sea seal density is low to moderate within the Application Corridor and given the transient nature of the installation activities, no

significant disturbance of seals is expected to occur as a result of installation activities. A thorough assessment of potential impacts to seals within the Application Corridor is provided within the European Protected Species (EPS) and Protected Sites and Species Risk Assessment (Appendix C), along with details of the measures employed during the Project to mitigate any impacts to seal species were necessary.

7.3.1.4 Otters

Otter are known to possess the ability to detect underwater sounds however, their hearing is primarily air adapted (Ghoul & Reichmuth, 2016). In water their auditory bandwidth is identified as 125Hz to 40kHz (Ghoul & Reichmuth, 2016) however, they are not considered sensitive to noise (Xodus, 2023). Given their specialisation for aerial hearing, the impact of underwater noise changes resulting from the installation vessels and cable installation operations is not considered to pose a significant risk to the species. Furthermore, operations will be short-term and as such any disturbance to otter will be temporary.

7.3.1.5 Elasmobranchs

Elasmobranchs (sharks and rays) in general are considered to have a low sensitivity to noise given that they do not possess a swim bladder (Popper *et al.*, 2014). The hearing capabilities of basking sharks is unknown; however, five species of elasmobranch are known to hear in the range of 20Hz to 1KHz (Macleod *et al.*, 2011). The low frequency noise emissions produced by vessels overlaps with this range, therefore, could be a potential risk to basking sharks should they have similar hearing sensitivity. However, the addition of vessels associated with installation activities will not substantially increase vessel numbers or the existing baseline soundscape in the vicinity of the Application Corridor. Furthermore, flapper skate are identified as not being sensitive to noise due to their lack of a swim bladder (Neal & Pizzolla, 2006; Popper *et al.*, 2014) and as such no significant disturbance of basking shark or flapper skate are expected.

7.3.2 Visual (and Above Water Noise) Disturbance

The Application Corridor is with an area utilised by various vessels (See Section 12). Therefore, the addition of vessels associated with the cable installation is not expected to substantially increase overall vessel numbers in the area.

7.3.2.1 Otters

The presence of the installation vessels utilised during the operation may pose a disturbance risk to otter with evidence of otter observed on Loch Pooltiel and detailed in the OceanIQ (2023) Cable Route Desktop Study and Protected Species Surveys of the Ardmore and Meanish landfalls (Purple Plover Consulting Ltd, 2025a; Purple Plover Consulting Ltd, 2025b). Otter are sensitive to visual and above water noise disturbances which may disrupt their foraging behaviour and exclude them from vital areas (The Scottish Government, 2019). However, given the short-term, localised and temporary nature of the installation activities any disturbance to otter will be temporary and not significant.

7.3.3 Death or Injury by Collision

The effects of death or injury by collision on marine megafauna has been assessed in Section 5 (Protected Sites) if species fall within a protected site or are likely to enter the Application Corridor due to proximity of their protected site. The assessment concludes that no significant effects to these species would occur, due to their mobile nature and the short-term, temporary and localised nature of the installation activities. Furthermore, the addition of vessels associated with the cable installation is not expected to substantially increase overall vessel numbers in the area and all vessels utilised during this operation will adhere to the SMWWC such that any risks resulting from the presence of the vessel are minimised where possible.

7.3.3.1 Cetaceans

Although cetaceans may transit the Application Corridor their mobile nature and the slow movement of installation vessels means that individuals will have sufficient time to move out of the path of any vessel. Thus, minimising risks of collision and reducing significant risks of injury or death to unlikely. As such no significant disturbance to cetaceans is expected.

7.3.3.2 Pinnipeds

The presence of seals within the Application Corridor is possible however, the slow speed of the installation vessel provides individuals with sufficient time to move out of the path of the vessel thus reducing the risk of vessel strike. As such no significant disturbance to pinnipeds is expected.

7.3.3.3 Elasmobranch

Basking shark are slow to mature and have long gestational periods (HWDT, 2018). As a large, slow-moving species, basking sharks are at risk of collision with vessels, particularly those at higher speeds. However, given the slow speed of the installation vessels (less than 4 knots) no significant risks of injury to basking shark from the presence of the vessel are expected and as such no significant disturbance to basking shark is expected.

7.4 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1. Following assessment, there are no additional mitigation measures proposed.

7.5 Conclusion

The above assessment has determined that the short-term, localised and transient nature of installation activities in combination with low densities of marine megafauna in the area, are unlikely to be any adverse effects to cetacean, pinniped, otter and basking shark as a consequence of the proposed operation. The impacts are therefore considered to be not significant.

8. BENTHIC AND INTERTIDAL ECOLOGY

8.1 Introduction

This Section characterises the intertidal and subtidal benthic ecology within the Application Corridor, outlines the impacts associated with the cable installation activities on intertidal and subtidal benthic ecology and presents the findings of the environmental assessment.

8.2 Data Sources

Baseline conditions have been partly established by undertaking a desktop review of published information and through interpretation of the subtidal and intertidal survey reports produced by A-2-Sea Solutions Limited (subcontracted to Ocean Ecology Limited), for the marine surveys undertaken between September and October 2024.

The baseline has been informed using the following primary sources:

- Skye-South Uist Benthic Full Habitat Assessment Report (Revision 5) (A-2-Sea, 2025)
- Skye – South Uist Subsea Cable Environmental Desk Study (Jacobs, 2024)
- Marine Directorate FeAST tool (FeAST, 2025)
- MarLIN – The Marine Life Information Network (MarLIN, 2025)

In order to establish baseline conditions a desktop review of published information has been undertaken supported by consultation with relevant bodies. The Marine Directorate FEAST tool and MarLIN sensitivity descriptions have been utilised to inform the impact assessment (FeAST, 2025; MarLIN, 2025). Any other data sources used are referenced throughout the document.

8.3 Benthic and Intertidal Baseline Description

8.3.1 Intertidal Ecology

8.3.1.1 Dunvegan, Ardmore Landfall Site

The south-west of the survey area was dominated by the biotope '*Himanthalia elongata* and red seaweeds on exposed lower eulittoral rock' (A1.123) in the lower shore. This qualified as Annex I reef as it continued into the subtidal zone. Sandflats consisting of 'Polychaete/bivalve-dominated muddy sand shores' (A2.24) were observed extending to the east of the survey area. This transitioned into '*Fucus serratus* and under-boulder fauna on exposed to moderately exposed lower eulittoral boulders' (A1.2142). A mosaic of 'Fucoids on sheltered marine shores' (A1.31) and 'Polychaete/bivalve-dominated muddy sand shores' (A2.24) was observed in the mid-shore between the Annex I reef and sandflats. '*Ascophyllum nodosum* on full salinity mid eulittoral rock' (A1.3141) was observed to the north of the survey area and the upper shoreline consisted of 'Shingle (pebble) and gravel shores' (A2.11), 'Barren littoral shingle' (A2.111) and 'Strandline' (A2.21). '*Fucus spiralis* on sheltered upper eulittoral rock' (A1.312) was observed to the east. This transitioned into an area of shingle onto the upper shore. Figure 8-1 below displays the Broadscale Habitats (BSH) and biotopes observed across the Dunvegan intertidal survey area. Figure 8-2 displays the sensitive habitats identified.

640750
641000
641250
6381250
6381000
6380750

World Imagery: Maxar, Microsoft

Skye to Uist Subsea Cable Benthic Survey 2024

Intertidal Habitat Map - Dunvegan

Key

EUNIS

- A1.1
- A1.11
- A1.123
- A1.21
- A1.211
- A1.212
- A1.2142
- A1.3
- A1.31
- A1.311
- A1.312
- A1.3122
- A1.3132
- A1.3141
- A1.3142
- A1.315
- A1.3151
- A1.3152
- A1.4
- A1.4111
- A1.45
- A2.1
- A2.11
- A2.111
- A2.2
- A2.21
- A2.24
- A2.4
- A2.42
- A2.43
- A2.8
- A2.821
- B3.111

EUNIS

- A1.1
- A1.11
- A1.123
- A1.2142
- A1.3
- A1.31
- A1.31/A2.24
- A1.311
- A1.312
- A1.313
- A1.3141
- A1.3152
- A1.4
- A1.45
- A2
- A2.1
- A2.11
- A2.111
- A2.2
- A2.2/A1.3
- A2.21
- A2.24
- A2.43
- A2.82
- B3.11
- B3.111

Meters
0 25 50 100

OCEAN ECOLOGY
A DNV COMPANY

Coord System: WGS 1984 UTM Zone 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT_Intertidal	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	08/04/2025

Potentially Sensitive Habitats

Several potentially sensitive habitats were identified within the Dunvegan landfall. These habitats are detailed below:

- Annex I reef (Code 1170; within A1.1) – At the south-west of the survey area, Annex I bedrock reef was recorded, where it was clear that the feature extended into the subtidal zone. These features met the criteria for Annex I reef under the EU Habitats Directive. These habitats can be highly sensitive to physical disturbance or modification. This habitat was observed within the biotope A1.123.
- Mudflats and sandflats (Code 1140; within A2.2) – Mudflats and sandflats were observed towards the centre of the survey area and are characterised by high biological productivity and abundance of infauna, but low diversity with few rare species. This is an Annex I habitat, a UK Biodiversity Framework (UKBF) habitat and is listed on the Scottish Biodiversity List (SBL). This habitat was observed within the biotope A2.24.
- Intertidal underboulder communities (A1.2) – This habitat was observed towards the centre and east end of the survey area and encompasses areas of boulders that support a diverse underboulder community. The habitat is listed on the SBL and is a UKBF habitat. This habitat was observed within the biotope A1.2142.

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6381000
6380750

World Imagery: Maxar, Microsoft

Skye to Uist Subsea Cable Benthic Survey 2024

Intertidal HOCI - Dunvegan

Key

HOCI

- Annex I Reef
- Annex I Mudflats and Sandflats
- SBL Intertidal Underboulder Communities

N

Meters

0 25 50 100

OCEAN ECOLOGY
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a2 SEA

Coord System: WGS 1984 UTM Zone 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT_Intertidal	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	08/04/2025

8.3.1.2 Loch Pooltiel, Skye Landfall Site

The northern section of the intertidal area was dominated by a broad band of 'Barren littoral shingle' (A2.111), combined with patches of rocky habitat exhibiting varying wave energy conditions. These rocky areas supported assemblages of fucoid algae, primarily *Fucus spiralis* and *Fucus vesiculosus*. A narrow fringe along the water's edge was characterised by biotope '*Fucus serratus* and red seaweeds on moderately exposed lower eulittoral rock' (A1.2141).

Rocky habitats extending seaward from the pier were predominantly assigned to biotope '*Fucus serratus* on moderately exposed lower eulittoral rock (A1.214). The broader rocky platform in this area extended into the subtidal zone and qualified as an Annex I reef habitat under the EU Habitats Directive, due to its continuity and biological structure.

In the southeast section of the survey area, a clear vertical zonation of intertidal habitats was observed. The lower shore boundary was consistently assigned to A1.214, with adjacent mid and upper eulittoral zones supporting a succession of distinct biotopes, including 'Barnacles and fucoids on moderately exposed shores' (A1.21), '*Ascophyllum nodosum* on full salinity mid eulittoral rock' (A1.3141), '*Fucus spiralis* on full salinity sheltered upper eulittoral rock' (A1.3121) and '*Pelvetia canaliculata* on sheltered littoral fringe rock' (A1.311).

The uppermost shore featured 'Low energy littoral rock' habitats (A1.3) interspersed with patches of 'Shingle (pebble) and gravel shores' (A2.11) and 'Barren littoral shingle' (A2.111). Additionally, slipways were present within this area, with the southernmost slipway notably heavily colonised by fucoids, contributing to the habitat complexity of the zone. Figure 8-3 below displays the BSHs and biotopes observed across the Loch Pooltiel intertidal survey area. Figure 8-4 displays the sensitive habitats identified.

275000

275200

6374400

6374200

EUNIS

A1.1	A1.3	A1.314	A2.111
A1.11	A1.31	A1.3141	A2.21
A1.2	A1.311	A1.315	A2.82
A1.21	A1.312	A1.41	B3.11
A1.212	A1.3121	A1.41/B3.11	B3.3
A1.213	A1.3122	A1.421	J5
A1.214	A1.313	A1.45	
A1.2141	A1.3131	A2.1	
	A1.3132	A2.11	

World Imagery: Maxar, Microsoft

Skye to Uist Subsea Cable Benthic Survey 2024

Intertidal Habitat Map - Pooltiel West

Key

EUNIS

- A1.11
- A1.1132
- A1.2
- A1.21
- A1.211
- A1.212
- A1.213
- A1.214
- A1.2141
- A1.2142
- A1.3
- A1.311
- A1.312
- A1.3121
- A1.3122
- A1.313
- A1.3131
- A1.3132
- A1.314
- A1.3141
- A1.315
- A1.3151
- A1.32
- A1.323
- A1.324
- A1.41
- A1.412
- A1.421
- A1.45
- A2.11
- A2.111
- A2.21
- A2.43
- A2.431
- A3.21
- B3.111

Meters

0 13 25 50

OCEAN ECOLOGY
A DNV COMPANY

a2 SEA

Coord System: WGS 1984 UTM Zone 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT_Intertidal	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	09/04/2025

Potentially Sensitive Habitats

One potentially sensitive habitat was identified within the Loch Pooltiel landfall. This habitat is detailed below:

- Annex I reef (Code 1170; within A1.1, A1.2 and A1.3) – At the northern end of the survey area, Annex I stony and bedrock reef was recorded, where it was clear that the feature extended into the subtidal zone. Annex I stony and bedrock reef was identified in multiple habitats including A1.311, 'Mussel and/or barnacle communities' (A1.11), '*Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock' (A1.213), '*Fucus serratus* on sheltered lower eulittoral rock' (A1.315) and '*Fucus vesiculosus* on full salinity moderately exposed to sheltered mid eulittoral rock' (A1.3131). These habitats are highly sensitive to physical disturbance or modification.

275000

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6374400

6374200

World Imagery: Maxar, Microsoft

Skye to Uist Subsea Cable Benthic Survey 2024

Intertidal HOCI - Pooltiel West

Key

HOCI

Annex I Reef

Meters

0 13 25 50

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a2 SEA

Coord System: WGS 1984 UTM Zone 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT_Intertidal	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	08/04/2025

8.3.2 Subtidal Ecology

Towards the Loch Pooltiel landfall, the seabed was dominated by 'Sublittoral mud' (A5.3) and 'Infralittoral rock and other hard substrata' (A3). This transitioned into patches of 'Circalittoral rock and other hard substrata' (A4), 'Sublittoral sediment' (A5) and 'Sublittoral mixed sediments' (A5.4), followed by an area of 'Sublittoral coarse sediment' (A5.1). The central area of the Application Corridor was dominated by (A5.4) and (A5.3). Towards the Dunvegan landfall, patches of 'Circalittoral rock and other hard substrata' (A4) were observed. This transitioned into 'Sublittoral macrophyte dominated sediment' (A5.5) with occasional patches of A5.3, A5.4 and A3. A detailed list of all biotopes identified along Application Corridor is provided in A-2-Sea (2025).

Imagery analysis and habitat mapping identified Annex I stony reef and bedrock reef distributed across the corridor. Annex I low stony reef was the dominant reef type in the corridor, followed by bedrock reef.

The polychaete (*Goniadella gracilis*) was observed towards the centre of the survey area in 'Sublittoral mixed sediment' (A5.4). This is an Invasive Non-Native Species (INNS).

Figure 8-5 displays the BSHs identified within the survey. Figure 8-6 illustrates the distribution of stony and bedrock reef, Figure 8-7 illustrates the sensitive habitats identified within the survey.

632000

640000

6376000

6368000

World Imagery: Maxar, Microsoft

Skye to Uist Subsea Cable Benthic Survey 2024

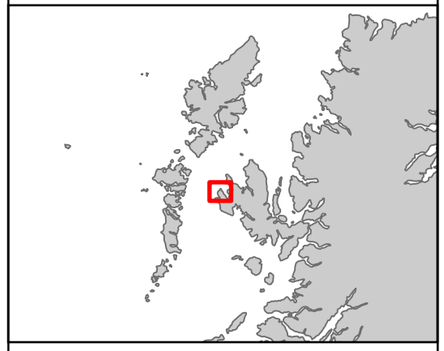
Broad-Scale Subtidal Habitat Map (03 of 03)

Key

Survey Corridor

BSH

- A3
- A4
- A5
- A5.1
- A5.1/A4
- A5.3
- A5.3/A4
- A5.3/A4.1
- A5.3/A4.2
- A5.4
- A5.4/A4.1
- A5.4/A4.2
- A5.5



Kilometers

0 1 2

N

OCEAN ECOLOGY
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a2 SEA

Coord System: WGS84 UTM 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	27/06/2025

Potentially Sensitive Habitats and / or Species

Several potentially sensitive habitats were identified within the subtidal survey. These habitats are detailed below:

- Annex I bedrock reef (Code 1170): Bedrock reef was identified at multiple locations throughout the Application Corridor. These provide important structural habitat for sessile and mobile fauna. Bedrock reef was identified in multiple habitats including 'Atlantic and Mediterranean high energy circalittoral rock' (A4.1), 'Atlantic and Mediterranean moderate energy circalittoral rock' (A4.2) and 'Atlantic and Mediterranean low energy circalittoral rock' (A4.3).
- Annex I stony reef (Code 1170): Low and medium stony reef were identified at multiple locations throughout the Application Corridor. Stony reef was identified in multiple habitats including A4.1, A4.2, A5.4 and A5.5.
- Kelp and seaweed communities on sublittoral sediment (within A5.5): This Priority Marine Feature (PMF) was present at several stations. It included biotopes '*Saccharina latissima* and red seaweeds on infralittoral sediments' (A5.521), '*Saccharina latissima* with red and brown seaweeds on lower infralittoral muddy mixed sediment' (A5.5214) and 'Loose-lying mats of *Phyllophora crispa* on infralittoral muddy sediment' (A5.527).
- Burrowed mud (within A5.3): This PMF supports burrowing megafauna such as *Nephrops norvegicus, Callianassa subterranea*, and high burrow densities in some areas. The tall seapen (*Funiculina quadrangularis*) is a component species of the PMF 'Burrowed mud', and was observed at one station. This species was not observed to be occurring over the corresponding PMF habitat.
- Northern sea fan and sponge communities (within A5.3/A4.1): This PMF provides habitats for many species such as *Swiftia pallida* and *Caryophyllia smithii*. This PMF was identified in 'Circalittoral sandy mud' (A5.35) / 'Mixed turf of hydroids and large ascidians with *Swiftia pallida* and *Caryophyllia smithii* on weakly tide-swept circalittoral rock' (A4.133).
- Offshore subtidal sands and gravels (within A5.1 and A5.3): This PMF was observed near to the Loch Pooltiel landfall, supporting *Ammodytes* spp. (sandeels) which are important prey for seabirds and fish.
- Deep sea sponge aggregations (within A4.1 and A4.2): This PMF was occasionally observed in small patches within the survey corridorand consisted of dense sponge aggregations on hard substrata.
- Offshore deep-sea muds (within A5.3): This PMF was observed towards the centre of the corridor and supports burrowing animals such as worms, molluscs and brittlestars.
- Ocean quahog (*Arctica islandica*): *A. islandica* is a PMF species and is protected under Oslo/Paris Convention (OSPAR) Annex V. The species was observed on four occasions.
- Sandeels (*Ammodytes* sp.): *Ammodytes* sp. are burrowing fish found in sandy, low silt sediments. This PMF species was observed at four stations.
- Northern featherstar (*Leptometra celtica*): *L. celtica* is commonly found on sediment, shell, gravel or bedrock. This PMF species was observed at one station and one video transect station.
- White cluster anemone (*Parazoanthus anguicomus*): *P. anguicomus* is a small colonial sea anemone that grows on rock or other animals in small clusters. This PMF species was observed at one video transect station.

608000 616000 624000 632000 640000

6384000 6376000 6368000 6360000 6352000

World Imagery: Earthstar Geographics

Skye to Uist Subsea Cable Benthic Survey 2024

Annex I Reef Assessment

Key

- Option 2 - Skye - Uist South
- Option 5 - Skye-Loop
- SSEN Cable

Annex I Reef

- Low Stony
- Medium Stony
- Potential Stony
- Bedrock
- Bedrock & Low Stony
- Not a reef

Kilometers

0 2 3 6

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a2 SEA

Coord System: WGS84 UTM 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	MRP	KB	10/04/2025

630000 632000 634000 636000 638000 640000 642000 644000

6382000 6380000 6378000 6376000 6374000 6372000 6370000

PMF Species

- *Ammodytes* sp. (Sandeels)
- *Arctica islandica* (Ocean quahog)
- *Parazoanthus anguicomus* (White cluster anemone)
- *Funiculina quadrangularis* (Tall seapen)
- *Funiculina quadrangularis* (Tall seapen) / *Nephrops norvegicus* (Langoustine)
- *Leptometra celtica* (Celtic featherstar)

Potential PMF Habitats

- Burrowed Mud
- Burrowed Mud/Offshore Deep-Sea Mud
- Deep Sponge Communities
- Kelp and Seaweed Communities on Sublittoral Sediment
- Northern Sea Fan and Sponge Communities
- Offshore Deep-Sea Mud
- Offshore Subtidal Sands and Gravels

World Imagery: Earthstar Geographics

Skye to Uist Subsea Cable Benthic Survey 2024

PMF Species & Potential PMF Habitats (03 of 03)

Key

- Option 2 - Skye - Uist South
- Option 5 - Skye-Loop
- SSEN Cable

N

Kilometers

0 1 2

OCEAN ECOLOGY
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a2 SEA

Coord System: WGS84 UTM 29N

Project: A2SCAB0124

Report: Skye to Uist Subsea Cable Benthic Survey 2024: Technical Report

Client: A-2-Sea

System Identifier:	Version:
OEL_A2SCAB0124_GIS_PROJECT	1.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
OEL	TJB	KB	17/06/2025

8.1 Impact Assessment

8.1.1 Cable Installation Summary

At both landfall sites, the cable will be buried within the intertidal area using an Open Cut Trench (OCT) method, from Mean High Water Springs (MHWS) to Mean Low Water Springs (MLWS). The length of the trench up to MHWS will be approximately 200m at the Skye (Loch Pooltiel) landfall and 100m at the Ardmore (Dunvegan) landfall, with both trenches having a width of 1m and a target depth of 0.8m from ground level to the top of the cable. Additionally, a second trench may be required for a fibre optic earth. Both the armour earth and fibre optic earth will extend to approximately 50m below MLWS. The trenches will be backfilled with the excavated material such that the intertidal area will be restored to pre-work conditions. The excavator will work within an approximate 20m corridor, during these trenching operations. Up to four earthing clump weights will also be used for the surface laid section of earthing wires below MLWS. Pull-in aids may consist of temporary route deviation structures that may be gravity based and/or anchored if required.

