



# Morven Hawthorn Pit Grid Connection Project

## Preliminary Environmental Information Report

Habitats Regulations Assessment/Habitats  
Regulations Appraisal Screening Report

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This Habitats Regulations Assessment/Habitat Regulations Appraisal (HRA) Screening Report was prepared in November 2025 and as such references some outdated information.

Updates to HRA Screening are provided in **MHPGC Project Habitats Regulations Appraisal/Habitats Regulations Assessment Report to Inform Appropriate Assessment (RIAA)**, prepared to accompany the PEIR.

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## Glossary

| Term                            | Meaning                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC connection cables            | Alternating current (AC) cables that will connect the proposed onshore land substation to the National Grid Hawthorn Pit Substation.                                                                                                                                                                                                                                               |
| Anadromous fish                 | Fish species which migrate from sea to fresh water to spawn.                                                                                                                                                                                                                                                                                                                       |
| Annex I Habitat                 | Annex I refers to a habitat as defined under the EU Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.                                                                                                                                                                                                                               |
| The Applicant                   | The entity making the applications for consent; Morven Offshore Wind Limited (MvOWL).                                                                                                                                                                                                                                                                                              |
| Cetacean                        | Aquatic mammals constituting the infraorder Cetacea (whales, dolphins, porpoises).                                                                                                                                                                                                                                                                                                 |
| Collision                       | The act or process of one moving object striking another moving object.                                                                                                                                                                                                                                                                                                            |
| Commitments                     | Measures (embedded mitigation and secondary mitigation) to be adopted during the construction, operation and maintenance and decommissioning phases of the MHPGC Project.                                                                                                                                                                                                          |
| Competent Authority             | The authority with the duty to determine whether a proposal can proceed, may include any minister, government department, public or statutory undertaker, public body of any description, or person holding public office.                                                                                                                                                         |
| Construction                    | Used both to refer to the whole construction phase of a project, and more specifically to refer to an activity involved in the provision of a new structure (building, road, etc.).                                                                                                                                                                                                |
| Crustacean                      | An invertebrate belonging to the subphylum of Crustacea, of the phylum Arthropoda. Includes crabs, lobsters, shrimps, barnacles and sand hoppers.                                                                                                                                                                                                                                  |
| decibel                         | A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in sound pressure level between two sounds is given by $20 \log_{10}$ . The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is $20 \mu\text{Pa}$ . |
| Demersal fish species           | Fish species that live near or on the seabed. Includes species such as haddock, cod, whiting and flatfish.                                                                                                                                                                                                                                                                         |
| Diadromous fish species         | Fish species which migrate between sea and freshwater.                                                                                                                                                                                                                                                                                                                             |
| Development Consent Order       | An order made under the Planning Act 2008 granting development consent.                                                                                                                                                                                                                                                                                                            |
| Embedded mitigation             | Embedded mitigation includes both primary and tertiary mitigation measures.                                                                                                                                                                                                                                                                                                        |
| Environmental Impact Assessment | Assessment of the likely significant effects of the MHPGC Project on the physical, biological, and human environment during construction, operations and maintenance and decommissioning, in support of the DCO application.                                                                                                                                                       |
| Groundwater                     | Water found below the surface.                                                                                                                                                                                                                                                                                                                                                     |
| Habitat                         | The environment that a plant or animal lives in.                                                                                                                                                                                                                                                                                                                                   |
| Habitats Directive              | Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) is the European Union Directive from which the requirement for the consideration of likely                                                                                                                                                                |