Burial is planned along the route where seabed conditions allow, and additional cable protection will be used in areas of no or low burial where required. The cable will be buried using either a jetting or cutting tool or combination of both, where the seabed allows, with an estimated 10m width burial disturbance diameter and total worst-case footprint of 203,000m^2. Of this, 6,000m^2 will be intertidal. Cast iron split pipe will be placed where burial is not possible in the nearshore and intertidal sections of the cable route. If burial of the cable is achieved, the use of the majority of deposits described above are not expected to be required, however the assessment takes into account the maximum design scenario including all deposits.

A Controlled Flow Excavator (CFE) may be used to bury the cable in areas of steep slopes and where trenching is not feasible (such as in areas of challenging seabed sediment conditions or in the presence of boulders). This technique provides a precise, minimally invasive approach to sediment removal and is often preferred in sensitive or shallow areas as it minimises unnecessary seabed disturbance while providing stable cable protection in tidal zones. A high-pressure water jet may be used to disperse seabed sediment to create a trench for the cable.

In addition to burial, where applicable, impacts on sensitive habitats have been assessed to account for the potential presence of cable protection measures and installation impacts including cast iron split pipe, grout bags, rock bags, concrete mattresses, rock anchors, earthing clump weights, cable sea earthing deposits conductors and rods. Concrete mattresses may be used in areas of low / no burial and will be used at a crossing location. There may be use of a Diver Support Vessel (DSV), a Cable Lay Vessel (CLV) and other support vessels for the cable installation. This may require the use of spud legs and/or anchor spreads. A Pre-Lay Grapnel Run (PLGR) may be required prior to operations commencing. Boulders may be relocated depending on the results of detailed route engineering.

Best practice for cable installation includes micro-routing to avoid sensitive habitats. Due to the BSHs identified within the Application Corridor, routeing around some these features may not be possible, and installation techniques proposed have been carefully considered to minimise the impact of operations on these environmentally sensitive receptors.

All pressures related to cable installation have been included in the assessment, as each of these pressures could potentially impact the identified sensitive habitats.

Further details of the cable installation are available in the Project Description (PH003762 Skye-Uist Replacement Project Description) and Table 8-1.

Table 8-1 Summary of Installation Methodology and Deposits

Installation Method	Length / Size	Quantity	Disturbance Footprint (m^2)	Comments
Intertidal				
Burial	Length: 300m Burial footprint: 20m	1	6,000	Where seabed conditions allow
Surface lay	TBC - where burial is not possible	1	N/A	
Split pile	Diameter: 263mm Length: 1000m	1	263	In the intertidal and/or nearshore
Cable sea earthing deposit - conductors	Cross section: 95mm^2 (based on 25mm diameter) Length: 4 x 150m	4	15	Conductors will run through intertidal to subtidal
Pull-in aids	Footprint: 20m^2 per landfall	2	40	
Subtidal				
Burial	Length: 19,700m Burial footprint: 10m	1	197,000	Where seabed conditions allow
Surface lay	TBC - where burial is not possible	1	N/A	
Rock bags	Diameter: ~2.4m Height: ~0.6m	54	244.1	
Concrete mattresses	Width: ~3m Length: ~6m Height: ~0.3m	6	108	
Grout bags	Diameter: ~0.9m Height: ~0.9m	20	12.8	
Rock anchors	Diameter: ~0.02m Height: 0.3m	20	0.006	
Earthing clump weight	Diameter: 1m Height: 0.5m	4	3.1	
Cable sea earthing deposit - rods	Diameter: 20mm Length: 3m each	24	1.44	
Anchor spread: anchor	Anchor Fluke Width: 2–4 m Length: 3–6 m Weight: 5–15 tonnes	4 anchors Up to 20 relocations	16,480	Temporary deposit

Installation Method	Length / Size	Quantity	Disturbance Footprint (m^2)	Comments
	Footprint Area: ~4–6 m^2 (fluke area contacting the seabed) Seabed Penetration Depth: Typically, 1 to 3 m (depends on sediment type) Chain or wire sweep area: 2 m width × 50–100 m length (~100 to 200 m^2 per anchor)			
Anchor spread: chains / clump weights	Weight: 5 to 15 tonnes per clump weight Footprint Area: ~3–6 m^2 per clump weight Chain Length: Up to 50–100 m laid on seabed depending on water depth and scope Clump weight contact: ~2 m × 2 m (4 m^2) Chain sweep path: up to 2 m wide, can span up to 100 m depending on tensioning — potentially ~100 to 200 m^2 impacted per anchor	4 anchors Up to 20 relocations	16,320	Temporary deposit
Spud legs	Diameter: 1 to 2 m Penetration Depth: Up to 10 to 20 m depending on soil conditions Footprint Area (per leg): ~1 to 3 m^2 Seabed Contact: Minimal horizontal area but deep penetration — may cause localised disturbance or sediment displacement	4 spud legs per vessel Up to 20 relocations	251.3	Temporary deposit

Table 8-2 shows that all recorded environmentally sensitive benthic habitats and species have been screened into the assessment to account for the maximum design scenario of both burial and surface lay options. Details of any habitat specific impacts associated with each pressure are provided in Table 8-3 and Table 8-4, where information on habitat and species recoverability or resilience is available, this has been included alongside any specific mitigations which may restrict the pressure – impact pathway.

Table 8-2 Scoping Exercise Indicating Receptors which May be Impacted

Habitat	Physical change (to another substratum)	Abrasion/disturbance at surface	Penetration of substrate	Smothering / siltation	Hydrocarbon / chemical release	Introduction of INNS
Intertidal						
Annex I stony and bedrock reef	✓	✓	✓	✓	✓	✓
Mudflats and sandflats	✓	✓	✓	✓	✓	✓
Intertidal underboulder communities	✓	✓	✓	✓	✓	✓
Subtidal						
Annex I bedrock reef	✓	✓	✓	✓	✓	✓
Annex I stony reef	✓	✓	✓	✓	✓	✓
Kelp and seaweed communities on sublittoral sediment	✓	✓	✓	✓	✓	✓
Burrowed mud	✓	✓	✓	✓	✓	✓
Northern sea fan and sponge communities	✓	✓	✓	✓	✓	✓
Offshore subtidal sands and gravels	✓	✓	✓	✓	✓	✓
Deep sea sponge aggregations	✓	✓	✓	✓	✓	✓
Offshore deep-sea muds	✓	✓	✓	✓	✓	✓
Ocean quahog (*A. islandica*)	✓	✓	✓	✓	✓	✓
Sandeels (*Ammodytes* sp.)	✓	✓	✓	✓	✓	✓
Northern featherstar (*L. celtica*)	✓	✓	✓	✓	✓	✓
White cluster anemone (*P. anguicomus*)	✓	✓	✓	✓	✓	✓

Table 8-3 Potential Impacts on Intertidal Benthic Habitats

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
Physical change (to another substratum)	Cast iron split shell protection may be used and placed on both shore ends of the cable. In areas where the surface is rocky, a rock pecker may be utilised to penetrate rock and achieve burial depth. To reduce any impact, the trench will be backfilled with excavated material, this could lead to very minor localised changes in substrate. Habitat loss in these areas is expected to be localised and temporary and the seabed is expected to begin re-colonisation after several tidal cycles. Where such loss is not temporary, it will not be significant in proportion to the scale of the habitats present. Installation activities may also lead to a physical change of substratum. Hard substrate which is reworked or introduced is expected to be support colonisation of some species, the ecological functions and species diversity are therefore expected to return to near baseline conditions after a short recovery period. Any change which does not return to baseline levels will not be significant in proportion to the scale of the habitats present.	Annex 1 stony and bedrock reef	High	Low	Slight	Recovery is possible if suitable substratum is present (Tillin *et al*., 2024b).
		Mudflats and sandflats	High	Low	Slight	Recoverability is dependent on the time taken for the substratum to return to prior conditions, trenches to fill and recolonisation to occur (Tyler-Walters & Marshall, 2006).
		Intertidal underboulder communities	High	Low	Slight	Boulders and the substratum underneath may be disturbed during boulder relocation activities, however the three microhabitats (upper and lower surface of boulders and the substratum underneath) will be recolonised , were disturbed (Tillin *et al.,* 2024a).
Abrasion/disturbance at surface	Where the cable will be buried within the intertidal zone, abrasion at the surface may occur potentially leading to the damage and mortality of epifauna. However, installation activities will take place over a short-time period and any abrasion events will be temporary and will be minimal once installation is complete. This will also occur if any cable is surface laid, where burial is not possible. If required, the use of cast iron split shell protection in these areas will protect and stabilise the cable to reduce cable movement and abrasion. Pull-in aids may consist of temporary route deviation structures that may cause abrasion.	Annex 1 stony and bedrock reef	High	Low	Slight	Typical components of this habitat are predicted to recover within 2 to 10 years, and resilience is considered to be Medium (Tillin *et al*., 2024b).
		Mudflats and sandflats	Low	Low	Not Significant	Recovery of this habitat is possible within a year (Tyler-Walters & Marshall, 2006).
		Intertidal underboulder communities	Medium	Low	Slight	N/A

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
Penetration of substrate	Where the cable will be buried in soft sediments, a single over-turning event is likely to lead to the loss of species present in the intertidal area of the Application Corridor, with damage and mortality of epifauna potentially occurring. However, after the trench material is re-instated it will be re-colonised and mobile species will be able to relocate back to the area. Therefore, the effects of trenching on the intertidal biotopes and species will be temporary and not result in the permanent loss of habitat, ensuring any impact is not significant. In areas where the substrate is rocky, a rock pecker may be used to achieve burial depth. This will penetrate rock and cause disturbance of the substrate below the surface of the seabed and any species present may be lost. Only substrate in the direct vicinity of the rock pecker/excavator will be impacted and so habitat and species loss will be restricted to a spatially small area, relative to the extent of the surrounding environment. To minimise this potential habitat loss, the use of rock peckers will only be used where necessary.	Annex 1 stony and bedrock reef	High	Low	Slight	N/A
		Mudflats and sandflats	Low	Low	Not Significant	Recoverability is likely to be High (Tyler-Walters & Marshall, 2006).
		Intertidal underboulder communities	Medium	Low	Slight	A single event of disturbance could alter species composition, however resilience is assessed as Medium as some species may be able to relocate back to the underside of the boulders (Tillin *et al.,* 2024a).
Smothering / siltation	Any sediment disturbance from trenching activities will not be significant in extent of the features recorded. This pressure will be most evident during a flood tide. Typically, the tidal waters of the intertidal zone will have a high sediment load due to the high energy hydrodynamic regime and close interaction with shore sediments. Therefore, species which inhabit these areas are well adapted to such pressures, including increased sediment load.	Annex 1 stony and bedrock reef	Medium	Low	Not Significant	The resilience of species commonly observed in this habitat is High, with an estimated recovery time of two years (Tillin *et al.,* 2024b).
		Mudflats and sandflats	Low	Low	Not Significant	Although this pressure may interfere with the feeding apparatus of suspension feeders, the majority of fauna will be unaffected and recovery is expected to be Very High (Tyler-Walters & Marshall, 2006).
		Intertidal underboulder communities	Low	Low	Not Significant	This pressure is unlikely to result in significant mortality before sediments are removed

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						by current and wave action, and resilience is High (Tillin *et al.,* 2024a).
Hydrocarbon / chemical release	At both landfall sites, an excavator will be used to construct a trench between MHWS and MLWS in the intertidal zone. The use of an excavator risks potential hydrocarbon or chemical release, as well as any vessel-based releases in the subtidal area of operations which could wash ashore. The likelihood of a large oil spill occurring from a Project vessel is extremely low and the risk is no greater than that for any other vessel in the region. Onshore, in the event of an accidental hydrocarbon release occurring, appropriate standard practice management procedures will be implemented accordingly and a suitable medium used to remove the spill. At sea, control measures and shipboard oil pollution emergency plans (SOPEP) will be in place and adhered to under The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I requirements for all vessels, preventing the transport of any potential spill to the intertidal area.	Annex 1 stony and bedrock reef	High	Low (unlikely event)	Slight	N/A
		Mudflats and sandflats	High	Low (unlikely event)	Slight	N/A
		Intertidal underboulder communities	High	Low (unlikely event)	Slight	N/A
Introduction of INNS	No INNS were identified in the intertidal survey of the Application Corridor. Screening of the area surrounding the Application Corridor, 40km radius, was also undertaken (OneBenthic, 2025; Marine Scotland, 2025). Japanese wireweed (*Sargassum muticum*) was observed in the screening within 40km of the Application Corridor. The species is invasive and is classified as having low impact (Marine Scotland, 2025). Cable installation activities could lead to the introduction of INNS. However, best practice measures will be adhered to including cleaning of installation equipment, ballast water management and vessel maintenance, minimising any potential Introduction of INNS, discussed further in the CEMP (P2816_R6691).	Annex 1 stony and bedrock reef	Medium	Low	Slight	N/A
		Mudflats and sandflats	High	Low	Slight	N/A
		Intertidal underboulder communities	High	Low	Slight	N/A

FeAST, 2025; MarLIN, 2025

Table 8-4 Potential Impacts on Subtidal Benthic Habitats

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
Physical change (to another substratum)	The subtidal section of cable will be buried, with the exception of limited sections that may be surface laid with split pipe if burial cannot be achieved. Split pipe will change the substrate type where they are used, however it is expected that they will be colonised by sessile encrusting organisms, similar to the surrounding hard substratum and can also attract mobile macrofauna (Taormina *et al.,* 2018). Given the relatively small diameter of the cable and its protection systems, the impact on habitats and biological communities in the cable footprint will be localised and short term (Tillin *et al.,* 2010). The use of rock bags, rock berms, grout bags, concrete mattresses and rock anchors may be required along sections of the Application Corridor. This will only be used where necessary, however where it is used the seabed habitat within the footprint of the protection will be lost and replaced with, in places, a harder substrate, changing the seabed type. Earthing clump weights, earthing deposit conductors and rods will be required. Any loss or change of habitat associated with this will not be significant in proportion to the scale of the habitats present.	Annex I bedrock reef	High	Low	Slight	Mitigation will include micro-routeing around rock exposures, to ensure maximum burial. Where this is not achievable the cable will be surface laid, this will provide additional substrate on which species could re-colonise.
		Annex I stony reef	High	Low	Slight	
		Kelp and seaweed communities on sublittoral sediment	Low	Low	Not Significant	A change in substrate may not necessarily affect diversity if the main characterising kelps and seaweeds remain and tolerance is rated Medium. Recovery is likely to be rapid for the majority of species (FeAST, 2025). All the characterising species within this biotope can successfully grow on rock / hard substrates and *S. latissima* is a fast-growing kelp that can recover relatively quickly after disturbance.
		Burrowed mud	High	Low	Slight	N/A
		Northern sea fan and sponge communities	High	Low	Slight	Sponge communities identified were generally associated with bedrock. Mitigation will include micro-routeing around rock exposures, to ensure maximum burial. The addition of artificial hard substrate is

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						likely to cause damage to species immediately within footprint, although in time may provide additional substrate on which species could re-colonise depending on circumstances (FeAST, 2025).
		Offshore subtidal sands and gravels	High	Low	Slight	N/A
		Deep sea sponge aggregations	High	Low	Slight	Sponge communities are generally associated with rock. Mitigation will include micro-routeing around rock exposures to ensure maximum burial.
		Offshore deep-sea muds	High	Low	Slight	Concrete mattresses may be used at a cable crossing present in this habitat. Any loss or change of habitat associated with this will not be significant in proportion to the scale of the habitat present.
		Ocean quahog (*A. islandica*)	High	Low	Slight	*A. islandica* was not observed in high densities and this pressure should not impact the species on a population level.
		Sandeels (*Ammodytes* sp.)	High	Low	Slight	N/A
		Northern featherstar (*L. celtica*)	Medium	Low	Slight	*L. celtica* was not observed in high density and this pressure should not impact the species on a population level.

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						Recolonisation could take place and recovery should be possible within five years (FeAST, 2025).
		White cluster anemone (*P. anguicomus*)	High	Low	Slight	*P. anguicomus* was not observed in high density and this pressure should not impact the species on a population level.
Abrasion/disturbance at surface	The cable may be surface laid if trenching is not possible. If required, the use of cast iron split shell protection in the nearshore area will protect and stabilise the cable to reduce cable movement and abrasion. Rock bags, grout bags, rock berms, concrete mattresses and rock anchors may be required. A PLGR may be undertaken along with boulder removal using a boulder grab, which may also cause abrasion/disturbance. Abrasion may occur where anchor spreads are utilised. Abrasion events will be temporary and localised in nature. The narrow cable diameter and careful placement of any cable protection measures should ensure minimal habitat will be affected. In addition, the use of an anchor spread, if required for vessel positioning, may lead to abrasion and disturbance in the direct footprint of the anchor's and chains. The use of an anchor spread and impacts will be restricted to the duration of cable laying activities and will be temporary. Deployment of anchors will be kept to a minimum and if possible sited to avoid PMF habitats using survey data. Deployment is likely to be avoided in rocky substrates.	Annex I bedrock reef	High	Low	Slight	This pressure may lead to the damage or mortality of sponges and bryozoans, however the damage to faunal turf may be limited and resilience is assessed as Medium (Readman *et al.,* 2023). This habitat was not observed in the proposed anchor corridors.
		Annex I stony reef	High	Low	Slight	
		Kelp and seaweed communities on sublittoral sediment	Low	Low	Not Significant	Some species, especially attached macroalgae, are likely to be removed by physical disturbance. However, many characteristic animal species are mobile or infaunal and so are likely to avoid most effects of surface disturbance. Recoverability is likely to be rapid for the majority of species and tolerance has been assessed as Medium (FeAST, 2025).

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
		Burrowed mud	Medium	Low	Slight	This pressure is likely to affect mobile and sessile epifauna, however studies have shown that seapens can re-anchor themselves in sediment and damaged seapens may remain functional (FeAST, 2025).
		Northern sea fan and sponge communities	Medium	Low	Slight	Recoverability of this habitat is assessed as Medium as some sea fans are able to recover from minor damage. Recovery from significant damage may take longer due to slow growth and poor recruitment. Sponges, such as *Axinella dissimilis*, can be elastic and flexible and recoverability is dependent on the intensity of the pressure (FeAST, 2025). Sponge communities are generally associated with rock. Mitigation will include micro-routeing around rock exposures. Boulder removal will be avoided in this habitat. This habitat was not observed in the proposed anchor corridors.
		Offshore subtidal sands and gravels	Low	Low	Not Significant	This habitat was not observed in the proposed anchor corridors.
		Deep sea sponge aggregations	High	Low	Slight	Anchor spread deployment will be avoided in this rocky habitat which will reduce disturbance. Sponges are thought to be highly sensitive

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						due to their fragile nature and low recovery rates (FeAST, 2025). Sponge communities are generally associated with rock. Mitigation will include micro-routeing around rock exposures.
		Offshore deep-sea muds	High	Low	Slight	The degree to which this habitat is impacted is dependent on the species present and the intensity of the pressure (FeAST, 2025). Abrasion events will be temporary and localised in nature. This habitat was not observed in the proposed anchor corridors.
		Ocean quahog (*A. islandica*)	Low	Low	Not Significant	*A. islandica* was not observed in high density and this pressure should not impact the species on a population level. *A. islandica* was not observed in the proposed anchor corridors.
		Sandeels (*Ammodytes* sp.)	Medium	Low	Slight	This pressure could affect habitat preferences and settlement of *Ammodytes* sp., however, abrasion events will be temporary and localised in nature. The narrow cable diameter and careful placement of any cable protection measures should ensure minimal species will be affected. *Ammodytes* sp. were

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						not observed in the proposed anchor corridors.
		Northern featherstar (*L. celtica*)	Medium	Low	Slight	*L. celtica* is likely to be damaged by abrasion events due to their delicate structure, however species can regenerate body parts and are likely to recover within five years (FeAST, 2025). *L. celtica* was not observed in the proposed anchor corridors.
		White cluster anemone (*P. anguicomus*)	High	Low	Slight	*P. anguicomus* was not observed in the proposed anchor corridors.
Penetration of substrate	The cable will be buried, where possible. Spud legs may be required to enable vessels to stay on location. Due to the relatively small area that could be damaged, installation activities are not likely to be significant in proportion to the scale of the habitats encountered. The use of an anchor spread, for vessel positioning may lead to penetration and disturbance of the surface below the seabed. Due to the relatively small area that could be damaged, installation activities are not likely to be significant in proportion to the scale of the habitats encountered. Cable burial, anchor positioning and the use of spud legs is likely to be avoided in rocky substrates. Deployment of any anchor spreads and spud legs will be kept to a minimum to reduce disturbance to the seabed. The disturbance is considered short-term and spatially localised.	Annex I bedrock reef	High	Low	Not Significant	This habitat was not observed in the proposed anchor corridors.
		Annex I stony reef	High	Low	Not Significant	
		Kelp and seaweed communities on sublittoral sediment	Medium	Low	Slight	Some species of attached algae are likely to be removed by this pressure. However, the degree to which this habitat is damaged is dependent on the pressure intensity, which will be temporary and highly localised (FeAST, 2025).
		Burrowed mud	Medium	Low	Slight	This pressure is likely to affect mobile and sessile epifauna, however studies have shown that seapens can re-anchor themselves in sediment and

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						damaged seapens may remain functional (FeAST, 2025).
		Northern sea fan and sponge communities	Not exposed – species attached to surface of rock/seabed only	Low	Not Significant	This habitat was not observed in the proposed anchor corridors. Sponge communities are generally associated with rock. Mitigation will include micro-routeing around rock exposures and identified localised areas of this habitat.
		Offshore subtidal sands and gravels	Low	Low	Not Significant	This habitat was not observed in the proposed anchor corridors.
		Deep sea sponge aggregations	High	Low	Not Significant	Anchor spread deployment will be avoided in this rocky habitat which will reduce disturbance. Sponges are thought to be highly sensitive due to their fragile nature and low recovery rates (FeAST, 2025). Sponge communities are generally associated with rock. Mitigation will include micro-routeing around rock exposures to maximise cable burial.
		Offshore deep-sea muds	High	Low	Slight	The degree to which this habitat is impacted is dependent on the species present and the intensity of the pressure (FeAST, 2025). This habitat was not observed in the proposed anchor corridors.

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
		Ocean quahog (*A. islandica*)	High	Low	Slight	*A. islandica* has a thick, solid and heavy shell however this species is known to be vulnerable to this pressure. *A. islandica* was not observed in high density and this pressure should not impact the species on a population level. *A. islandica* was not observed in the proposed anchor corridors.
		Sandeels (*Ammodytes* sp.)	High	Low	Slight	*Ammodytes* sp. burrow near the seabed surface and this pressure could cause local mortality (FeAST, 2025). Due to the relatively small area that could be damaged, installation activities are not likely to be significant. *Ammodytes* sp. were not observed in the proposed anchor corridors.
		Northern featherstar (*L. celtica*)	Not Exposed	Low	Slight	This species was associated with localised hard substrates which will generally be avoided to ensure maximum burial. *L. celtica* was not observed in the proposed anchor corridors.
		White cluster anemone (*P. anguicomus*)	High	Low	Slight	This species was associated with localised hard substrates which will generally be avoided to ensure maximum burial. *P. anguicomus* was not observed in the proposed anchor corridors.
Smothering / siltation	The cable will be buried using either a jetting or cutting tool or combination of both, where possible. This could	Annex I bedrock reef	Medium	Low	Not Significant	This habitat occurs in areas with moderate to strong water

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
	lead to sediment resuspension and potential smothering. There will be sediments from the intertidal zone, which can be transported into the subtidal zone. Impacts will be localised and are considered to be restricted to the immediate vicinity of the trench with fine material rapidly dispersed in the water (Gooding *et al.,* 2012). Disturbed sediment from cable installation and vessel tethering activities, as well as the placement of cable protection measures is expected to settle rapidly and will be very localised.					movement and the removal of sediment is likely to be rapid. Resistance and resilience has been assessed as High (Readman *et al.,* 2023).
		Annex I stony reef	Medium	Low	Not Significant	
		Kelp and seaweed communities on sublittoral sediment	Not Sensitive	Low	Not Significant	This habitat is not thought to be sensitive to this pressure (FeAST, 2025).
		Burrowed mud	Low	Low	Not Significant	The majority of species within this habitat are burrowing megafauna and are likely to be tolerant to this pressure. Seapens are unlikely to be significantly affected and so tolerance is assessed as Medium with recovery as High (FeAST, 2025).
		Northern sea fan and sponge communities	Medium	Low	Slight	Sponges may be damaged by any sediment cover, and many of the species associated with this habitat are sessile and so recovery by relocation is not possible. Some species, however, have regenerative ability or can recruit readily over short distances and so recolonisation of these is

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						estimated within a few years (FeAST, 2025).
		Offshore subtidal sands and gravels	Not Sensitive	Low	Not Significant	This habitat can be sensitive to smothering and siltation rate changes as these pressures can influence the structure of sedimentary habitats (FeAST, 2025). Species associated with this habitat, such as *Ammodytes* sp., are susceptible to smothering and siltation, however impacts will be localised and are considered to be restricted to the vicinity of the trench with fine material rapidly dispersed in the water (Gooding *et al.,* 2012).
		Deep sea sponge aggregations	High	Low	Slight	Smothering can damage sponges by clogging their complex filtering apparatus used for feeding and are highly sensitive (FeAST, 2025). Some erect sponges, however, have been reported to cope with sediment occurring on rock (Sanchez *et al.,* 2009).
		Offshore deep-sea muds	High	Low	Not Significant	The degree to which this habitat is impacted is dependent on the species present and the intensity of the pressure (FeAST, 2025). The disturbance is considered short-term and spatially localised.

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
		Ocean quahog (*A. islandica*)	Not Sensitive	Low	Not Significant	*A. islandica* are reported as not being sensitive to this pressure (Tillin *et al.,* 2010).
		Sandeels (*Ammodytes* sp.)	Medium	Low	Not Significant	*Ammodytes* sp. inhabit specific sediments which affect presence and density. While an increase in silt content can change sediment properties so that it is no longer suitable for *Ammodytes* sp. the scale of their spawning and nursery grounds is vast and the extent of activities will have no significant impact on such grounds, therefore this species will not be affected at a population level (Wright *et al.,* 2000).
		Northern featherstar (*L. celtica*)	Medium	Low	Slight	The top arms of *L. celtica* can likely extend above any sediment, however feeding and respiratory structures will become clogged by heavy siltation (FeAST, 2025). Recovery is estimated at five years, however impacts will be localised and are considered to be restricted to the vicinity of the trench with fine material rapidly dispersed in the water (Gooding *et al.,* 2012).
		White cluster anemone (*P. anguicomus*)	High	Low	Slight	N/A

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
Hydrocarbon / chemical release	The use of vessels for cable installation has potential for hydrocarbon and chemical release. Vessels likely to be used for cable installation activities include a CLV, DSV and other support vessels. The use of such vessels can risk the accidental release of hydrocarbons or chemicals including crude oil, lubrication oil, hydraulic fluid, corrosion inhibitors, control fluid, diesel, fuel and gas oils (ACOPS, 2017). For the use of rock anchors, required for cable stability in some areas, a marine grade resin is proposed. The likelihood of a large oil spill occurring from a Project vessel is extremely low and the risk is no greater than that for any other vessel in the region. All Project vessels will be legally required to adhere to MARPOL Annex I requirements, and the Sea Pollution Acts, which prohibit the discharge of waste and other pollutants, and require the secure storage of fuels and other materials on board. The marine grade resin used for rock anchors will be used in only small quantities. The product used will be regulated for marine use and therefore not contain substances which could be detrimental or have long lasting impacts in the marine environment. Best practice and compliance measures will be in place to minimise the likelihood of any accidental releases and minimise any effect should a release occur. Control measures and shipboard oil pollution emergency plans (SOPEP) will be in place and adhered to under The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I requirements for all vessels. In the event of an accidental fuel release occurring appropriate standard practice management procedures will be implemented accordingly. Vessels will only be used when necessary and for a relatively short duration of around two weeks. After such mitigation the risk presented is very low and therefore can be seen as acceptable to the Project.	Annex I bedrock reef	Sensitive	Low (unlikely event)	Not Significant	The impact of oil pollution on subtidal habitats is likely to be limited as it is mainly a surface phenomenon (Readman *et al.,* 2023). A 'Sensitive' score has been given as more evidence is required (FeAST, 2025). However, high swell and winds can lead to hydrocarbon mixing with seawater and subsequent impacts on subtidal habitats (Castège *et al.,* 2014). In addition, there have been reports of increases in developmental abnormalities in common taxa such as echinoderms following the release of detergents and oil into the marine environment (Smith, 1968). These effects are related to extensive spills rather than smaller spills that could be expected from installation vessels and detergents are not likely to be used on vessels in high quantities.
		Annex I stony reef	Sensitive	Low (unlikely event))	Not Significant	
		Kelp and seaweed communities on sublittoral sediment	Sensitive	Low (unlikely event))	Not Significant	This habitat is particularly sensitive to oil spills due to the shallow nature of the habitat and where oil can accumulate after being washed ashore. The large surface area that seaweeds present to oil spill contamination exacerbates this sensitivity (FeAST, 2025). A 'Sensitive' score has been

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						given as more evidence is required (FeAST, 2025).
		Burrowed mud	Sensitive	Low (unlikely event))	Not Significant	Oil from spills would have to be dispersed deep into the water column to affect the feature and since the feature occurs in very sheltered conditions this is unlikely to occur. However, should the sediment become contaminated with oil there is likely to be the loss of many species. A 'Sensitive' score has been given as more evidence is required (FeAST, 2025).
		Northern sea fan and sponge communities	Sensitive	Low (unlikely event))	Not Significant	A 'Sensitive' score has been given as more evidence is required (FeAST, 2025).
		Offshore subtidal sands and gravels	Sensitive	Low (unlikely event))	Not Significant	Oil from spills would have to be dispersed deep into the water column to affect the feature and since the feature occurs in very sheltered conditions this is unlikely to occur. However, should the sediment become contaminated with oil there is likely to be the loss of many species. Oil leakages can lead to localised pollution of sediment organisms such as anemones, polychaetes and bivalves as well as mobile and sessile epifauna (JNCC, 2008; FeAST, 2025). A 'Sensitive' score has been given as more

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
						evidence is required (FeAST, 2025).
		Deep sea sponge aggregations	Sensitive	Low (unlikely event))	Not Significant	A 'Sensitive' score has been given as more evidence is required (FeAST, 2025).
		Offshore deep-sea muds	Sensitive	Low (unlikely event))	Not Significant	
		Ocean quahog (*A. islandica*)	Sensitive	Low (unlikely event))	Not Significant	
		Sandeels (*Ammodytes* sp.)	Sensitive	Low (unlikely event))	Not Significant	In general, *Ammodytes* sp. are thought to be fairly tolerant of this pressure (Wright *et al.,* 1997; FeAST, 2025). A 'Sensitive' score has been given as more evidence is required (FeAST, 2025).
		Northern featherstar (*L. celtica*)	Sensitive	Low (unlikely event))	Not Significant	A 'Sensitive' score has been given as more evidence is required (FeAST, 2025).
		White cluster anemone (*P. anguicomus*)	Sensitive	Low (unlikely event))	Not Significant	
Introduction of INNS	Only one INNS, the polychaete *G. gracilis*, was identified in the subtidal survey of the Application Corridor, in 'Sublittoral mixed sediment' (A5.4). *G. gracilis* is classified as having low impact (Marine Scotland, 2025). Minimal sediment transport is expected from installation activities and so this species is unlikely to be transported to other areas. Screening of the area surrounding the Application Corridor, 40km radius, was also undertaken (OneBenthic, 2025; Marine Scotland, 2025). Japanese wireweed (*S. muticum*) was observed in the screening within 40km of the Application Corridor. The species is invasive and is classed as having low	Annex I bedrock reef	Medium	Low	Not Significant	N/A

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
	impact (Marine Scotland, 2025), however is rarely encountered below 5m water depth. The use of vessels for cable installation has potential for the introduction of INNS. Best practice measures for cleaning of subsea equipment, ballast water management and vessel maintenance will be followed throughout operations, minimising any potential Introduction of INNS, discussed further in the CEMP (P2816_R6691).					
		Annex I stony reef	Medium	Low	Not Significant	
		Kelp and seaweed communities on sublittoral sediment	Medium	Low	Not Significant	In shallow or intertidal waters, this habitat is can be colonised by *S. muticum.* However, in this predominantly subtidal biotope, *S. muticum* tends to occupy minimal space, if any, and not displace other species (FeAST, 2025). Further *S. muticum* was not identified within the Application Corridor and the installation techniques proposed restrict the pathway that *S. muticum* could impact this habitat.
		Burrowed mud	Not Assessed	Low	Not Significant	N/A
		Northern sea fan and sponge communities	Not Assessed	Low	Not Significant	N/A
		Offshore subtidal sands and gravels	Not Sensitive	Low	Not Significant	N/A

Pressure	Description of Pressure and Potential Impact	Habitat	Receptor Sensitivity	Magnitude of Impact	Significance	Comments
		Deep sea sponge aggregations	Not Assessed	Low	Not Significant	N/A
		Offshore deep-sea muds	Not Assessed	Low	Not Significant	N/A
		Ocean quahog (*A. islandica*)	Not Assessed	Low	Not Significant	N/A
		Sandeels (*Ammodytes* sp.)	Not Assessed	Low	Not Significant	N/A
		Northern featherstar (*L. celtica*)	Not Assessed	Low	Not Significant	N/A
		White cluster anemone (*P. anguicomus*)	Not Assessed	Low	Not Significant	N/A

FeAST, 2025; MarLIN, 2025

8.2 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1. Following assessment, there are no additional mitigation measures proposed.

8.3 Conclusion

The above assessment has demonstrated that installation and operation activities associated with the new cable will not significantly affect the benthic subtidal and intertidal ecology in terms of the spatial extent at which environmentally sensitive habitats were recorded. Any impacts of cable installation on the habitats and species within the Application Corridor will be temporary and habitat loss will be localised. Micro-routing will be undertaken to (where possible) avoid sensitive habitats and species to ensure they are not significantly affected by the installation activities. The footprint of the deposits will be the minimum required to ensure cable safety and stability. The deployment of any anchor spread / spud legs as well as boulder removal will be kept to a minimum in order to reduce disturbance to the seabed.

9. ORNITHOLOGY

9.1 Introduction

This Section characterises ornithological interests within the Application Corridor, outlines the impacts associated with the cable installation activities on bird species and presents the findings of the environmental assessment.

9.2 Data Sources

The baseline has been informed using the following sources:

- ED2: Skye – Uist South Cable Route Desktop Study (OceanIQ, 2023)
- EPS and Protected Sites and Species Risk Assessment – West Highland (Xodus, 2023)

In order to establish baseline conditions a desktop review of published information has been undertaken supported by consultation with relevant bodies, where required. Any other data sources used are referenced throughout the document.

9.3 Ornithology Description

The coastline of western Scotland is important for a wide range of nationally and internationally important bird populations, acting as both breeding sites and foraging areas (Xodus, 2023). The cliffs and island habitat are vital for nesting seabirds and Isle of Skye is known to support a vast range of resident and migratory passing seabirds throughout the year (SkyeBirds, 2025).

As described in Section 5 (Protected Sites), there are no SPAs which overlap the Application Corridor. There are however 11 SPAs within 50km of the operation with designated features which have the potential to enter the Application Corridor. More information on these sites, their designated features and potential pressure receptor pathways with the cable installation operation is provided within Section 5 (Protected Sites).

Skerries located near Ardmore – Loch Pooltiel provide vital habitats for important bird populations. Located near Loch Pooltiel, Sgeir Dubh and Sgeir Mòr (Black Skerry and Big Skerry) are important nesting sites for seabirds such as puffins (*Fratercula arctica*), guillemots (*Uria aalge*) and razorbills (*Alca torda*) (Glendale Skye, 2025). Near Ardmore, approximately 0.6 km away from the Application Corridor are the Lochbay islands, including Isay Island, Lochbay and Ardmore Arches. These skerries support important populations of bird species including sea eagles (*Haliaeetus albicilla*) and golden eagles (*Aquila chrysaetos*) (Watch Wildlife, 2025). Guillemot, razorbill, white-tailed sea eagle and golden eagle are listed are least concern on the IUCN red list. However, Atlantic puffin is listed as vulnerable and razorbill are listed as near threatened on the IUCN red list (IUCN, 2024).

9.4 Impact Assessment

The sensitivity of bird populations to human disturbance varies temporally with birds being most vulnerable when at sea during the moulting season when they disperse from their coastal colonies to offshore waters and become flightless, spending more time on the sea surface (Xodus, 2023). During these periods the likeliness of interactions with installation vessels and the potential for collision risk increases as well as the sensitivity of species to visual and above water noise disturbance.

Puffin and razorbill exhibit moderate sensitivity to traffic and transport varying on depending factors such as habitat, season, and context (MMO, 2018). White-tailed sea eagles are known to be highly sensitive with a disturbance distance of 250-500 m (NatureScot, 2022). However, disturbance levels are known to vary depending on the time of year. For example, within breeding periods (between

May to January) disturbance sensitivity is high (Dennis, *et al*, 2011). This disturbance level is lowered during post-breeding months (Dennis, *et al*, 2011).

Marine users (commercial fisheries, shipping, ferries and others) likely to be present in the area are outlined in Section 11 and Section 12. It is not envisaged that the presence of the vessel will constitute a significant change from typical baseline conditions. Given the short term and temporary nature of installation activities in combination with mitigation measures embedded as part of the Project design, no adverse effects to general ornithological features within the Application Corridor are expected to occur. However, considering the proximity of the skerries located near Loch Ardmore – Loch Pooltiel to the Application Corridor, a full assessment of death or injury by collision and visual and above water noise disturbance on puffin, razorbill and white-tailed sea eagles has been undertaken.

9.4.1 Death or Injury by Collision

The presence of installation vessels has the potential to disturb ornithological features within the Application Corridor through risk of bird strike. During the operation a maximum of six vessels are likely to be utilised. These vessels may pose a collision risk to puffin, razorbill and white-tailed sea eagle.

However, disturbance buffer zones of up to 500m are advised for razorbill and white-tailed sea eagle and buffer zones of up to 700 m are recommended for puffin. Studies suggest that within these distances the species are likely to flush from the area (Ruddock and Whitfield, 2007; Garthe and Hüppop, 2004; NatureScot, 2022). Given these indicated flight initiation distances and the slow movement of installation vessels (less than 4 knots) it is expected that the species will have sufficient time to move out of the way of vessels utilised during this operation and as such vessel strike is unlikely. Therefore, no adverse effects to ornithological features as a result of death or injury by collision are expected.

9.4.2 Visual (and Above Water Noise) Disturbance

The proposed operation may result in an increase in vessel traffic in the nearshore area as well as an increase in human and equipment presence at the landfall sites. This has the potential to result in disturbance to puffin, razorbill and white-tailed sea eagle.

Disturbance to these species may impact foraging and breeding activities, ultimately leading to a reduction in fitness.

Puffin and razorbill show a medium sensitivity to human and vessel disturbance while white-tailed eagle show a high sensitivity (NatureScot, 2022a; MMO, 2018). However, many bird species are evidenced to exhibit habituation behaviours to human and vessel presence (Garthe, and Hüppop, 2004). Considering the baseline shipping density in the area and the short-term, localised and temporary nature of the installation activities, any disturbances will be temporary, with operations estimated to take up to 18 weeks. Any disturbances are therefore likely to be minimal, and species are expected to return to utilised foraging areas upon completion of the operational works. Therefore, no adverse effects to ornithological features as a result of visual (and above water) noise disturbance are expected to occur.

9.5 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1. Following assessment, there are no additional mitigation measures proposed.

9.6 Conclusion

The above assessment has demonstrated that although puffin, razorbill and white-tailed eagle within the Application Corridor may experience a slight disruption to their foraging activities during the cable

installation, this will be temporary with the species expected to return to normal foraging behaviour immediately after disturbing activity has ceased. Therefore, given the short-term, localised and temporary nature of the installation activities, there are unlikely to be any adverse effects to puffin, razorbill and white-tailed eagle as a consequence of the planned installation activities.

10. MARINE ARCHAEOLOGY

10.1 Introduction

This Section describes the key characteristics of the marine historic environment along the Application Corridor, outlines the potential pressures associated with the cable installation activities on marine archaeology, presents the findings of the environmental assessment along with the mitigation and management measures to remove or reduce the effect of any identified pressures.

10.2 Data Sources

A review of publicly available information on marine archaeological sites within/in the vicinity of the Application Corridor was conducted to inform this assessment. Key data sources used included:

- The United Kingdom Hydrographic Office (UKHO) wrecks database, containing recorded wreck and obstruction data.
- Statutory lists, registers and designated areas, including Lists of Scheduled Monuments, Designated Wrecks and Historic Marine Protected Areas (HMPAs).
- The National Record of the Historic Environment (NRHE) of Scotland, using the Canmore database website (https://canmore.org.uk/).

This information has been supplemented with Historic Environment Records (HER) containing a database of recorded archaeological sites, find spots, and archaeological events; and other publicly available website databases and publications, where used, are cited in the text.

10.3 Marine Archaeology Description

Marine archaeology encompasses not only shipwrecks, but also other evidence of human exploitation of maritime resources, such as shipyards, piers, fish traps, anchor sites and submerged landscapes where human beings and early hominids previously lived or hunted on terrain which was at that time dry land, or where they exploited fish and shellfish on the coast which is now submerged (Marine (Scotland) Act 2010, Section 73, Paragraph 5).

Notable archaeological findings within and in the vicinity of the Application Corridor are presented in (Figure 10-1, Drawing Reference: P2816-ARCH-001). The Application Corridor overlaps five recorded wrecks. On the approach to Loch Pooltiel there are two unknown wrecks (Canmore ID's 222352 and 125291) as well as a wrecked maritime craft vessel known as 'Foul' (Canmore ID 321795). On the approach to Ardmore, there are two wrecks, which are both maritime craft vessels and are known as 'Indefatigable' (Canmore ID 285466) and 'Iris' (Canmore ID 264359). In addition, there are three wrecks present within 500m of the Application Corridor. These are detailed in Table 10-1.

Table 10-1 Known Marine Archaeological Assets Located in the Vicinity of the Application Corridor

Degrees and Decimal Minutes (WGS 84)

Name	Water Depth (m)	Latitude	Longitude	Distance to Application Corridor (km
Eala	UNKNOWN	57°32.52'N	6°39.06'W	0.48
UNKNOWN	UNKNOWN	57°27.48'N	6°45.24'W	0.14
UNKNOWN	UNKNOWN	57°27.24'N	6°45'W	0.230

The occurrence of sites with marine archaeological significance (such as drifted debris) within the Application Corridor is thought to be unlikely given the data available.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

ARCHAEOLOGY

Observed Wrecks

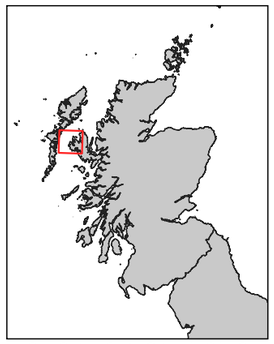
Drawing No: P2816-ARCH-001	A

Legend

- Application Corridor (500m)

Wrecks

- Dangerous Wreck
- Wreck Showing any Portion of Hull or Superstructure
- Other Wrecks



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Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

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0 1 2 3 4 km

10.4 Impact Assessment

The installation of the Ardmore – Loch Pooltiel cable has the potential to cause damage to historic archaeological artefacts present within the Application Corridor. The potential for damage is limited to cable lay operations, and if damage were to occur to a maritime artefact during these operations, it would be permanent and irreversible, resulting in a significant impact on the historic record.

10.4.1 Abrasion/Disturbance at the Surface of the Substratum

In areas where burial is not feasible, the cable will be surface laid. In such cases, the cable itself, along with any associated stabilisation deposits, may cause abrasion or disturbance of the surface substrate. As a result, there is potential for this to result in damage to archaeological artefacts in contact with the cable or deposits. The cable installation also has the potential to cause direct damage to sites of marine cultural heritage through compression, notably the wrecks located within the Application Corridor. However, as part of the Project design, the routing of the cable and placement of deposits have been planned to avoid known cultural heritage sites by an avoidance distance of at least one times the water depth, where possible.