| Term                                                                 | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                      | significant effects of the MHPGC Project upon European sites and sites designated within the National Site Network is derived.                                                                                                                                                                                                                                                                                                                            |
| Habitats Regulations                                                 | A term that refers to the collective legislation that translates the Habitats Directive into specific legal obligations in Scotland and England. Namely: the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017.                                                                                                                                                         |
| Habitats Regulations Appraisal/Habitats Regulations Assessment (HRA) | The Habitats Regulations Appraisal (for Scotland)/Habitats Regulation Assessment (for England) is a process that determines whether development plans could impact sites within the National Site Network and their qualifying features.                                                                                                                                                                                                                  |
| High Voltage Direct Current                                          | A high voltage direct current electric power transmission system uses direct current for electric power transmission, in contrast to the more common alternating current systems. Most high voltage direct current links use voltages between 100kV and 800kV.                                                                                                                                                                                            |
| High Voltage Alternating Current                                     | A high voltage alternating current electric power transmission system uses alternating current for electric power transmission that periodically reverses direction at regular intervals.                                                                                                                                                                                                                                                                 |
| Impact                                                               | A change caused by an action that occurs during a project's lifetime.                                                                                                                                                                                                                                                                                                                                                                                     |
| Intertidal area                                                      | The area between Mean High Water Springs and the Mean Low Water Springs.                                                                                                                                                                                                                                                                                                                                                                                  |
| In-combination effects                                               | Potential effects to a National site resulting from MHPGC Project assessed together with effects from one or more different projects and plans.                                                                                                                                                                                                                                                                                                           |
| Landfall                                                             | The point where the offshore export cables transition from the offshore marine environment to the onshore terrestrial environment.                                                                                                                                                                                                                                                                                                                        |
| Marine licence                                                       | A marine licence permits the undertaking of different activities in the marine environment, including construction, the deposition or removal of substances or objects, and dredging. The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities within the UK marine area, which includes English waters and the Scottish offshore region (12nm – 200nm) but excludes the Scottish inshore region. |
| Mean High Water Springs                                              | The average tidal height throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.                                                                                                                                                                                                                                                                                                |
| Mean Low Water Springs                                               | The average height of the low water levels of each pair of successive low waters during the periods of about 24 hours when the tidal range is at its greatest.                                                                                                                                                                                                                                                                                            |
| MHPGC Project Evidence Plan Process                                  | A voluntary consultation process with specialist stakeholders to agree the approach to, and information to support, the PEIR, ES and Habitats Regulations Assessment processes for certain topics.                                                                                                                                                                                                                                                        |
| MHPGC Project Interim Boundary                                       | The spatial extent of the area used to define the environmental baseline and inform assessments at the time of writing the HRA Screening Report.                                                                                                                                                                                                                                                                                                          |
| MHPGC Project Scoping Boundary                                       | The spatial extent of the area used to define the environmental baseline to inform impact assessments at the time the Scoping Report was submitted.                                                                                                                                                                                                                                                                                                       |
| MHPGC Project Scoping Opinions                                       | Separate scoping opinions received from the Planning Inspectorate (on behalf of the Secretary of State), the Marine Directorate Licensing                                                                                                                                                                                                                                                                                                                 |

| Term                                                                                  | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                       | Operations Team (MD-LOT) (on behalf of the Scottish Ministers) and the Marine Management Organisation (MMO) in response to the MHPGC Scoping Report prepared by the Applicant. The MHPGC Scoping Opinions contain the range of issues that the Planning Inspectorate, and MD-LOT in consultation with statutory stakeholders, have identified should be considered within the Environmental Impact Assessment process.                                                                      |
| MHPGC Project Scoping Report                                                          | Report dated February 2025 scoping the likely significant effects of the MHPGC Project on the environment, submitted to the Scottish Ministers via the Marine Directorate: Licencing Operations Team (MD-LOT) and the Secretary of State via the Planning Inspectorate in England.                                                                                                                                                                                                          |
| Mollusc                                                                               | Invertebrate animal belonging to the phylum Mollusca that includes snails, clams, chitons, tooth shells and octopi.                                                                                                                                                                                                                                                                                                                                                                         |
| Morven Hawthorn Pit Grid Connection (MHPGC) Project                                   | The MHPGC Project is comprised of the offshore export cable, the onshore export cable and onshore land substation connecting the Morven North Offshore Wind Array Project or the Morven South Offshore Wind Array Project to the National Grid Hawthorn Pit Substation.                                                                                                                                                                                                                     |
| Morven North Offshore Wind Array Project and Morven South Offshore Wind Array Project | The Morven North Offshore Wind Array Project and the Morven South Offshore Wind Array Project includes the wind turbines and foundations, offshore substation platforms and foundations, inter-array and inter-connector cables and associated infrastructure located within Morven North and Morven South.                                                                                                                                                                                 |
| National Grid Hawthorn Pit Substation                                                 | The National Grid substation at Hawthorn Pit, County Durham, which the AC connection cables will connect into from the onshore land substation.                                                                                                                                                                                                                                                                                                                                             |
| National Nature Reserve                                                               | Areas of natural heritage that are nationally important.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| National Policy Statement                                                             | The current national policy statements published by the Department for Energy Security and Net Zero in November 2023 and designated in January 2024.                                                                                                                                                                                                                                                                                                                                        |
| National Site Network                                                                 | The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 have created a National Site Network on land and at sea, including both the inshore and offshore marine areas in the UK. The National Site Network includes existing Special Areas of Conservation and Special Protection Areas alongside new Special Areas of Conservation and Special Protection Areas designated under these Regulations.                                                                |
| Offshore export cables                                                                | High voltage direct current cables which bring electricity from either the Morven North offshore substation platform or the Morven South offshore substation platform to the transition joint bay at landfall.                                                                                                                                                                                                                                                                              |
| Offshore export cable corridor                                                        | The proposed offshore area in which the offshore export cables will be laid, from either the Morven North offshore substation platform or Morven South offshore substation platform to the transition joint bay at landfall.                                                                                                                                                                                                                                                                |
| Offshore substation platforms                                                         | Offshore substation platforms comprise the support structure, topside and electrical components used for collecting the electricity generated by the wind turbine generators, in Scottish waters, for the passage or transmission to landfall. These Offshore substation platforms can be divided into two types: <ul style="list-style-type: none"> <li>• High voltage alternating current collector substations;</li> <li>• High voltage direct current converter substations.</li> </ul> |
| Onshore export cables                                                                 | High voltage alternating current cables which bring electricity from the transition joint bay to the onshore land substation.                                                                                                                                                                                                                                                                                                                                                               |