Geophysical survey works have been undertaken to inform the cable route design. However, as detailed in Section 3, a pre-lay survey will be carried out as a final check of the cable route for archaeological features and debris, to ensure avoidance of these features and to reduce the risk of damage.

10.4.2 Penetration and / or Disturbance of the Substrate Below the Surface of the Seabed

During installation, cable trenching activities and the deployment of mooring spreads and spud cans could potentially interact with archaeological artefacts located below the surface within the Application Corridor. If this were to occur, it could result in the destruction of any cultural heritage present beneath or in the immediate vicinity of the cable route. However, as part of the Project design, the routing of the cable and the placement of deposits have been planned to avoid known cultural heritage sites by an avoidance distance of at least one times the water depth, where possible. Therefore, the direct destruction of known archaeological artefacts within the Application Corridor is unlikely.

Temporary disturbance of sediment is expected during cable burial, with sediment resuspension anticipated to persist for a few hours to a few days (Taormina *et al.*, 2018). However, resuspension levels are not expected to be significant and will likely remain confined to a small area. As such, damage to artefacts from the resettling of disturbed sediment is considered unlikely. Therefore, adverse effects to archaeological features resulting from penetration and/or disturbance of the substrate below the seabed surface are unlikely to occur.

10.5 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1.

The pre lay survey will allow for any potential wrecks (and any other potential sites of archaeological significance) not identified during the route design to be identified prior to any cable installation works starting. In addition, the following measures were implemented during the route design process to further ensure the protection of marine archaeological receptors.

- All wrecks or features of archaeological significance will be avoided during detailed route design;
- The locations of wrecks and features of archaeological significance will be identified on electronic charts onboard the installation vessel and will be utilised to guide installation operations;

- The locations of any wrecks or features of archaeological significance will be provided to Historic Environment Scotland and the UKHO; and
- If required by licence, The Crown Estate's 'Protocol for Archaeological Discoveries' (PAD) (The Crown Estate, 2021) will be implemented during installation works.

It is acknowledged that there is the potential that additional archaeological features could be present within the Application Corridor, which are not identified by preconstruction surveys. In order to account for this, and subject to further discussion with Historic Environment Scotland, the Crown Estate's PAD (TCE, 2021) could be used as a basis for further mitigation during installation activities. The role of the Implementation Service described within the above protocol would be replaced by an archaeological service provider appointed by SHEPD or their installation contractor.

10.6 Conclusion

There are five known archaeological features located within the Application Corridor and a further three features located within 500m of the Application Corridor. Although damaging impacts to these features have the potential to occur during installation activities, these will be mitigated where possible through careful Project design and the above assessment has concluded that impacts to known archaeological features in the vicinity of the Application Corridor are not likely. Therefore, the installation and operation of the Ardmore – Loch Pooltiel cable is not expected to result in any significant affects to the marine archaeology in the vicinity of the Application Corridor.

11. COMMERCIAL FISHERIES AND OTHER MARINE USERS

11.1 Introduction

This section provides an overview of other marine users within the vicinity of the Application Corridor, excluding shipping and navigation (which is assessed within Section 12). The marine users assessed within this section include commercial fishing and aquaculture activity, existing infrastructure, and the potential presence of Unexploded Ordnance (UXO). It outlines the potential interactions and impacts of the proposed cable installation activities on these receptors, along with the mitigation and management measures proposed to avoid or reduce any associated risks.

For the purposes of this section:

- UXO refers to explosive weapons that did not detonate when they were deployed and still pose a risk of detonation as it seldom degrades or loses its high explosive effectiveness over time. UXO have been deployed in the marine area worldwide and therefore there is the potential that they could be present within the Application Corridor.

This section should be read in conjunction with the separate regional FLMAP – West Highlands (Appendix B) which provides a summary assessment of all the potential marine interactions, including commercial fisheries, which could influence or be affected by the proposed works.

11.2 Data Sources

Prior to commencement of any works on the Project, a FLMAP was prepared to set out how SHEPD will interact with all legitimate marine users, prior to and during any operational activities associated with the Ardmore – Loch Pooltiel cable. This information has been used to inform the baseline overview of this section, with assessment findings being summarised as well.

The section has been further supplemented by data sources used to inform the baseline description and assessment including but not limited to the following:

- Scottish Sea Fisheries Statistics 2023, (Marine Directorate, 2024);
- Skye Loop Cable Route Desktop Study, Document Reference: H24007-REP-001 Rev1 (Hydrofix, 2024); and
- AIS data from European Marine Observation and Data Network (EMODnet, 2025).

Infrastructure data is available across multiple sources such as Crown Estate Scotland (CES), North Sea Transition Authority (NSTA), Kingfisher Information Service – Offshore Renewable & Cable Awareness Project (KIS-ORCA) and European Marine Observation and Data Network (EMODNet).

Any other data sources used are referenced throughout the document.

11.3 Baseline Environment and Receiving Receptors

11.3.1 Commercial Fisheries and Aquaculture

11.3.1.1 Fish and Shellfish

The oceanic characteristics of the western coast of Scotland make it a prime spawning and/or nursery ground for a number of commercially important species. The cable installation is scheduled to take place between Q2 and Q3 2026 and therefore overlapping with the spawning and nursing periods of

12 of the 14 fish and shellfish species (Table 11-1 and Figure 11-1, Figure 11-2, Figure 11-3 and Figure 11-4, Drawing References: P2816-FISH-003, P2816-FISH-005, P2816-FISH-007, P2816-FISH-009).

Table 11-1 Summary of Spawning and Nursery Periods for Commercially Important Fish Species within the Application Corridor

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Scheduled Installation												
Anglerfish (N)	N	N	N	N	N	N	N	N				
Atlantic Cod (N)	N	N	N	N	N	N						
Atlantic Herring (N)	N	N	N	N	N	N						
European hake (N)	N	N	N	N	N	N	N	N				
Atlantic mackerel (N)		N	N	N	N	N	N	N				
Nephrops (SN)	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
Sandeel (N)	SN	SN	SN	SN							SN	SN
Spotted ray (N)					N	N	N					
Whiting (N)		N	N	N	N	N	N	N				
Spurdog	Viviparous species (gravid females can be found all year)											
Blue whiting				S	S	S						
Ling		S	S	S	S							
Plaice	S	S	S									S
Norway pout												
Key	S = Spawning			N = Nursery			SN = Spawning and Nursery			Blank = No data		

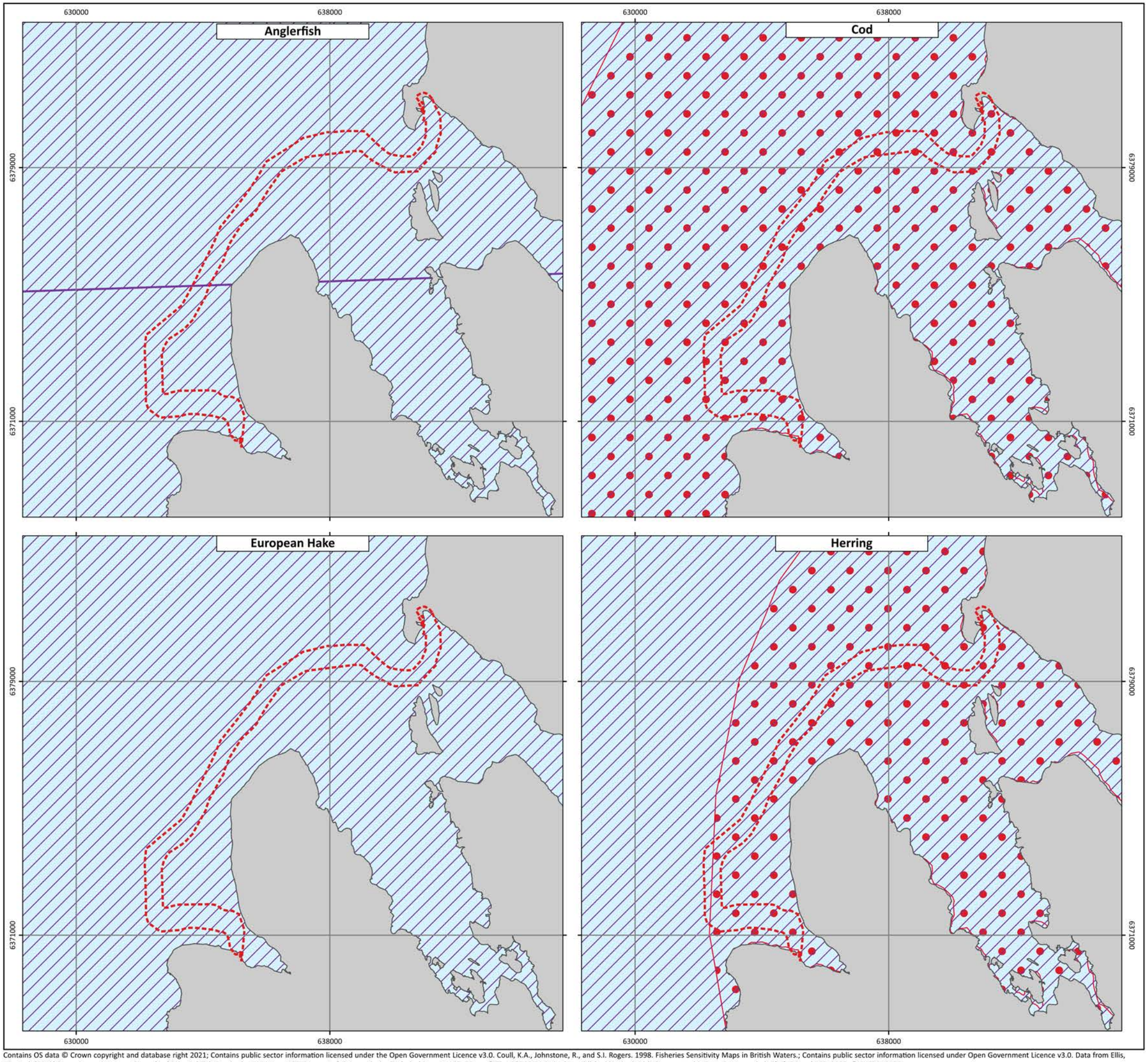
Source: Coull *et al.*, 1998; Ellis *et al.*, 2012

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES

Fish Spawning and Nursery Areas (Sheet 1 of 4)

Drawing No: P2816-FISH-003 | A



Legend

- Application Corridor (500m)

Nursery and Spawning Grounds

- UK Nursery Grounds (2010)
- UK Nursery Grounds (1998)
- UK Spawning Grounds (1998)
- UK Spawning Grounds (2010)

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Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

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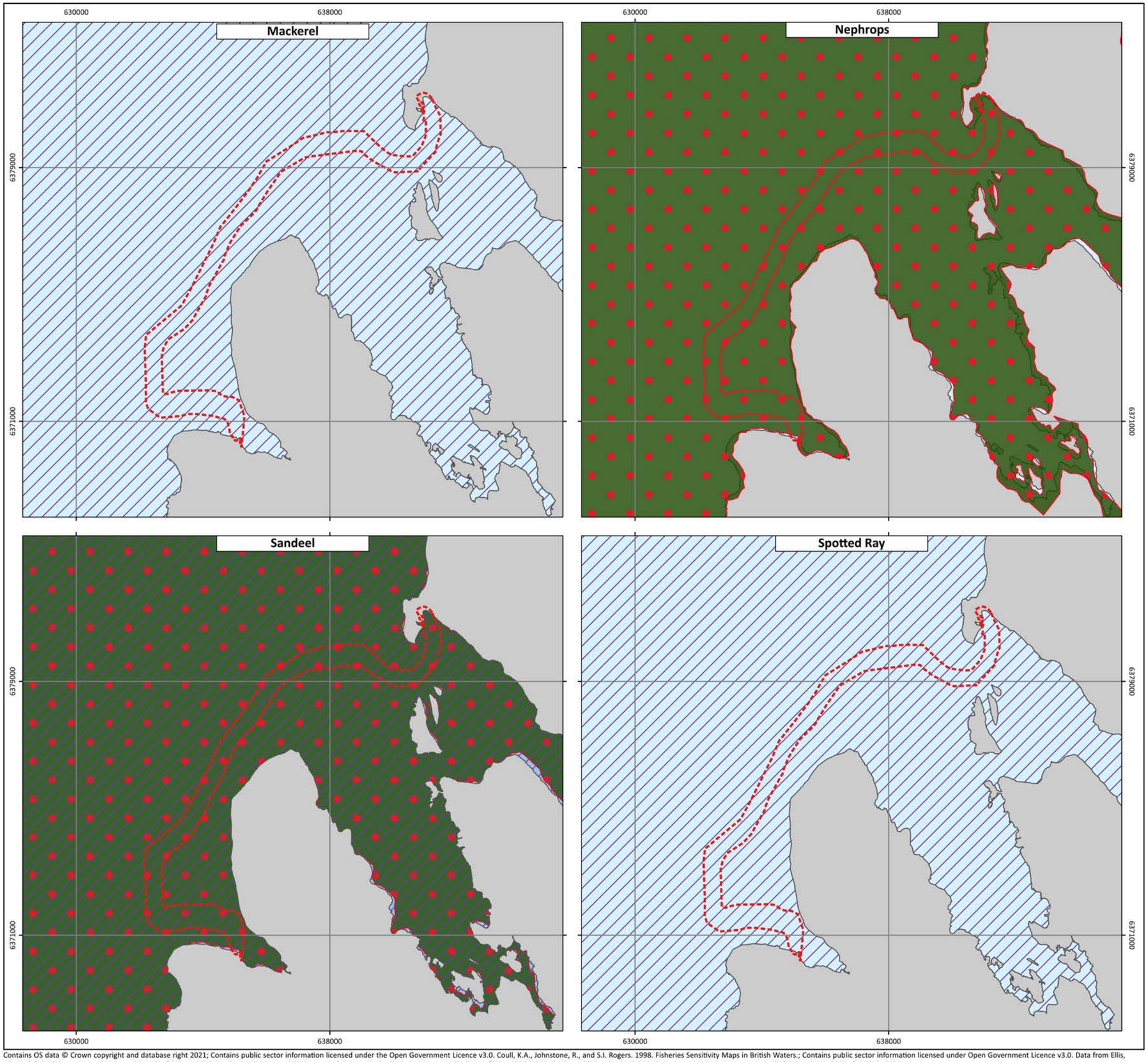
ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES

Fish Spawning and Nursery Areas (Sheet 2 of 4)

Drawing No: P2816-FISH-005 | A



Legend

- Application Corridor (500m)

Nursery and Spawning Grounds

- UK Nursery Grounds (2010)
- UK Nursery Grounds (1998)
- UK Spawning Grounds (1998)
- UK Spawning Grounds (2010)

N

NOT TO BE USED FOR NAVIGATION

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Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

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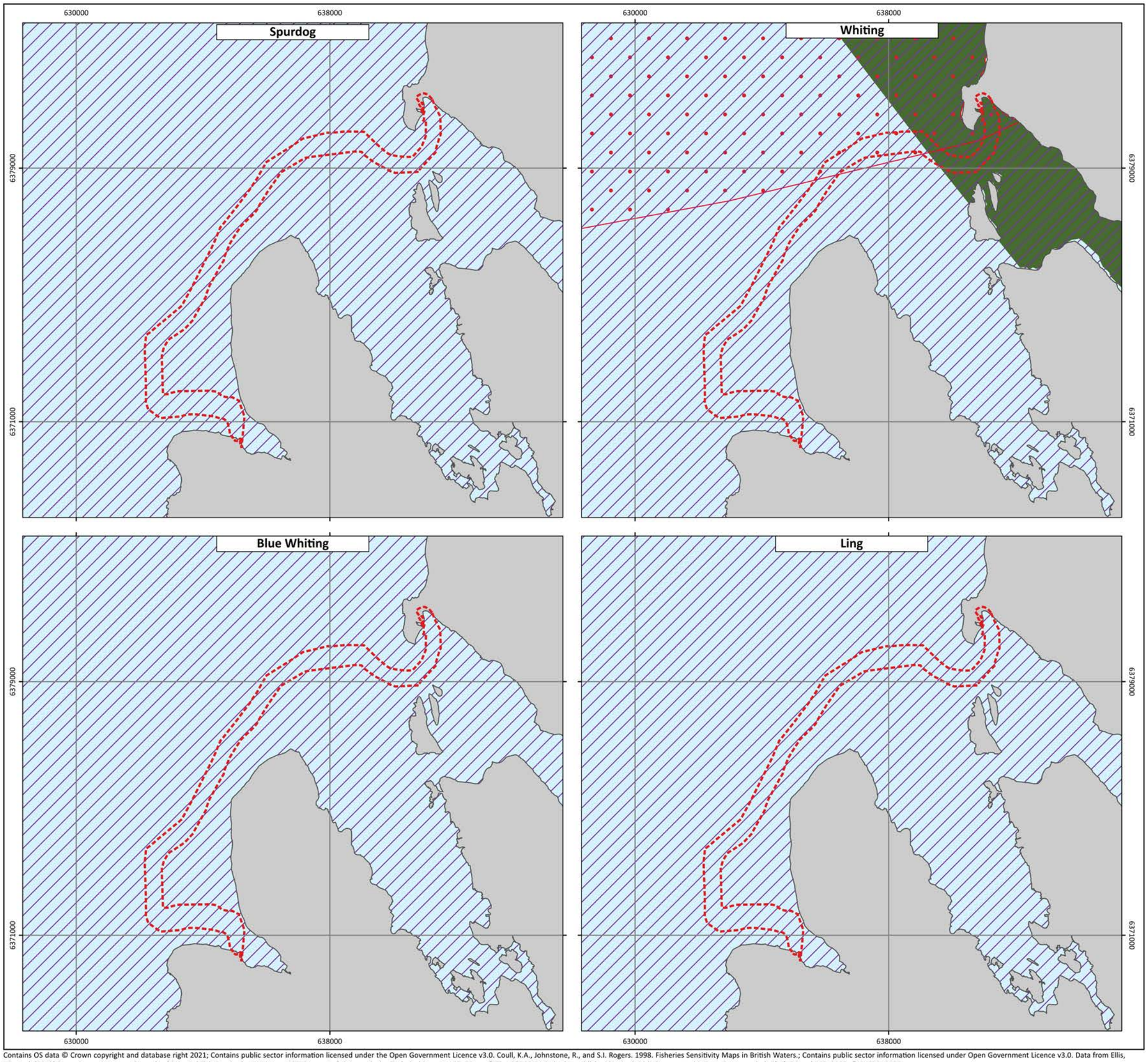
ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES

Fish Spawning and Nursery Areas (Sheet 3 of 4)

Drawing No: P2816-FISH-007 | A



Legend

- Application Corridor (500m)

Nursery and Spawning Grounds

- UK Nursery Grounds (2010)
- UK Nursery Grounds (1998)
- UK Spawning Grounds (1998)
- UK Spawning Grounds (2010)

N

NOT TO BE USED FOR NAVIGATION

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Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

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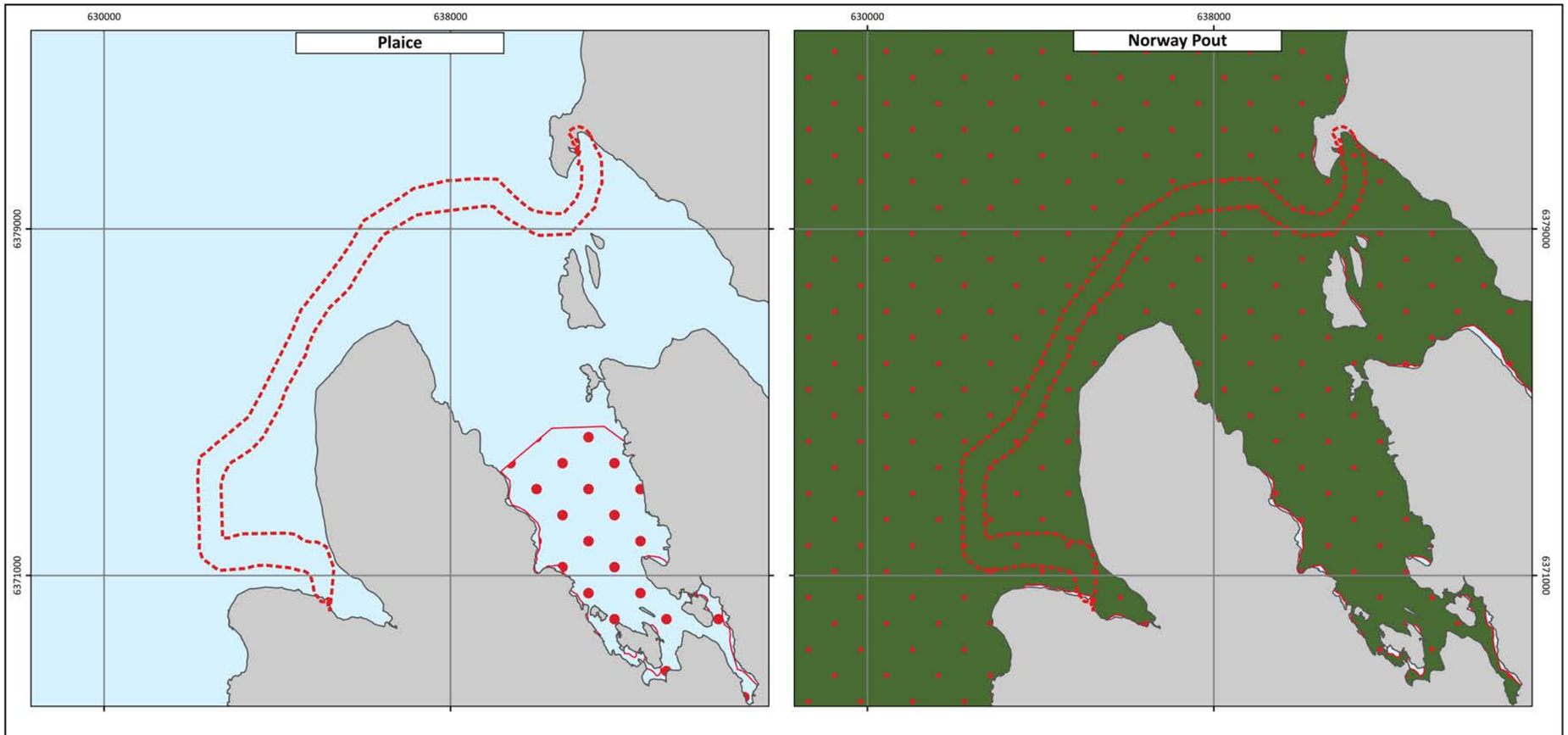
0 2 4 6 8 km



ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISH AND FISHING ACTIVITIES

Fish Spawning and Nursery Areas (Sheet 4 of 4)

Drawing No: P2816-FISH-009 | A

Legend

- Application Corridor (500m)

Nursery and Spawning Grounds

- UK Nursery Grounds (2010)
- UK Nursery Grounds (1998)
- UK Spawning Grounds (1998)
- UK Spawning Grounds (2010)

N

NOT TO BE USED FOR NAVIGATION

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Created By	Adam Johns
Reviewed By	Emma Kilbane-Lourenço
Approved By	Vicky Fisk

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0 2 4 6 8 km

11.3.1.2 Fisheries Activity

The west coast of Scotland is located in the International Council for Exploration of the Seas (ICES) "Celtic Seas" ecoregion, further defined as ICES Division 6a. This Division is used in ICES stock assessments and management advice, so has an ecological basis.

The Application Corridor is located within the ICES area West of Scotland. The majority of landings in this area consist of shellfish, with *Nephrops* being the most frequently caught species. The area also lands a significant amount of mackerel (Marine Directorate, 2024).

The Application Corridor is located within ICES rectangles 43E3 and 44E3. As detailed in the FLMAP (Appendix B), demersal trawls/seines are the predominant fishing activity, with main landings consisting of *Nephrops* , scallops and crabs within ICES rectangle 43E3. Pots and traps form the largest proportion of landings in ICES rectangle 44E3 with the most landing value coming from *Nephrops*, scallops and crabs.

11.3.1.3 Fisheries Density

The Application Corridor is a moderate density fishing area for local fishers within the region. Figure 11-5 (Drawing Reference: P2816-AIS-004) shows the monthly fishing vessel density within the vicinity of the Application Corridor in 2023. The data presented is based on Vessel Monitoring System (VMS) records, which represent fishing activity by vessels over 12m in length. Therefore, activity by smaller inshore vessels (<12m), which are not required to carry VMS, is not captured and may be underrepresented in this dataset. The fishing density varies slightly throughout the year, with vessel densities most often ranging from 0.05 to 5 vessel hours per km². Activity increases in autumn and winter months, from September to May with the highest vessel densities recorded in October (Up to 50 vessels per km^2) at Loch Pooltiel.

January

February

March

April

May

June

July

August

September

October

November

December

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

AIS VESSEL DENSITY

Monthly Vessel Densities (2023) Fishing Vessels

Drawing No: P2816-AIS-004	A

Legend

- Mean High Water Mark
- Application Corridor (500m)

2023 Vessel Density

Vessel Hours (per km²)

- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 500
- > 500

N W E S

NOTE: Not to be used for Navigation

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Reviewed By	[Redacted]
Approved By	[Redacted]

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0 2.5 5 7.5 10 km

11.3.1.4 Aquaculture

There are no aquaculture sites located within the Application Corridor. The closest such site is an active rainbow trout fish farm owned by Kames Fish Farming Ltd, situated 0.29km south of the Application Corridor (Figure 11-6, Drawing Reference: P2816-INFR-001).

11.3.2 Other Sea Users

11.3.2.1 Infrastructure

There is one in service cable within the Application Corridor. This is a telecoms cable, owned and operated by BT. This cable is presented in (Figure 11-6, Drawing Reference: P2816-INFR-001). The new Ardmore – Loch Pooltiel route will cross this cable. However, crossing designs will be engineered to ensure no damage to either cable will occur.

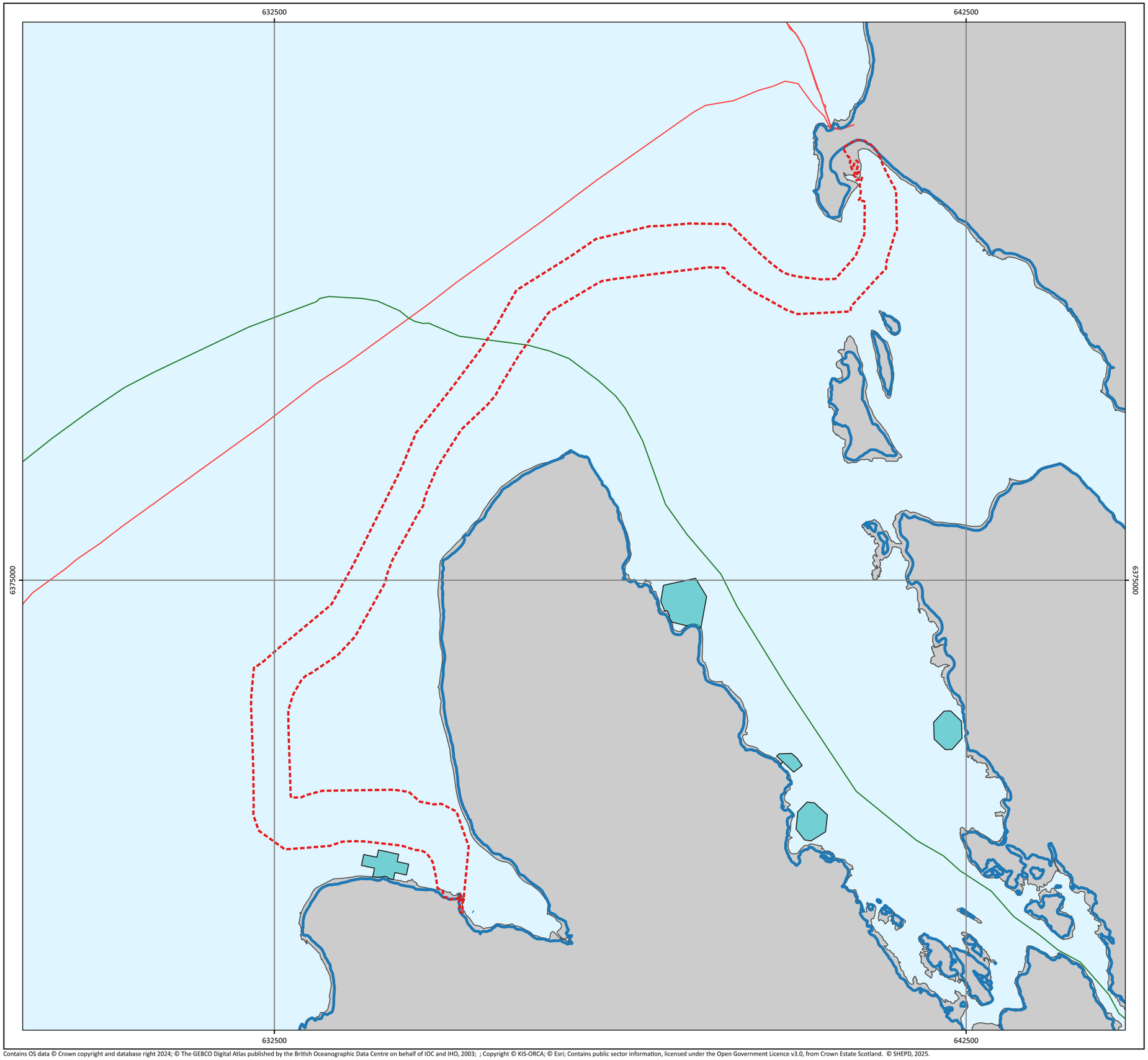
There are no oil and gas installations, pipelines, dredging disposal sites, extraction areas, carbon, capture and storage sites or renewable energy sites within or in the vicinity of the Application Corridor.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

INFRASTRUCTURE

Infrastructure and Marine Users

Drawing No: P2816-INFR-001 | A



Legend

- Application Corridor (500m)
- Mean High Water Mark

Cables

- Power - Active
- Telecom - Active

Infrastructure

- Aquaculture Site

N

NOT TO BE USED FOR NAVIGATION

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intertek metoc

0 0.75 1.5 2.25 3 km

11.3.2.2 Recreational Mariner Users

The West Highlands coast is a popular area for marine recreation with activities such as coasteering, canoeing, kayaking, motor cruising, power boating, sailing and cruising, scuba diving, chartered angling, angling from shore, yacht racing, surfing, paddleboarding, long distance swimming, dinghy racing, bird and wildlife watching, and rowing all common in the area at high to low activity levels (FLMAP – Appendix B). Notably, there is a hotspot area of coasteering activity and scuba diving at the Skye (Loch Pooltiel) landfall.

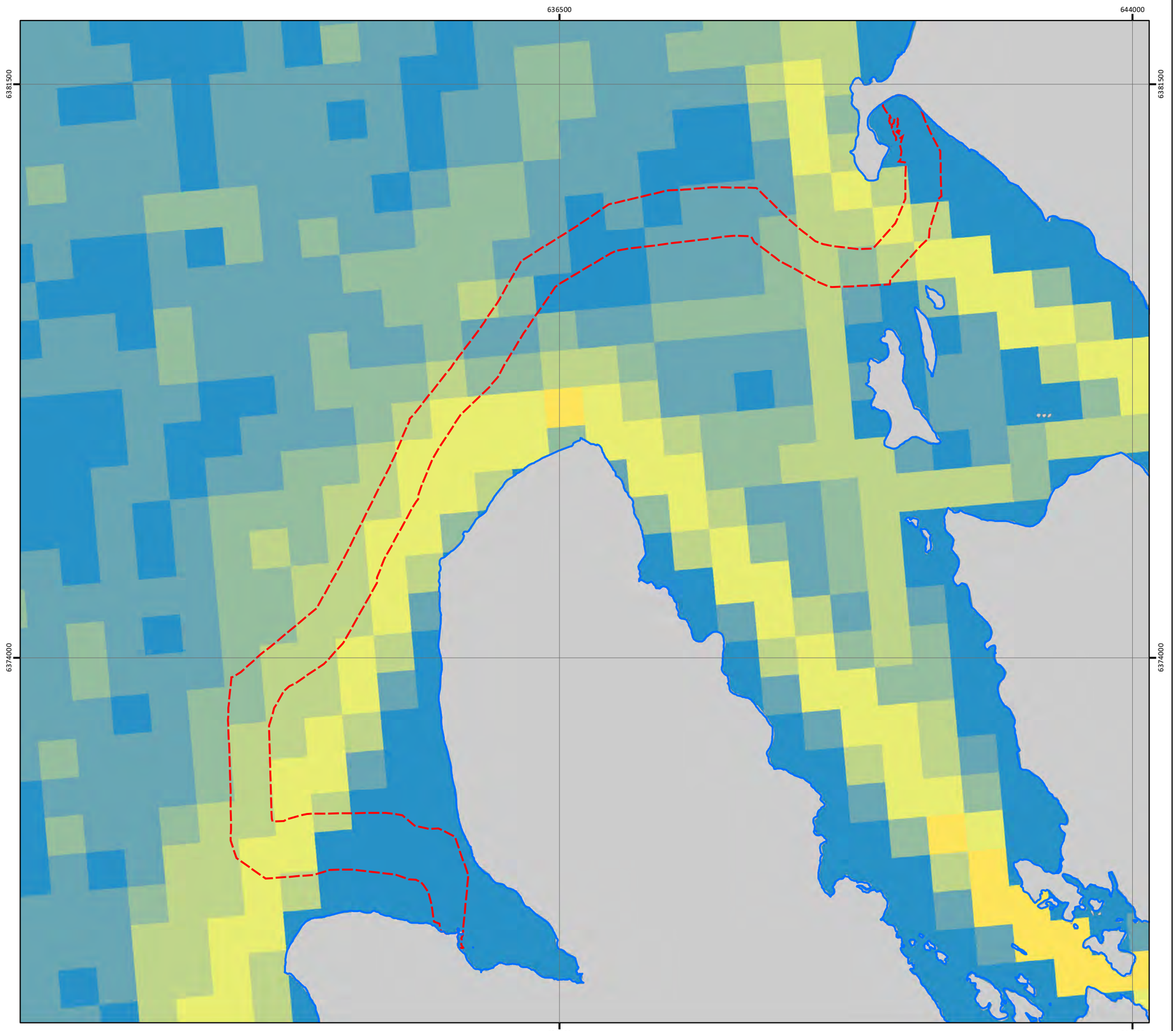
RYA clubs, training centres, marinas as well as the RYA AIS data and the Application Corridor are illustrated in (Figure 11-7, Drawing Reference: P2816-RYA-001). The figure also presents a heat map of AIS data of the recreation boating activity across study area. Within the Application Corridor recreational yachting occurs at low to moderate levels. There are no RYA clubs, training centres or marinas in the vicinity of the Application Corridor.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

ROYAL YACHTING ASSOCIATION

RYA UK Coastal Atlas of Recreational Boating

Drawing No: P2816-RYA-001 | **A**



Legend

- Mean High Water Mark
- Application Corridor (500m)

AIS Intensity (Recreational Yachting)

Intensity

- Low
- High

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	OS; RYA; SHEPD; ESRI
File Reference	J:\P2816\Mxd_Qgz\08_RYA\ P2816-RYA-001.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

Km
0 0.75 1.5 2.25 3

11.3.2.3 Military Areas

The Application Corridor lies within two military practice areas including the Pooltiel and Waternish submarine general practice areas which are used for non-firing exercises, practices and trials.

11.3.2.4 UXO

There is evidence of unexploded ordnance (UXO) along the west coast of Scotland. The closest shipwreck related to munitions is a mine laying vessel, which is located near Trumpan on the Isle of Skye and approximately 0.4km from the Ardmore – Loch Pooltiel Application Corridor (OceanIQ, 2023). No records of UXO finds exist within the immediate vicinity of the Application Corridor.

11.4 Impact Assessment

Potential impacts to commercial fisheries and other marine users in the vicinity of the Application Corridor may arise due to:

- Temporary displacement / restricted access
- Increase snagging risk
- Abrasion / disturbance at the surface of the substratum
- Penetration and / or disturbance of the substrate below the surface of the seabed
- Damage to third party assets

11.4.1 Temporary Displacement / Restricted Access

There is the potential for the presence of the installation vessels to restrict access to fishing grounds and/or cause fishing vessels to deviate from the typical navigational routes. This may result in a loss of earnings, additional fuel costs or disruption of normal fishing activities. Longer term impacts relate specifically to reduced fishing effort within traditional fishing grounds, particularly for trawl fisheries where there is an increased risk of gear being snagged on the cable and associated protection measures – see Section 11.4.2.

Regarding the immediate loss of access to fishing grounds and navigation routes due to the presence of installation vessels, the impacts relate to the 500m safety zone that will be enforced around the installation vessel when in operation. When the installation schedule for the cable is finalised, this will be circulated amongst local fishers ahead of the activities to provide as much notice as possible, allowing for temporary changes in routing to be made. Due to the linear nature of the cable installation route and transient nature of this safety zone, the duration of time where fishing vessels will be displaced will be minimal. As such, pressures resulting from the loss of access to commercial fisheries and other marine users are not expected to be significant.

There is also the potential for recreational marine users to be temporarily displaced from the area during the cable installation. Communication to other marine users regarding the timescales for the Project will be via NtMs and will give sufficient time for recreational users to make alternative arrangements for the use of the area. As the installation campaign is short-term, temporary displacement or restriction of access to any recreational users will be temporary and other areas in the region are available for recreational use during this time. As a result, pressures on recreational marine users from the Project will be minor.

The Application Corridor lies within two military practice areas (see Section 11.3.2.3). Therefore, minor displacement to military vessels is possible. However, ongoing communication and publishing of NtM will ensure coordination of any potential conflicting activities, and as a result significant impacts to military vessels is not expected.

11.4.2 Increased Snagging Risk

The most popular fishing gear used in the vicinity of the Application Corridor are potters, trappers, trawls and seines (see Section 11.3.1.2). This gear is all commonly used to target benthic species and as such snagging risks resulting from the cable are possible. Fisheries activity within the Application Corridor is reported to be moderate to low and as such interactions are therefore possible.

A Project Fisheries Liaison Officer (FLO) and Fishing Industry Representative (FIR) will be employed to manage communication between the fisheries operating in the area and the Project. The FLO will communicate the operational plan for the installation campaign with enough notice that any gear will be able to be moved away from the installation area, if required. The risk of snagging arises from both the cable (in areas where burial is not possible) and the protection deposits deployed, the footprint of the installed cable and protection deposits is small in comparison to the wider available fishing ground grounds for pots in the area. Therefore, it is expected that the risks of snagging will be minor.

While occasional maintenance of the cable may occur in the future, such activities will be clearly communicated ahead of time with typical safety procedures (such as those used in this Project) being followed, thus ensuring impacts to local fishers are kept to a minimum.

11.4.3 Abrasion / Disturbance at the Surface of the Substratum

The likelihood of a detonation of a UXO is dependent on the kinetic energy from the installation activity as this is what triggers an explosion. In areas where the cable is surface laid and impacts are restricted to abrasion or disturbance of the surface of the substratum, the amount of kinetic energy released is low and explosions considered unlikely. During the route engineering process any UXO identified on the surface of the substratum were avoided by an exclusion zone of at least 15m.

During cable installation and the deposition of protection material fish may be temporarily displaced from the Application Corridor. This includes commercially and ecologically important fish species that use benthic habitats for spawning and as nursery grounds, particularly those who lay their eggs in clean sandy and gravelly sediments. However, the spatial extent of disturbance will be limited and any displaced fish are likely to find suitable spawning areas in adjacent locations. The spawning and nursery habitats within the Application Corridor are likely part of a broader regional spawning and/or nursery area for these species and the area is unlikely to represent critical spawning habitat.

11.4.4 Penetration and / or Disturbance of the Substrate Below the Surface of the Seabed

During cable installation, trenching may result in seabed penetration to a depth of approximately 1m. If unexploded ordnance is present within the Application Corridor, such intrusion carries a potential risk of physical contact and subsequent initiation of devices. This risk also arises from the introduction of kinetic energy and compressive forces generated by trenching equipment. However, the likelihood of UXO interaction is very low and no UXO finds have been recorded within the Application Corridor (see Section 11.3.2.4). In addition, during route engineering, any identified UXO were avoided by an exclusion zone of at least 15m. As a result, the potential for initiation of UXO from direct contact during cable installation is highly unlikely.

While trenching equipment can introduce kinetic energy into the seabed, detonation of UXO under such conditions typically requires direct, forceful impact. The primary mechanisms capable of initiating detonation during subsea works include crushing of the ordnance casing, high-velocity impact, or prolonged exposure to high-intensity vibration (Ordtek, 2016). However, the kinetic energy and compressive forces generated during trenching operations are generally insufficient to trigger detonations and given the short duration of the operation, detonation resulting from the trenching works is unlikely. Given the low probability of UXO presence and the mitigation measures employed during routing, no significant impacts to UXO are expected from the cable installation.

11.4.5 Damage to Third Party Assets

There is one planned crossing of the existing Ardmore – Loch Pooltiel power cable with a BT telecommunications cable. However, crossing designs will be engineered to ensure no damage to either cable will occur and as such no effects are expected to occur.

11.5 Mitigation

Mitigation measures that are embedded in the Project design are listed in Table 4-1.

If UXO items are discovered during any phase of the Project, the location of the item will be recorded and immediate advice sought from relevant authorities. If a UXO is identified during the construction phase, then works will cease immediately until advice and remedial actions are implemented. The Ministry of Defence (MoD) and emergency services will be consulted as appropriate.

11.6 Conclusion

The assessment concludes that significant effects on commercial fisheries or other marine users within or in close proximity to the Application Corridor are unlikely. The Application Corridor supports spawning and nursing ground for commercially important fish and shellfish species and is primarily used for potting, trapping, trawling and seine netting fishing activity. Fisheries activity is highest in October, coinciding with the planned cable installation schedule, and static fishing gear may need to be relocated during the installation campaign to allow unrestricted access to the Application Corridor. In areas where cable burial is not achievable and/or protection material is deposited, potting, trapping, trawling and seine netting fishing activity may not be possible due to the risks of snagging. However, given the cable's small seabed footprint once installed and the wider availability of fishing grounds, any loss of access is expected to be minor.

While the Application Corridor supports other marine users, any disruptions will be minimised through employment of a FLO, ongoing communications and publication of NtM, ensuring coordination with any potentially conflicting activities. Any disruption to other marine users caused by the installation of the cable will be minor and temporary due to the short-term and localised nature of the works. Any impacts to other marine users are therefore considered not significant.

Although there exists the potential for unrecorded UXO to be present within the Application Corridor, the risk of encountering UXO during installation has been minimised through adherence to industry standard advice from specialists. The Application Corridor crosses with a telecoms cable, owned by BT. However, crossing designs will be engineered to ensure no damage to either cable will occur. As such, no significant effects are anticipated during installation.

12. SHIPPING AND NAVIGATION

12.1 Introduction

This section identifies the potential risk to shipping and navigation arising from activities associated with installation of the cable and the presence of the cable during its operational lifespan.

Where relevant, any limitations related to the baseline conditions, data sources or scientific understanding/interpretation within the process of assessing the effects have been highlighted.

12.2 Data Sources and Study Area

Vessel traffic Automatic Identification System (AIS) data has been used to inform the shipping baseline outlined in this section. As per Regulation 19 of Chapter V, Safety of Navigation, of the Annex to the International Convention for the Safety of Life at Sea (SOLAS V), 1 July 2002, an AIS must be installed and operated on: all ships of 300 gross tonnage (GT) and upwards engaged on international voyages; cargo ships of greater than 500GT not engaged on international voyages; all passenger vessels irrespective of size and fishing vessels greater than 15 metres (m). In recent years, AIS has increasingly been installed by other maritime users on smaller crafts, including yachts, fishing vessels, and pleasure crafts, making it a robust and reliable indicator of marine traffic.

A review of shipping and navigational features was carried out as part of the Cable Route Desktop Study (OceanIQ, 2023). This study also identified potential hazards to the cable system, potential impact, mitigative measures applied to the Project and the risk outcome.

Baseline conditions for shipping and navigation have been established by undertaking a desktop review of published information and available reports for the Project in relation to shipping, fishing and navigation. The data sources used to inform the baseline description and assessment included the following:

- AIS data, EMODnet (2024);
- Royal Yachting Association (RYA) Data for 2019;
- Royal National Lifeboat Institution (RNLI) incidents 2019 to 2023 Marine Accident Investigation Branch (MAIB) annual reports 2011 to 2023.