| Term                                    | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Onshore land substation                 | A purpose-built site comprising a compound containing the electrical components for converting the high voltage direct current collector power to high voltage alternating current power. The land substation site also adjusts the power quality and power factor to meet the requirements of power supply being fed to the National Grid Hawthorn Pit Substation.                                                                                                                                                                                             |
| Operations and maintenance              | The operational and maintenance phase of the MHPGC Project lifecycle.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Ornithology                             | The study of birds, their behaviour, physiology and taxonomy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Pelagic fish species.                   | Fish species that inhabit open water. Examples include herring, mackerel and sprat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Pinnipeds                               | Infraorder of marine mammals including true and eared seals, sealions and walrus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Polychlorinated biphenyls               | They belong to a broad family of human-created organic chemicals known as chlorinated hydrocarbons. Although most were banned in 1986, they linger on in detectable levels in animals, fish and humans.                                                                                                                                                                                                                                                                                                                                                         |
| Preliminary Environmental Impact Report | A preliminary assessment of the likely significant effects of the MHPGC Project on the physical, biological, and human environment during construction, operations and maintenance and decommissioning phases. The PEIR is submitted prior to the preparation of the Environmental Statement and is based on currently available information and is used to inform statutory consultation under section 42 of the Planning Act 2008. The MHPGC Project PEIR will be used by the Applicant to inform the statutory consultation.                                 |
| Ramsar site                             | A wetland site designated to be of international importance under the Ramsar Convention.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Report to Inform Appropriate Assessment | A report prepared by the Applicant containing information that the Competent Authority needs to inform an Appropriate Assessment at Stage 2 of the HRA process.<br><br>The MHPGC Project will consider whether the MHPGC Project could have adverse effects, either alone or in-combination with other plans or projects, on the integrity of the National Site Network for which the likely significant effects has been previously established.                                                                                                               |
| Secondary mitigation                    | Actions that will require further activity to achieve the anticipated outcome and may be imposed as part of the planning consent, or through inclusion in the ES. These include measures required to reduce the significance of environmental effects and may be secured through an environmental management plan. For secondary mitigation measures, both pre-mitigation and residual effects are presented.                                                                                                                                                   |
| Spawning grounds                        | The areas of water or seabed where fish/shellfish spawn or produce their eggs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Special Area of Conservation            | A site designation specified in the Habitats Directive (Council Directive 92/43/EEC) and protected in the UK under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 in England. Each site is designated for one or more of the habitats and species listed in the Directive. The Directive requires that a management plan be prepared and implemented for each SAC to ensure the Favourable Conservation Status of the habitats or species for which it was designated. |
| Special Protection Area                 | Locations within the UK protected for birds, as classified by the Conservation of Habitats and Species Regulations 2017 and the                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Term                  | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Conservation of Offshore Marine Habitats and Species Regulations 2017 in England.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The Study Area        | For each environmental topic, the baseline environment will be characterised, and the potential environmental impacts will be described within a topic-specific study area. Specific Study Areas are defined for each topic and are based on the maximum spatial extent across which potential impacts of the MHPGC Project may be experienced by the relevant receptors (i.e. Zone of Influence).                                                                                                                                                                                            |
| Transition joint bay  | An underground bay housing a joint which connects the offshore export cables to the onshore export cables. The transition joint bay will be located in the vicinity of the onshore side of the landfall, above mean high water springs.                                                                                                                                                                                                                                                                                                                                                       |
| Trenchless techniques | <p>The installation of electrical circuits and/or cables in cable ducts for the MHPGC Project in certain areas by means of boring techniques including direct pipe or horizontal directional drilling.</p> <p>Direct pipe is a cable installation technique which involves the use of a mini (or micro) tunnel boring machine and a hydraulic (or other) thruster rig to directly install a steel pipe between two points.</p> <p>Horizontal directional drilling refers to a trenchless technique for installing cables and cable ducts involving drilling in an arc between two points.</p> |
| Underwater sound      | Sound that travels through water, made by natural sources like animals or by human activities like vessels and construction activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Unexploded Ordnance   | Unexploded ordnance are explosive weapons (bombs, shells, grenades, land mines, naval mines, etc.) that did not explode when they were employed and still pose a risk of detonation, potentially many decades after they were used or discarded.                                                                                                                                                                                                                                                                                                                                              |