The study area covers the marine components of the cable installation works in the Little Minch between Ardmore – Loch Pooltiel has been defined as 10km either side of the proposed Application Corridor. All AIS data and navigational feature datasets presented in this section are limited to the area of the assessment, hereby known as the Study Area.

12.3 Guidance Methodology

The methodology used in this section differs slightly from a significance assessment presented in Section 4, and has been prepared in accordance with the guidance below:

- International Maritime Organisation (IMO) Guidelines for Formal Safety Assessment (FSA) – MSC - MEPC.2/Circ.12/Rev.2.

Whilst not necessarily directly applicable to marine cable Projects, consideration to linear cables in relation to offshore renewable structures has been considered using:

- Maritime and Coastguard Agency (MCA) MGN 543 (Merchant and Fishing) Safety of Navigation Offshore Renewable Energy Installations (OREIs) – Guidance on United Kingdom (UK) Navigational Practice, Safety and Emergency Response (MCA, 2016) and industry best-practice.

- Marine Guidance Note "Offshore Renewable Energy Installations (OREIs) – Guidance to Mariners operating in the vicinity of UK OREIs".
- Methodology for Assessing the Marine Navigational Safety Risks & Emergency Response of Offshore Renewable Energy Installations.

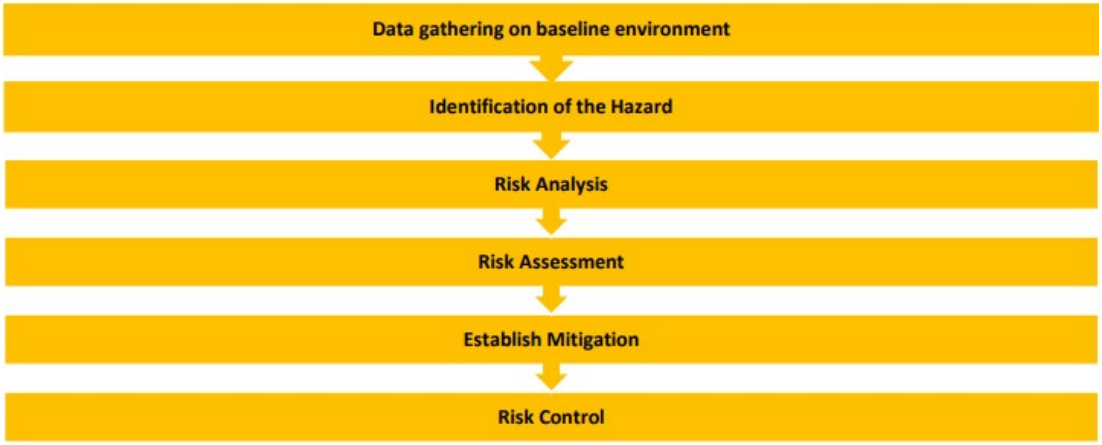
Where applicable, further consideration has been given to:

- Port Marine Safety Code (PMSC) (Dept. for Transport & Maritime and Coastguard Agency, 2016).
- Guide to Good Practice on Port Marine Operations (GtGP) (Dept. for Transport & Maritime and Coastguard Agency, 2018).

The assessment has been informed by the above guidance which states that the assessment stage should follow a clear progression; from the characterisation of the hazard, the risk that hazard has on (in the case of this assessment) the existing shipping baseline and the steps & risk controls that are in place to reduce the overall impact of the hazard to As Low As Reasonably Practicable (ALARP).

The assessment process involves the following main steps presented in Figure 12-1.

Figure 12-1 Assessment Steps



For the purposes of this section the definition of "Hazard", "Risk" and "Maximum Displacement" are detailed below.

- **Hazard** - A potential source of marine incidences & collisions to the existing baseline of other marine users.
- **Risk -** The probability of suffering harm, loss or displacement and is a measure of the probability and consequence of a hazard.
- **Maximum Displacement** - defined as the maximum number of vessels affected and duration of displacement during the installation operations, as a result of the installation operations.

The steps presented in Figure 12-1 are described in more detail below.

12.3.2 Data Gathering on Baseline Environment

To assess the potential effects resulting from the Project it is necessary to establish the current shipping conditions and features that exist along and near the Project. A 10km buffer has been applied around the Project to ensure that all shipping patterns and navigational features are captured.

The analysis has included:

- Potential accidents resulting from navigation activities (MAIB & RNLI).

- Navigation activities affected by the Proposed Development.
- Project structures that could affect navigation activities, such as external protection installed on the seabed.
- Project phases that could affect navigation activities.
- Other structures and features that could affect navigation activities.
- Vessel types involved in navigation activities.
- Conditions affecting navigation activities.
- Human actions related to navigation activities for use in hazard identification (if possible).

12.3.3 Identification of the Hazard

The hazard identification phase seeks to build on the work of the data gathering and identify known hazards expected to be encountered as a result of the marine operations and presence of Project vessels.

The hazards have been identified in relation to where the Project may make it more likely that existing vessels will deviate from the International Regulations for Preventing Collisions at Sea (COLREGS), either as an intended or unintended action.

This may include any effects which the Project might have on existing vessels such as vessels giving appropriate clearance to cable operations when undertaking cable installation and obstruction to the light and sound signals made by vessels and navigational aids in particular circumstances.

The approach used for hazard identification comprises a combination of both creative and analytical techniques, the aim being to identify all relevant hazards. Where relevant, consultation has been undertaken with stakeholders to help to identify hazards. The creative element is to ensure that the process is proactive and not confined only to hazards that have materialized in the past.

12.3.4 Risk Analysis

The risk analysis introduces the concept of risk in a qualitative way in order to prioritise the hazards identified during the hazard identification process and assesses their impact on navigational safety.

Risk is the combination of frequency and consequence which are defined in Table 12-1 and Table 12-2 below. The definitions below have been developed using the IMO guidelines which includes effects on human safety and ships, however this assessment also focuses on displacement of existing vessels and this is the most likely consequence of the proposed development.

Table 12-1 Frequency of a Hazard

Value	Description	Definition
1	Extremely Remote	Likely to occur once in the lifetime of the Project (25 years)
2	Remote	Likely to occur once per year
3	Probably	Likely to occur once per month
4	Very Probable	Likely to occur once per week
5	Frequent	Likely to occur once per day

Table 12-2 Consequence of a Hazard

Value	Description	Definition		
		Effects on Human Safety	Effect on Ship(s)	Displacement of Vessel(s)
1	Minor	Single or minor injuries	Single local equipment damage	Temporal displacement of vessel (hours)
2	Significant	Multiple minor injuries	Multiple local equipment damage	Temporal displacement of vessel (days)
3	Severe	Multiple or severe injuries	Non-severe ship and equipment damage	Temporal displacement of vessel (weeks)
4	Serious	Single fatality or multiple severe injuries	Severe damage to ship and equipment	Temporal displacement of vessel (months)
5	Catastrophic	Multiple fatalities	Total loss of ship and equipment	Permanent displacement of vessels

Risk prioritisation is an important part of the process, the greater the potential of a hazard, the greater the need to ensure that there are mitigation measures in place to control the risk.

12.3.5 Risk Assessment

IMO Guidelines above define a hazard as “something with the potential to cause harm, loss or injury” the realisation of which results in potential accidents and, in this case, vessel displacement. The potential for a hazard to be realised can be combined with an estimated (or known) consequence of outcome. This combination is termed “risk”. Risk is therefore a measure of the frequency and consequence of a hazard. One way to compare risk levels is to use a matrix approach.

Having established the frequency and consequence of the hazard, a risk assessment has been carried out using a risk matrix, adapted from the guidance above, presented in Table 12-3.

Table 12-3 Risk Matrix

		Consequence				
		Minor	**Significant**	**Severe**	**Serious**	**Catastrophic**
Frequency	Extremely Remote	1	2	3	4	5
	Remote	2	4	6	8	10
	Probably	3	6	9	12	15
	Very Probable	4	8	12	16	20
	Frequent	5	10	15	20	25

At the low end of the scale, frequency is extremely remote and consequence minor; risk can be said to be negligible. At the high end, where hazards are defined as frequent and the consequence catastrophic, then risk is intolerable.

The result of using this matrix approach is to ensure that the level of risk is reduced to ALARP for the effects that the Project has on the baseline shipping environment. This is undertaken prior to any mitigation. Best Practice and Project Specific Mitigation will then be applied to generally reduce the effects to ALARP.

Definitions of the risk levels are provided in Table 12-4 below.

Table 12-4 Definitions of Risk Levels with Respect to Vessel Displacement

Score	Classification	Definition
1-2	Negligible	A hazard which causes noticeable changes in the navigation environment but without effecting its sensitivities. Generally considered as insignificant.
3-4	Minor	A hazard that alters the character of the navigation environment in a manner that is consistent with existing baseline. Hazards are generally considered as minor and adequately controlled by best practice and legal controls. Opportunities to reduce hazards further through mitigation may be limited and are unlikely to be cost effective.
5-9	Moderate	A hazard which, by its frequency and consequence alters the aspect of the navigation environment. Generally considered as Moderate but effects are those, considered to be tolerable. However, it is expected that the hazard has been subject to feasible and cost-effective mitigation and has been reduced to As Low As Reasonably Practicable (ALARP) and that no further measures are feasible.
10-14	Major	An effect which, by its frequency and consequence alters most of the aspects of the navigation environment. Generally regarded as unacceptable prior to any mitigation measures being considered.
15-25	Intolerable	Regarded as unacceptable prior to any mitigation measures being considered.

12.3.6 Establish Mitigation

The risk assessment includes a review of existing hazards and their associated mitigation measures. As a result, new mitigation measures (or changes to existing mitigation measures) may be identified for consideration, both where there are gaps in existing procedures and where mitigation need to be enhanced.

Mitigation measures are the actions or systems proposed to manage or reduce the potential negative effects identified. Mitigation measures that are embedded in the Project design are listed in Table 4-1.

12.3.7 Risk Control

The aim of assessing the Project operations on the existing shipping baseline is to reduce risk to ALARP.

The risk assessment is repeated taking into consideration the application of Best Practice and Project Specific Mitigation. This determines the risk level of the hazard with mitigation applied. When the risk assessment is carried out after mitigation is applied, the resulting risk level is referred to as ALARP.

Risks that have been assessed as **Major** or above after considering mitigation will normally require additional analysis and consultation to discuss and possibly further mitigate hazards where possible. Where further mitigation is not possible a residual hazard may remain.

12.4 Marine Campaign Works

The Project Description (Appendix A) provides details of the proposed route and operational aspects of the marine campaign works such as cable installation, site preparation and cable protection methods. A schedule is also included estimating the timeframe for the various marine activities.

Most operations will be performed on a 24-hour basis. Durations presented are exclusive of weather downtime above vessel working limits and any third-party influences that may increase the duration or interrupt operations. The Ardmore – Loch Pooltiel cable will be buried, where possible, for the entire proposed route.

Existing vessels will be requested to remain at least 500m from Project vessels whilst they are engaged in cable installation activities, resulting in a corridor of 1km. This is due to the cable lay vessel's limited ability to manoeuvre whilst undertaking operations.

Unless otherwise directed by Notice to Mariners (NtMs), the entire cable route corridor will be required to be kept clear of all fishing gear (mobile and static) until the end of the works, including the post lay survey period.

Pertinent information from the Project description that is directly relevant to the marine activities for the Shipping and Navigation Chapter is outlined below.

The Application Corridor is 500m wide by ~20km long meaning some working vessels with higher progress rates could potentially cover the entire corridor within a working day.

Pre-lay survey

A visual pre-lay survey may be undertaken across the entire cable route utilising a ROV. The ROV will have a maximum speed of approximately **150m/hr** and the survey is estimated to take approximately **1 week** to complete.

It is anticipated that a mobile survey vessel will be required for these works that will give way to larger vessels (ferries etc) if required.

Pre-lay grapnel run (PLGR)

It is anticipated for the PLGR to take up to **3 weeks,** including boulder clearance. This usually clears the route of any debris such as OOS cables and fishing gear etc.

Boulder clearance

Large boulders that cannot be avoided during the route engineering process may need to be cleared on a case-by-case basis. The progress rate for this operation is currently unknown and will be undertaken alongside PLGR works estimated to take up to **3 weeks**.

Cable shore end operations

Onshore and intertidal works are expected to take approximately **8 weeks** to complete.

Cable lay operations

To start cable lay operations, the first end pull-in is completed by floating the cable into the landfall whilst the cable lay vessel (CLV) is stationed at the 15m depth contour. Once the first end pull-in is complete, the CLV will commence laying the cable on the seabed from the first end to the second end. This will continue until the CLV reaches the 15m water depth contour at Loch Pooltiel. The CLV is a DP3 class vessel and expected laying speed will be between **200m/hr** and **450m/hr**. Once the cable has been laid across the seabed during cable lay operations, the vessel will either remain in position on the Route Position List (RPL), whilst paying out the cable into a floated omega bight or it will move off the RPL and will float the cable off the vessel. The cable will then be pulled into the second end landing point. Cable lay operations including first and second end pull ins are expected to take place **up to two weeks**.

Articulated pipe installation

The cable protection strategy may include the installation of split (Articulated) pipe, potential rock and concrete mattress placement in locations where the cable cannot be buried. Generally, split pipe is installed following the cable pull-in operations by divers or from the CLV, or by a combination of both methods. Typical speeds for installing articulated piping are around **0.6m/hr**. The utilisation of rock protection would require the installation of graded rock deposited on top of the cable using a DP vessel. Cable protection installation will be undertaken over up to **four weeks**.

Cable protection and stabilisation

Concrete mattresses may be used in areas of low/ no burial. One FO cable will be crossed during the installation. At the BT FO crossing location, concrete mattresses are proposed to protect both assets. It is anticipated that four mattresses will be used pre-lay and one post-lay. Up to 54 rock bags and up to 20 grout bags may also be required to stabilise the cable.

Operational phase

Following completion of the cable installation, a post-installation survey of the installed cable and associated protection measures will be conducted. This is expected to take **one week**.

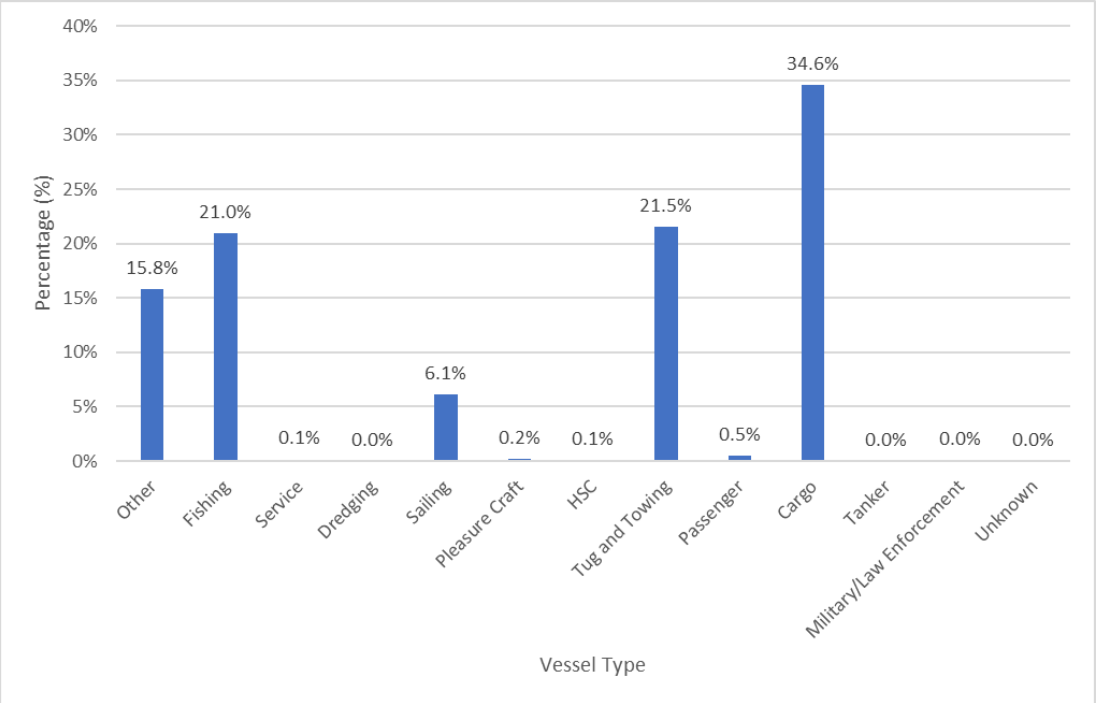
Routine inspections to examine the subsea infrastructure would take place periodically every 5-8 years after installation during the lifetime of the cable and would utilise a remotely operated vehicle (ROV) where practical to do so. This would involve a 500m radius around the survey vessel moving at **150m/hr**.

12.5 Existing Baseline Assessment

12.5.1 Shipping Overview

The proposed cable route between Ardmore – Loch Pooltiel lies within the Little Minch. Fishing vessels are widely distributed throughout the Minch. Scallop dredging and trawlers predominately use the waters between the two landing sites (OceanIQ, 2023). A review of marine traffic density indicated that passenger, cargo and fishing vessels, as well as tugs, special craft and please craft have transited through the Minch in 2021 and 2022. The review also highlighted a number of ferry services operating within the Little Minch, including a ferry service operating from Uig to North Uist. However, this ferry route does intersect the Application Corridor (OceanIQ, 2023). Analysis of vessel distribution by vessel type concluded that within the Application Corridor cargo, tug and towing and fishing vessels are the dominant vessel type present (Figure 12-1). Furthermore, 12 months of AIS data from January to December 2023 (EMODnet, 2024) were analysed to examine the typical patterns of vessel activity within/in the vicinity of the Application Corridor. The total average monthly vessel density within the Application Corridor can be observed in (Figure 12-3, Drawing Reference: P2816-AIS-002). Vessel density within the Application Corridor is moderate with an average of up to 5-10 vessel hours per km^2 recorded across the Application Corridor in 2023 (Figure 12-3, Drawing Reference: P2816-AIS-002). Further vessel types commonly observed in the Minch include “Other” accounting for 16% of vessel traffic (Figure 12-2). The Royal Yachting Association (RYA) has classified the activity of recreational vessels in the Minches as “Moderate Recreational Use” (RYA, 2019) (Figure 12-6, Drawing Reference: P2816-RYA-001).

Figure 12-2 Vessel Distribution Across the Ardmore – Loch Pooltiel Application Corridor

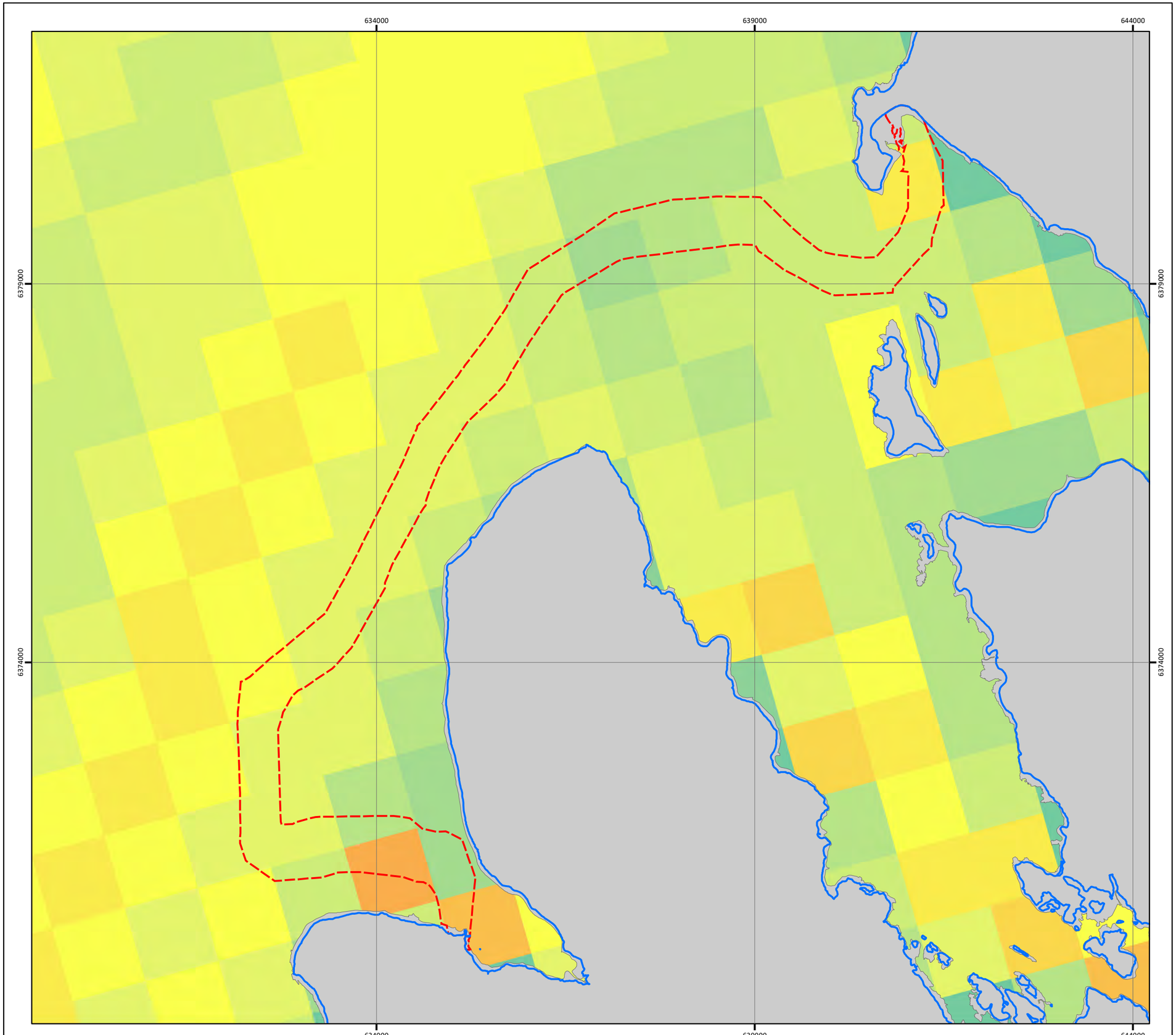


ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

AIS VESSEL DENSITY

Average Monthly Vessel Hours (2023) All Vessels

Drawing No: P2816-AIS-002	A



Legend

- Mean High Water Mark
- Application Corridor (500m)

2023 Vessel Density

Vessel Hours (per km²)

- < 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 500
- > 500

N W E S

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	OS; GEBCO; SHEPD; EMODnet; MS
File Reference	J:\P2816\Mxd_Qgz\07_AIS\ P2816-AIS-002.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

intertek metoc

0 0.75 1.5 2.25 3 Km

Seasonal distribution of the vessel traffic has been analysed in full concluding that the busiest month for fishing vessels within the Application Corridor is March and for cargo vessels the busiest month is December (Figure 12-4 and Figure 12-5, Drawing References: P2663K-AIS-004 and 006).

January

February

March

April

May

June

July

August

September

October

November

December

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

AIS VESSEL DENSITY

Monthly Vessel Densities (2023) Fishing Vessels

Drawing No: P2816-AIS-004	A

Legend

- Mean High Water Mark
- Application Corridor (500m)

2023 Vessel Density

Vessel Hours (per km²)

- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 500
- > 500

N W E S

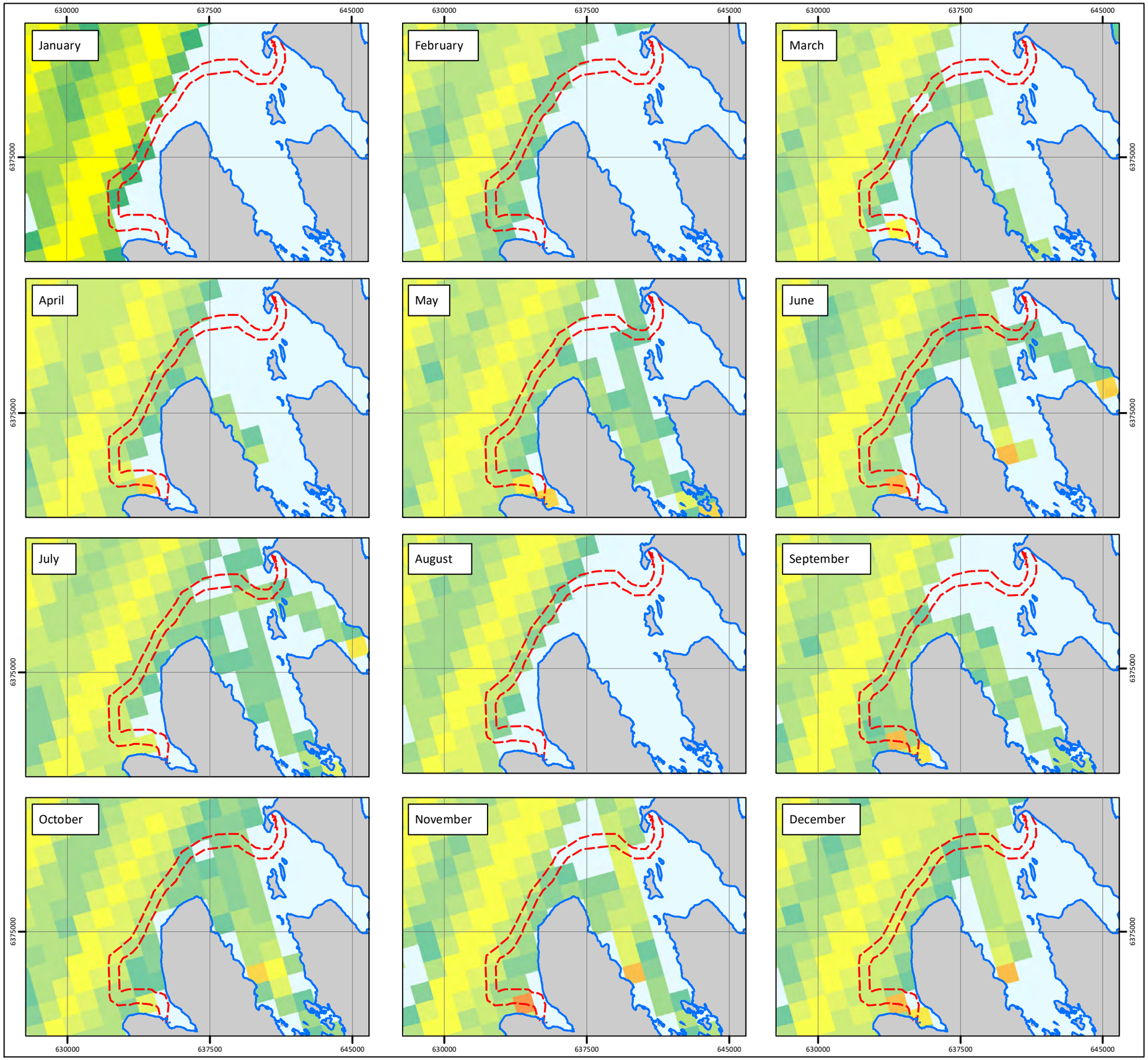
NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	OS; GEBCO; EMODnet
File Reference	J:\P2816\Mxd_Qgz\07_AIS\ P2816-AIS-004.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

Scottish & Southern Electricity Networks

intertek metoc

0 2.5 5 7.5 10 km



ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

AIS VESSEL DENSITY

Monthly Vessel Densities (2023) Cargo Vessels

Drawing No: P2816-AIS-006	A

Legend

- Mean High Water Mark
- Application Corridor (500m)

2023 Vessel Density

Cargo Vessel Hours (per km²)

- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 500
- > 500

N W E S

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	OS; GEBCO; SHEPD; EMODnet
File Reference	J:\P2816\Mxd_Qgz\07_AIS\ P2816-AIS-006.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

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intertek metoc

0 3 6 9 12 km

12.5.2 Navigational Features and Anchorages

The Ardmore – Loch Pooltiel cable route has been engineered to avoid anchorages where possible, however, the Application Corridor intersects with a shallow water anchorage in Ardmore Bay, near the approach to the Ardmore landfall site.

12.5.3 Royal Yachting Association (RYA)

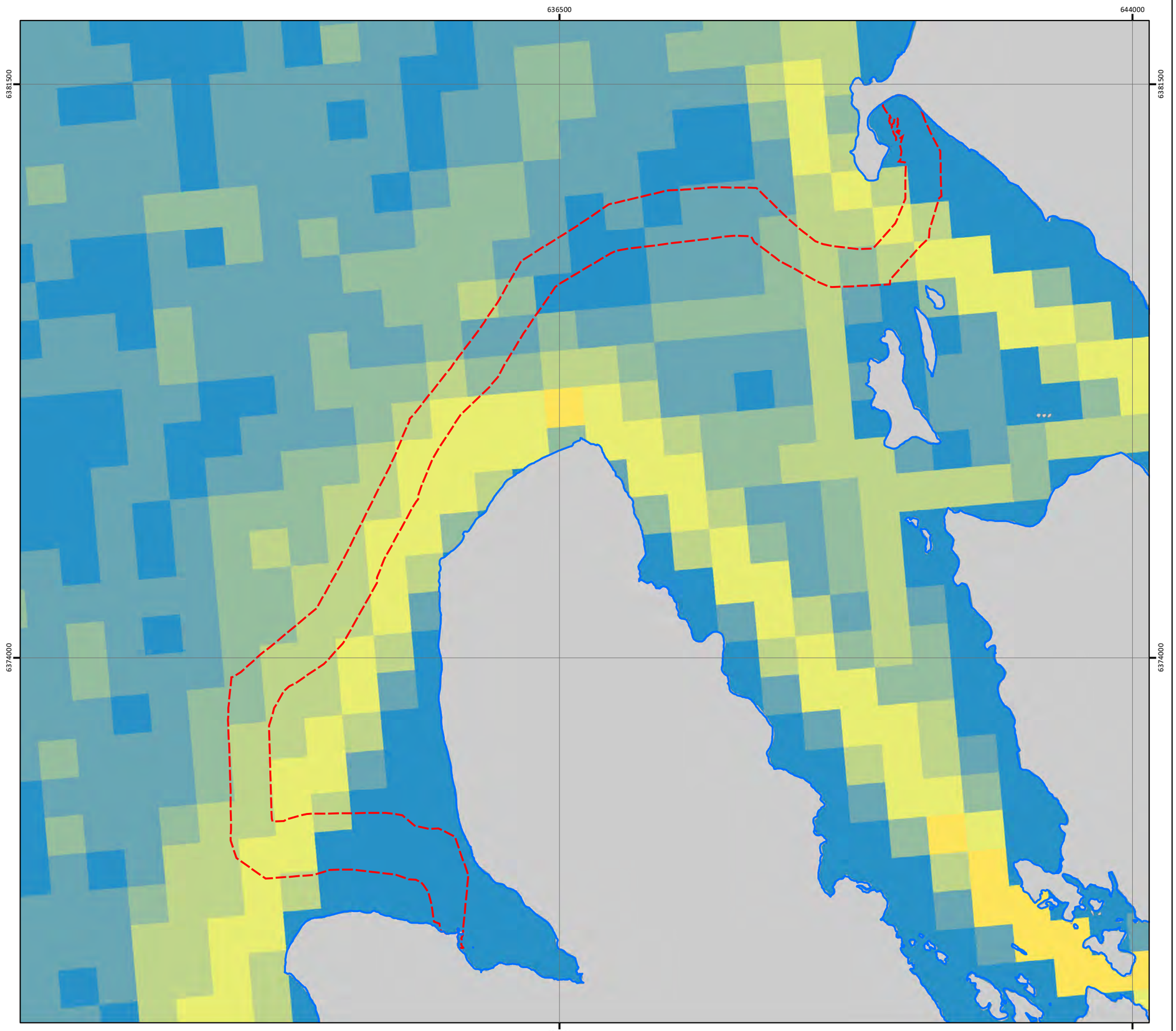
RYA clubs, training centres, marinas as well as the RYA AIS data and the Application Corridor are illustrated in (Figure 12-6, Drawing Reference: P2816-RYA-001). The figure also presents a heat map of AIS data of the recreation boating activity across study area. Within the Application Corridor recreational yachting occurs at averagely moderate levels (Figure 12-6, Drawing Reference: P2816-RYA-001).

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

ROYAL YACHTING ASSOCIATION

RYA UK Coastal Atlas of Recreational Boating

Drawing No: P2816-RYA-001 | **A**



Legend

- Mean High Water Mark
- Application Corridor (500m)

AIS Intensity (Recreational Yachting)

Intensity

- Low
- High

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	OS; RYA; SHEPD; ESRI
File Reference	J:\P2816\Mxd_Qgz\08_RYA\ P2816-RYA-001.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

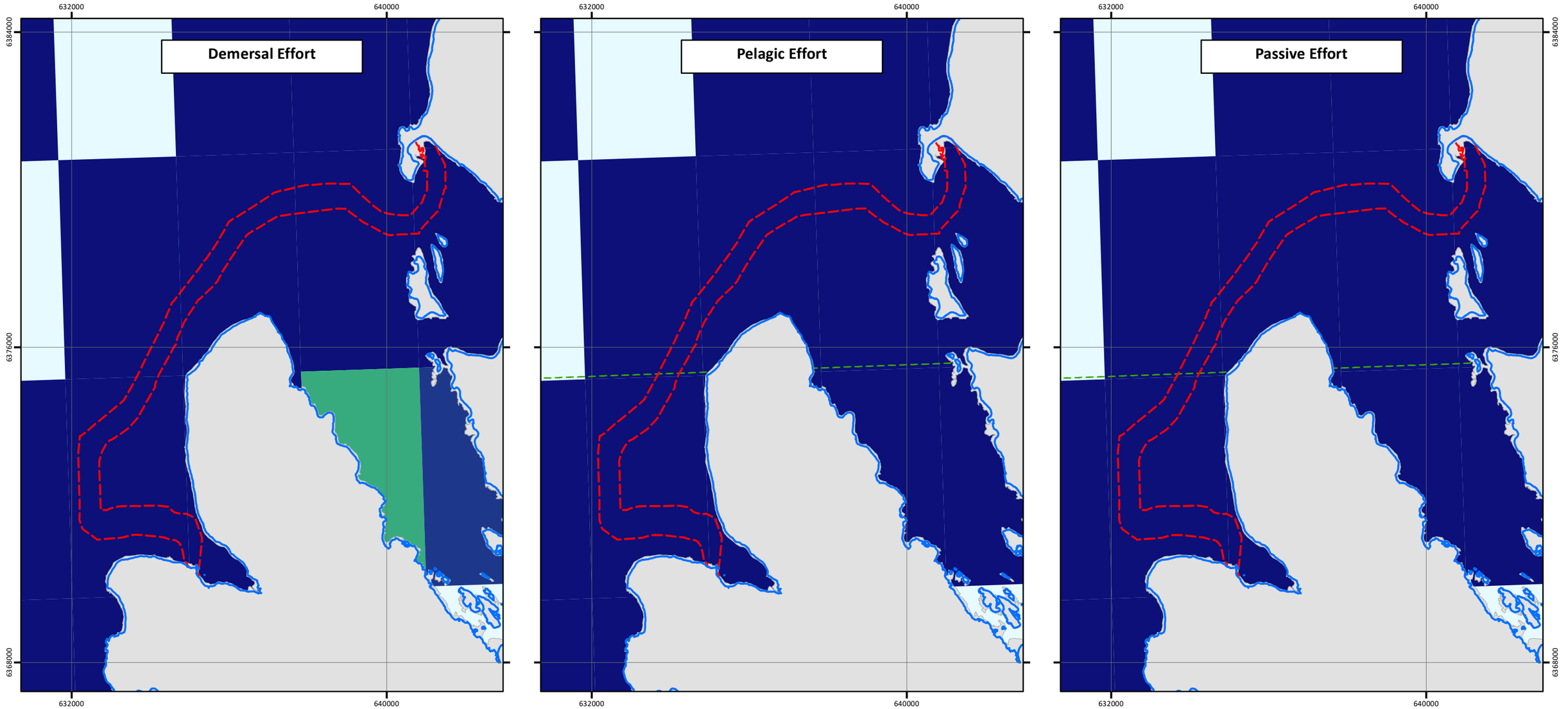
Km
0 0.75 1.5 2.25 3

12.5.4 Fishing Overview

Section 11 (Commercial fisheries and other sea users) of this report provides a detailed assessment of the effects that the installation and operation of the cable could have on fishing within/in the vicinity of the Application Corridor.

Many different fishing gears and fishing methods are used by commercial fisheries. Each gear type is used for specific activities and different gears can have very different impacts on the marine environment. In the vicinity of the Application Corridor, the most common gear types are potting (creeling) and trapping. This gear is used to target benthic species though fishing effort across the Application Corridor is moderate (Appendix B; Figure 12-7, Drawing Reference: P2816-FISH-011).

By analysing the fishing vessel density seasonally (Figure 12-4, Drawing Reference: P2816-AIS-004), it can be seen that throughout the year fishing activity is moderate peaking in March with fishing vessel densities of 2-5 vessel hours per km^2.



ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

FISHING ACTIVITY - Fishing Effort in kwh for ≥ 15m UK Vessels 2020

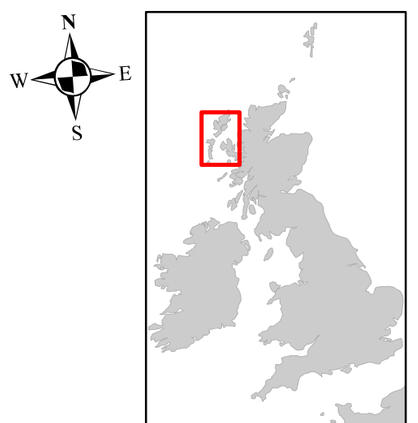
Drawing No: P2816-FISH-011 | A

Legend

- Mean High Water Mark
- Application Corridor (500m)

Effort
(kilowatt/hours)

- > 0 - 2,500 (kilowatt/hours)
- > 2,500 - 5,000
- > 5,000 - 10,000
- > 10,000 - 20,000
- > 20,000 - 40,000
- > 40,000 - 80,000
- > 80,000 - 160,000
- > 160,000 - 320,000
- > 320,000 - 640,000
- > 640,000 (kilowatt/hours)



NOTE: Not to be used for Navigation

Date	01 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	MMO; OS; ESRI; SHEPD
File Reference	J:\P2816\Mxd_Qgz\04_FISH\ P2816-FISH-011.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

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intertek metoc

0 1.5 3 4.5 6 km

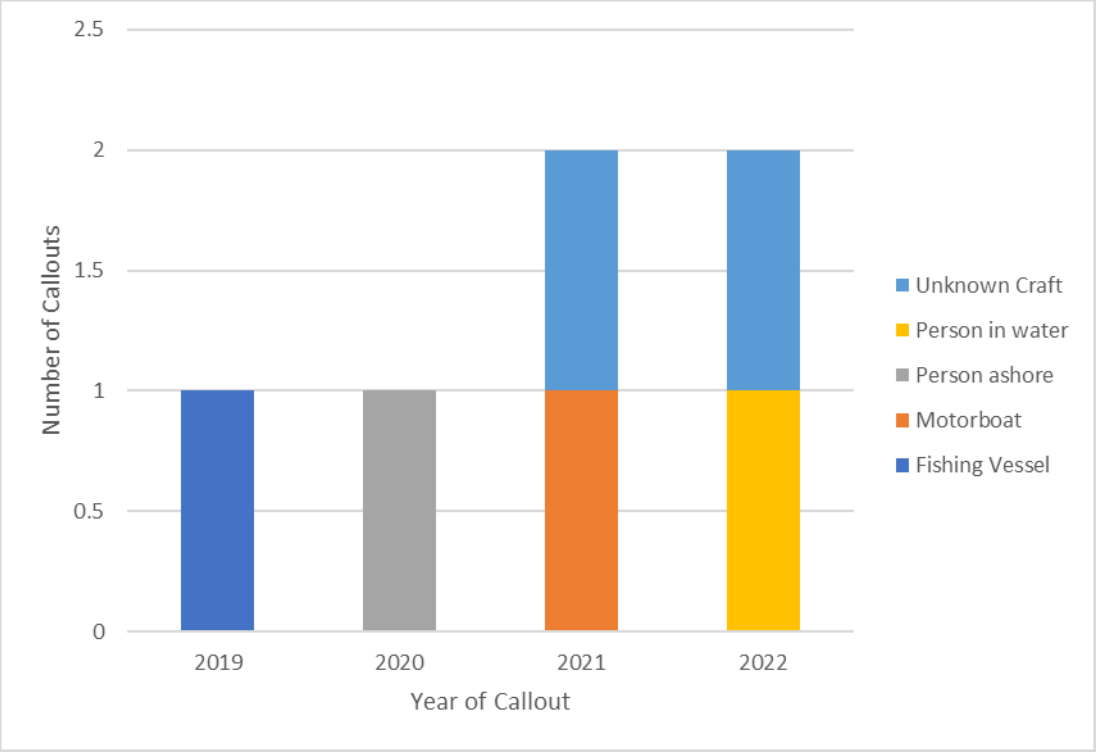
12.5.5 Marine Accident Data

This section reviews the maritime incidents that have occurred within 10km of the Application Corridor. The analysis is intended to provide a general indication as to whether the area of the Project is currently a low or high-risk area in terms of maritime incidents. If it were found that the proposed development resided in a high-risk area for incidents, this may indicate that the development could add to the existing maritime safety risks in the area. Incident type and corresponding years for across the study area are presented in Figure 12-8. RNLI categories that are not relevant to this assessment have assigned to the category 'other'.

12.5.5.1 RNLI

Recent available RNLI data (collected between 2019 and 2023) has been plotted spatially and analysed across a 40km area around the Application Corridor. The dataset is a condensed Return of Service data from RNLI callouts across the United Kingdom and the Republic of Ireland (RoI). It is worth noting that there are records present that have not been spatially adjusted to their exact locations but does give an indication of the number of marine incidences in the area (RNLI, 2021). A total of 104 launches across the 40km study area were recorded by the RNLI from 2019 – 2023 (excluding hoaxes and false alarms). This corresponds to an average of around 26 incidents per year. There were no recorded incident within the Application Corridor, with the nearest recording incident being located 0.6km away.

Figure 12-8 RNLI Yearly Callouts



Source: RNLI (2024)

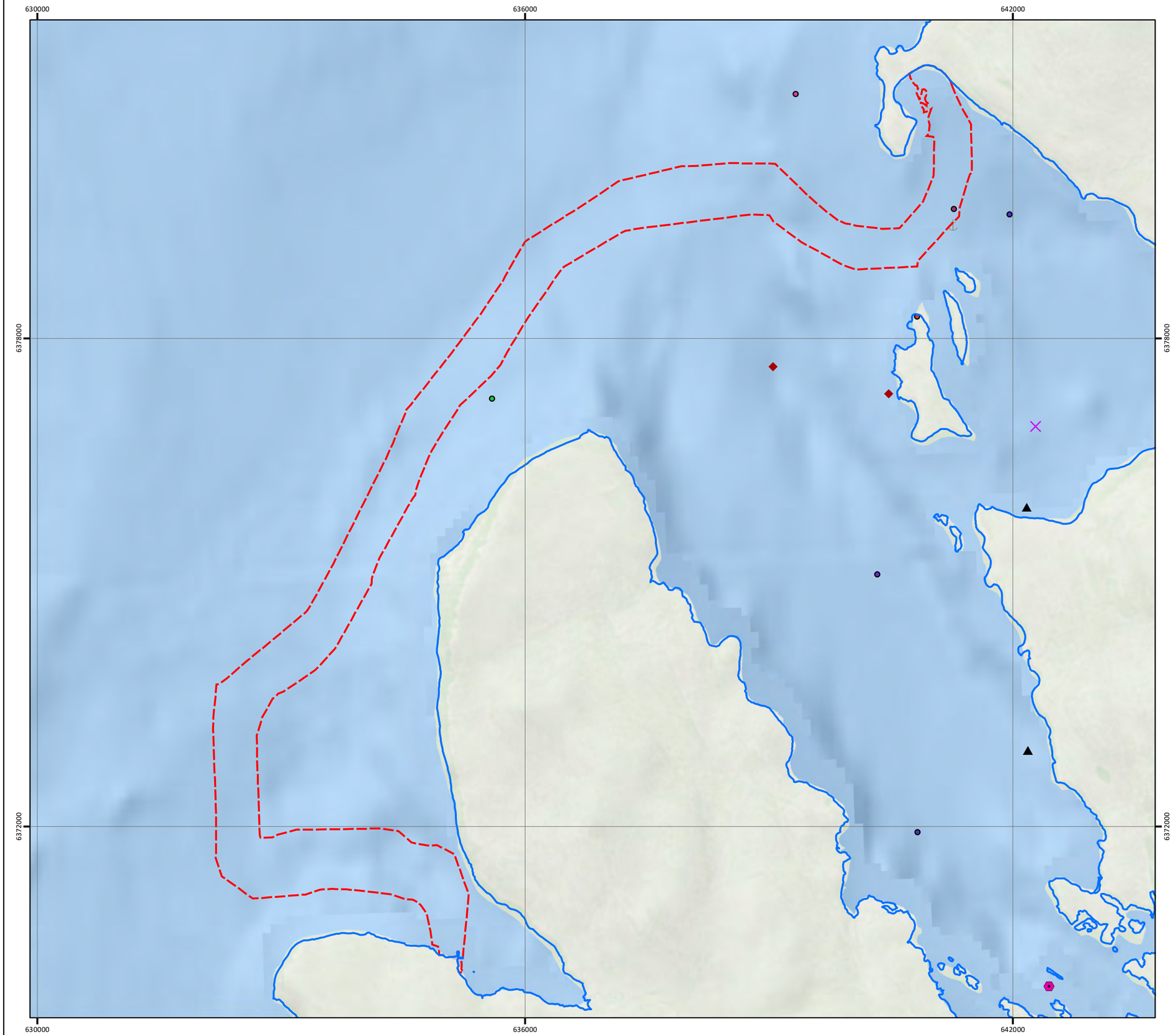
It can be seen that 'Unknown Craft' accounts for the largest portion of the dataset. Due to mitigation measures including stakeholder engagement, consultation and NtMs, the Project vessels will not be unknown craft. Therefore, all marine users will have ample notice of operations including vessel presence and as such operational vessel presence will not pose a risk as an "Unknown Craft". Figure 12-9 (Drawing Reference: P2816-RNLI-001) presents the locations of incidences recorded by the RNLI.

ARDMORE TO LOCH POOLTIEL DISTRIBUTION CABLE REPLACEMENT

RNLI

Return of Service Data 2019 - 2023

Drawing No: P2816-RNLI-001	A



Legend

- Mean High Water Mark
- Application Corridor (500m)

RNLI Returns of Service Incidents

- Adverse conditions
- Cut off by tide
- Fouled propeller / impeller
- Leaks / Swamping
- Marine Debris or Object
- Other
- Person missing
- Stranding / Grounding
- Thought to be in trouble
- Unknown
- Vessel dragging anchor

N W E S

NOTE: Not to be used for Navigation

Date	03 July 2025
Coordinate System	WGS 1984 UTM Zone 29N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	RNLI; OS; GEBCO; ESRI
File Reference	J:\P2816\Mxd_Qgz\09_RNLI\ P2816-RNLI-001.mxd
Created By	[Redacted]
Reviewed By	[Redacted]
Approved By	[Redacted]

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intertek metoc

0 0.75 1.5 2.25 3 km

12.5.5.2 Marine Accident Investigation Branch

All UK-flagged commercial vessels are required by law to report accidents to MAIB. Non-UK flagged vessels do not have to report unless they are within a UK port/harbour or are within the UK 12 nautical miles (nm) and carrying passengers to or from a UK port. However, the MAIB will always record details of significant accidents of which they are notified by bodies such as the Coastguard. The MCA, harbour authorities and inland waterway authorities also have a duty to report accidents to the MAIB (The UK Government, 2023).

The last five years of annual MAIB reports from 2019 to 2023 have been analysed to determine if any accidents have occurred within the West Highland marine region. The findings have been summarised below as:

- 2019: Fatal man overboard from UK registered fishing vessels off Benbecula, Outer Hebrides.
- 2019: Capsize and sinking of UK registered fishing vessel *Investor*, east of Ardnamurchan Point, Scotland.
- 2020: Grounding of Bahamas registered cargo vessel Kaami, Little Minch, Scotland.
- 2020: Grounding and flooding of Gibraltor registered chemical/products tanker *Shearwater,* Kyleakin, Scotland.
- 2020: Contact with pier and passenger vessel *Waverley,* causing injury to passengers and damage to vessel, Isle of Arran, Scotland.
- 2020: Fall of suspended load during lifting operations on board a cargo vessel, resulting in injury to crew, Campbeltown, Scotland.
- 2020: Fatal person overboard from a single-handed vessel at Loch Carnan, Outer Hebrides, Scotland.
- 2021: Serious injury to crew member following failure of equipment during lifting operations on board fish farm support vessel *Annie E*, Island of Muck, Inner Hebrides, Scotland.
- 2021: Man overboard from the UK registered fishing vessel *Reul A Chuain*, with loss of one life, Sound of Rùm near Mallaig, Scotland.
- 2021: Grounding of the Portuguese registered general cargo vessel *BBC Marmara* on Eilean Trodday, north of Skye, Scotland.
- 2021: Accident to a fish farm worker with loss of one life at Ardintoul, Glenshiel, Scotland.
- 2021: Grounding on Sgeir Graidach, the Little Minch, Scotland.
- 2021: Grounding of chemical tanker in the approaches to Kyleakin pier, Isle of Skye, Scotland.
- 2022: Fatal man overboard a fishing vessel in the Sound of Rùm, Scotland.
- 2023: Man overboard from UK registered fishing vessel, resulting in loss of one life, Luing, Scotland.
- 2023: Grounding of cargo vessel *BBC Mamara* in the Little Minch, off the west coast of Scotland.
- 2023: Capsize and sinking of a tug vessel resulting in two fatalities, Firth of Clyde, Scotland.
- 2023: Grounding and fatality of lone crew member after entanglement in fishing gear, Isle of Mull, Scotland.
- 2023: Capsized inflatable kayak with two people on board, resulting in both persons in the water and one loss of life, Gulf of Corryvreckan, Scotland.

It is worth noting that only one of the recorded incidents involved a collision, in which a vessel struck a pier. As such, this area of sea can be considered relatively free of incidents.

12.6 Hazard Identification

Marine operations and their associated hazards have been identified and listed in Table 12-5. A hazard has been assigned to each aspect of the marine operation including the zone of influence, resulting in a worst-case assessment. The zones of influence are also presented in the table below.

Table 12-5 Marine Operations and Identification Hazards - Shipping and Navigation

Project Phase	Operation	Hazard Identified	Receptor	Zone of Influence
Pre-Lay	Pre-Lay Survey	▪ Displacement of vessels due to avoidance of Project vessels ▪ Vessel Collision ▪ Project vessels blocking navigational features ▪ Fishing interaction with Surface laid cable ▪ Accidental anchoring on surface laid cable ▪ Extreme weather conditions ▪ Displacement of vessels due to avoidance of Project vessels ▪ Reduced Visibility ▪ Change in water depth	Project vessels; Commercial shipping; Recreational, boating and fishing vessels	1km wide
	Pre-Lay Grapnel Run			1km wide
	Boulder Clearance			1km wide along centreline (in any 24-hour period)
Installation	Shore End Operations (cable pull in)			1km wide at each shore end point (in any 24-hour period)
	Cable Lay			1km wide
	Offshore installation, post-lay trenching			1km wide at crossing and burial locations (in any 24-hour period)
	Mattress Installation			1km wide
	Articulated (split) Pipe Installation			1km wide
	Rock Bag Installation			1km wide
Operation and Maintenance	Inspection			1 km wide

12.7 Risk Analysis

12.7.1 Displacement of Vessels Due to the Avoidance of Project Vessels

Existing vessels may have to re-route around or reduce speed on approach to the Project vessels which may causing a disturbance in the existing shipping patterns.

The presence of the Project vessels will add an additional hazard for mariners to be aware of, which will potentially make them more vigilant when navigating through the area. There is ample 'sea room' for existing shipping to manoeuvre around the Project vessels.

Since the Project vessels will be moving at restricted speeds, any disruption will be temporary and short term in any one location. As shipping will have to make minor diversions to avoid the Project vessels, their frequency has been assessed as **Probable**. For slower operations (cable lay, shore end installation and articulated pipe installation), disruption due to the presence of Project vessels could be **Very Probable**.

12.7.2 Vessel Collisions

Existing vessels may have to re-route around Project vessels which may create pinch points and alter the rate of encounters. Therefore, there is the potential for vessel-to-vessel collisions to occur as a result from existing shipping avoiding the marine operations, particularly across shipping lanes, near fishing grounds and at landfall areas.

Vessels will be operating in compliance with international shipping standards therefore vessel masters will be competent and adept at navigating in unfamiliar waters.

The probability of a vessel to vessel collision is **Extremely Remote** but the consequence could be **Catastrophic**.

12.7.3 Project Vessels Blocking Navigational Features

Project vessels have the potential to block key navigational features such as anchorages or leading lights for vessels on approach to ports.

Considering that the Application Corridor intersects an anchorage area, some displacement of vessels may occur and consideration to existing vessels may need to be carried out for the pull in operations.

However, these effects are temporary, and the cable route does not enter any port authority areas, so the probability is expected to be **Remote** and the consequence **Minor to Significant**.

12.7.4 Accidental Snagging of Fishing Gear on Unburied Cable

Fishing vessel gear will have the potential to interact with the cable route as part of the cable may be surface laid. However, no evidence of fishing interactions were observed across the study area (OceanIQ, 2023).

Once established, appropriate mitigation is needed to ensure the cable is suitably protected against fishing and anchoring in the area. While it is advised in The Mariners Handbook and as per European Subsea Cables Association (ESCA) standard industry guidelines that fishing should be avoided across subsea cables, it is assumed that fishing may occur across the cable once installed.

During the installation phase, there will be a designated Fisheries Liaison Officer (FLO). With these services in place, there will be a FLO monitoring body present during the installation process. The Project FLO can disseminate information to the guard vessels (if employed) regarding seasonal variations in fishing patterns.

The probability of fishing gear interacting with the cables is **Remote**, but the consequence could be **Significant**.

12.7.5 Accidental Anchoring on Surface Laid Cable

Vessel anchors will have the potential to interact with the cable route if deployed where the cable is surface laid. However, it is very unlikely that an anchor will be deployed away from designated anchorage areas. The probability of an anchor deployment on a surface laid cable has been determined to be remote but remains a low probability in the event of an emergency or accidental deployment of an anchor.

As identified above, the Project may have guard vessels during cable installation operations. Any guard vessels (if employed) will be required to possess the correct insurances and be on the approved SHEPD framework prior to their deployment.

The probability of a ships anchor interacting with the cables are **Remote**, but the consequence could be **Significant**.

12.7.6 Extreme Weather Conditions

A long-range weather forecast is usually monitored hourly when conducting marine operations which mitigates the risk of encountering any adverse or extreme weather conditions. However, the Project vessels may need to shelter in port if weather exceeds working limitations. This would mean seeking shelter before the weather reaches the limitations of the vessel and its crew, however during the cable lay process this could mean cutting and buoying the cable in a situation that is too dangerous to continue working.

The probability of Project vessels encountering extreme weather is **Remote**, but the consequence is likely to be **Significant**.

12.8 Risk Assessment

In this risk assessment the hazard has been ranked by expected risk, based on the estimated frequency and consequence with no mitigation measures applied creating an 'Inherent Risk' to the Project. The exercise was repeated with compliance mitigation and industry best practice measures which results in a residual risk allowing the hazards to be reduced to ALARP. No hazards more than a Moderate risk were identified in the risk assessment, prior to mitigation.

Table 12-7 presents the risk assessment conducted on the marine operations and associated hazards. All hazards have reached a risk level tolerable to the Project through the ALARP process.

12.8.1 Risk Control

12.8.1.1 Compliance and Best Practice Mitigation

Compliance measures are required to be undertaken to meet environmental and health and safety legislation. When undertaking the assessment, it is assumed that these measures as well as Best Practice Mitigation will be complied with. Compliance and Best Practice Mitigation measures are outlined in Section 4 "Methodology".

12.8.2 Risk Assessment

Table 12-6 outlines the key for rankings used within the NRA.

Table 12-6 Risk Matrix

		Consequence				
		Minor	**Significant**	**Severe**	**Serious**	**Catastrophic**
Frequency	Extremely Remote	**1**	**2**	**3**	**4**	**5**
	Remote	**2**	**4**	**6**	**8**	**10**
	Probably	**3**	**6**	**9**	**12**	**15**
	Very Probable	**4**	**8**	**12**	**16**	**20**
	Frequent	**5**	**10**	**15**	**20**	**25**

Navigation Risk Assessment **Cable Route: Loch Pooltiel - Ardmore**

Risk Assessment: Operation	Hazard	Inherent Risk							Risk Mitigation	Residual Risk						
		Frequency	Consequence			Risk Rating				Frequency	Consequence			Risk Rating		
			Effect on Human Safety	Effect on Ship(s)	Displacement of Vessel(s)	Effect on Human Safety	Effect on Ship(s)	Displacement of Vessel(s)			Effect on Human Safety	Effect on Ship(s)	Displacement of Vessel(s)	Effect on Human Safety	Effect on Ship(s)	Displacement of Vessel(s)
Pre and Post Lay Survey	Presence of Project vessels	4	1	1	2	4	4	8	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	3	1	1	2	2	2	6
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	N/A	5	5	3
	Project vessels blocking navigational features	2	1	1	2	2	2	4		2	1	1	2	2	2	4
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2
Route Clearance	Presence of Project vessels	4	1	1	2	4	4	8	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	3	1	1	1	3	3	3
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	2	5	5	2
	Project vessels blocking navigational features	2	1	1	2	2	2	4		1	1	1	1	1	1	1
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2
Shore end Operations	Presence of project vessels	4	1	1	2	4	4	8	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	3	1	1	2	3	3	6
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	3	5	5	3
	Project vessels blocking navigational features	2	1	1	3	2	2	6		2	1	1	2	2	2	4
	Fishing interaction with Surface laid cable	2	2	2	2	4	4	4		1	2	2	1	2	2	1
	Accidental anchoring on surface laid cable	2	2	2	2	4	4	4		1	2	2	2	2	2	2
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2
Cable Lay and Burial	Presence of Project vessels	4	1	1	2	4	4	8	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	3	1	1	1	3	3	3
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	3	5	5	3
	Project vessels blocking navigational features	2	1	1	3	2	2	6		2	1	1	2	2	2	4
	Fishing interaction with Surface laid cable	2	2	2	2	4	4	4		1	2	2	2	2	2	2
	Accidental anchoring on surface laid cable	2	2	2	2	4	4	4		1	2	2	2	2	2	2
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2
Post Lay Inspection	Presence of project vessels	3	1	1	2	3	3	6	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	2	1	1	2	2	2	4
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	3	5	5	3
	Project vessels blocking navigational features	2	1	1	2	2	2	4		2	1	1	2	2	2	4
	Fishing interaction with Surface laid cable	2	2	2	2	4	4	4		1	2	2	1	2	2	1
	Accidental anchoring on surface laid cable	2	2	2	2	4	4	4		1	2	2	2	2	2	2
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2
Additional External Cable Protection	Presence of project vessels	4	1	1	2	4	4	8	EM1, EM2, EM6, EM8, EM9, EM10, EM11, EM12, EM13, EM14, EM15, EM16, EM18, EM19, EM20, EM21, EM23, EM24, EM25, EM26, EM28, EM29, EM30, EM36, EM35	2	1	1	2	2	2	4
	Vessel collision	1	5	5	N/A	5	5	N/A		1	5	5	3	5	5	3
	Project vessels blocking navigational features	2	1	1	3	2	2	6		2	1	1	2	2	2	4
	Fishing interaction with Surface laid cable	2	2	2	2	4	4	4		1	2	2	1	2	2	1
	Accidental anchoring on surface laid cable	2	2	2	2	4	4	4		1	2	2	2	2	2	2
	Extreme weather conditions	2	2	2	2	4	4	4		2	1	1	1	2	2	2

12.9 Conclusion

The average vessel density across the Application Corridor is observed to be moderate at 5-10 vessel hours per km^2 . There are localised areas of increased density associated with the Skye (Loch Pooltiel) landfall.

The Application Corridor intersects a BT telecommunications cable. However, crossing designs will be engineered so that neither cable is impacted by operations.

The intensity of recreational boating is moderate across the Application Corridor. The Application Corridor does not cross any official Traffic Separation Schemes nor interfere with significant navigational features.

Fishing across the Application Corridor is observed to be moderate throughout the year, with fishing vessel density peaking in March (as evident in AIS data). Dominant fishing gear types used within the vicinity of the Application Area include potting (creeling), and trapping. However, considering that the cable will be buried where possible, the risk of interaction from fishing vessels with the cable will be reduced.

The risk assessment has identified that all identified hazards have been reduced to ALARP and, with the relevant best practice measures applied, no hazards exist that are above a moderate risk level. The greatest risk to the existing baseline has been assessed as the displacement of vessels by Project vessels interacting with the existing shipping. Due to all vessels operating in compliance with COLREGs collisions from such displacement are unlikely. Therefore, no significant impacts to shipping and navigation as a result of the Ardmore – Loch Pooltiel cable operation are expected.

13. CONCLUSIONS

This MEA supports the Marine Licence Application that SHEPD is submitting for installation activities associated with the cable between Ardmore – Loch Pooltiel. This MEA includes an assessment of the potential impacts of the cable installation activities on sensitive receptors (Sections 5-11). Table 13-1 below provides a summary of the assessment findings. As a result of the findings, along with the embedded mitigation and best practice measures detailed in Section 4, it can be concluded that activities associated with installation of the cable will not result in any significant effect on any relevant receptor.

Table 13-1 Assessment Summary

Environmental Receptor	Assessment Outcome	Additional Mitigation (where required)	Overall Impact Significance
Protected Sites (Section 5)	The protected sites assessment has demonstrated that installation activities associated with the cable installation will not adversely affect the conservation objectives of any designated site within 50km or that overlaps with the Application Corridor. Any disturbance caused by the installation of the cable will be minor and temporary due to the short-term, localised and temporary nature of the activities.	N/A	No likely significant effects or adverse effects to conservation objectives
Seabed and Water Quality (Section 6)	The evaluation of seabed and water quality has determined that the installation and operation of the Ardmore – Loch Pooltiel cable will not have an adverse impact on the seabed and water quality within or in the vicinity of the Application Corridor. Any sediment released during the cable installation process will quickly settle, and within a limited aera (100m), becoming imperceptible in the water column to levels associated with strong tidal and wave action. Therefore, there will be no significant loss of habitat or natural features as a consequence of these activities.	N/A	Not significant
Marine Megafauna (Section 7)	The marine megafauna assessment has determined that due to the short-term, localised and transient nature of installation activities, in combination with low densities of marine megafauna in the area, there are unlikely to be any adverse effects to cetacean, pinniped, otter and basking shark as a consequence of planned installation activities. The impacts are therefore considered to be not significant.	N/A	Not significant
Benthic and Intertidal Ecology (Section 8)	The above assessment has demonstrated that installation and operation activities associated with the cable installation will not significantly affect the benthic subtidal and intertidal ecology in terms of the spatial extent at which environmentally sensitive habitats were	Micro-routing will be undertaken to (where possible) avoid sensitive habitats and species to ensure they are not significantly affected by the installation	Slight

Environmental Receptor	Assessment Outcome	Additional Mitigation (where required)	Overall Impact Significance
	recorded. Any impacts of will be temporary and habitat loss will be localised.	activities. The footprint of the deposits will be the minimum required to ensure cable safety and stability. The deployment of any anchor spread / spud legs as well as boulder removal will be kept to a minimum in order to reduce disturbance to the seabed.	
Ornithology (Section 9)	The ornithology assessment has shown that while Atlantic Puffin, Razorbill and white-tailed sea eagle may experience slight disturbance during the Ardmore – Loch Pooltiel cable installation, this will be temporary, with normal behaviour expected to resume once works cease. Given the short-term and localised nature of the activities, significant adverse effects on these species are unlikely.	N/A	Not significant
Marine Archaeology (Section 10)	There are five known archaeological features within the Application Corridor and three more within 500m. Although damaging impacts to these features have the potential to occur during installation activities, these will be mitigated where possible through careful Project design and the above assessment has concluded that impacts to known archaeological features in the vicinity of the Application Corridor are not likely. Therefore, the installation and operation of the Ardmore – Loch Pooltiel cable is not expected to result in any significant affects to the marine archaeology in the vicinity of the Application Corridor.	N/A	Not significant
Commercial Fisheries and Other Marine Users (Section 11)	The assessment concludes that there will be no significant effects on commercial fisheries and other marine users within or in the vicinity of the Application Corridor. The Application Corridor supports spawning and nursery grounds for commercially important fish and shellfish species, with peak fishing activity in October, coinciding with the planned cable installation. Static gear may be temporarily relocated to allow access, and in areas where burial is not achievable and protection material is used, the risk of snagging may restrict gear placement. However, the cable's small seabed footprint and the wider availability of fishing grounds mean any impact is expected to be minor. Other marine users may also experience short-term disruption, but this will be mitigated	N/A	Not significant

Environmental Receptor	Assessment Outcome	Additional Mitigation (where required)	Overall Impact Significance
	through ongoing communication and publication of NtM to ensure coordination with other activities. Any such disruption will be minor and temporary due to the localised and short-term nature of the works, and impacts are therefore not considered significant. While there is a potential for unrecorded UXO to be present, the risk of encounter has been minimised through adherence to industry-standard specialist advice. The corridor overlaps with a BT Telecommunications cable. However, crossing designs will be engineered so that neither the cable is impacted by operations.		
Shipping and Navigation (Section 12)	The average vessel density across the Application Corridor is moderate, ranging from 5–10 vessel hours per km², with localised areas of increased density associated with the Skye (Loch Pooltiel) landfall. Recreational boating intensity within the Application Corridor is moderate, and the route does not intersect any official Traffic Separation Schemes or interfere with significant navigational features. Fishing activity is also limited throughout the year, with vessel density peaking in March, as indicated by AIS data. Dominant fishing gear types used within the vicinity of the Application Area include potting (creeling), and trapping. However, considering that the cable will be buried where possible, the risk of interaction from fishing vessels with the cable will be reduced. A detailed risk assessment has determined that all identified hazards have been mitigated to As Low As Reasonably Practicable (ALARP), with no risks exceeding a moderate level. The primary risk identified is the potential displacement of vessels due to Project-related shipping activity. Due to all vessels operating in compliance with COLREGs collisions from such displacement are unlikely. Therefore, no significant impacts to shipping and navigation as a result of the Ardmore – Loch Pooltiel cable operation are expected.		

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