## Acronyms

| Unit  | Meaning                                                     |
|-------|-------------------------------------------------------------|
| AA    | Appropriate Assessment                                      |
| AEoSI | Adverse Effect on Site Integrity                            |
| CEMP  | Construction Environmental Management Plan                  |
| CES   | Coastal East Scotland                                       |
| CIEEM | Chartered Institute of Ecology and Environmental Management |
| CJEU  | European Court of Justice                                   |
| DAS   | Digital Aerial Surveys                                      |
| EDR   | Effective Deterrence Range                                  |
| EIA   | Environmental Impact Assessment                             |
| EMF   | Electromagnetic Fields                                      |
| EMP   | Environmental Management Plan                               |
| ES    | Environmental Statement                                     |
| EU    | European Union                                              |

| Unit   | Meaning                                         |
|--------|-------------------------------------------------|
| HDD    | Horizontal Directional Drilling                 |
| HRA    | Habitats Regulations Assessment                 |
| HVDC   | High Voltage Direct Current                     |
| IAMMWG | Inter-Agency Marine Mammal Working Group        |
| INNS   | Invasive Non-Native Species                     |
| IROPI  | Imperative Reason of Overriding Public Interest |
| JNCC   | Joint Nature Conservation Committee             |
| LEMP   | Landscape and Ecological Management Plan        |
| LSE    | Likely Significant Effect                       |
| LSS    | Land Substation                                 |
| MCZ    | Marine Conservation Zone                        |
| MD-LOT | Marine Directorate                              |
| MHPGC  | Morven Hawthorn Pit Grid Connection             |
| MHWS   | Mean High Water Springs                         |
| MLWS   | Mean Low Water Springs                          |
| MMMP   | Marine Mammal Mitigation Protocol               |
| MMO    | Marine Management Organisation                  |
| MPA    | Marine Protected Area                           |
| MU     | Management Unit                                 |
| NE     | Natural England                                 |
| NNR    | National Nature Reserve                         |
| NPPF   | National Planning Policy Framework              |
| NPS    | National Policy Statement                       |
| OSP    | Offshore Substation Platform                    |
| O&M    | Operation and Maintenance                       |
| PEIR   | Preliminary Environmental Impact Report         |
| PINS   | Planning Inspectorate                           |
| RIAA   | Report to Inform Appropriate Assessment         |
| SAC    | Special Area of Conservation                    |
| SMU    | Seal Management Unit                            |
| SNCB   | Statutory Nature Conservation Bodies            |
| SoS    | Secretary of State                              |
| SPA    | Special Protection Area                         |
| SSC    | Suspended sediment concentration                |
| TJB    | Transition Joint Bays                           |
| TTS    | Temporary Threshold Shift                       |

| Unit | Meaning                |
|------|------------------------|
| UK   | United Kingdom         |
| UXO  | Unexploded Ordnance    |
| VMP  | Vessel Management Plan |
| Zol  | Zone of Influence      |

## Units

| Unit | Meaning         |
|------|-----------------|
| %    | Percent         |
| °C   | Degrees Celsius |
| GW   | Gigawatt        |
| ha   | Hectare         |
| kg   | Kilogram        |
| km   | Kilometre       |
| kV   | Kilovolt        |
| m    | Metre           |

## Executive Summary

This Habitat Regulations Assessment/Habitats Regulations Appraisal (HRA) Screening Report has been prepared to support the Morven Hawthorn Pit Grid Connection (MHPGC) Project. The MHPGC Project seeks to establish a grid connection between the Morven North or Morven South Offshore Wind Array Projects (hereafter 'Morven North and Morven South'), located approximately 61km at its closest point from the Aberdeenshire coast in Scottish waters, and the National Grid Hawthorn Pit Substation in northeast England. The MHPGC Project comprises both offshore and onshore infrastructure, including high-voltage direct current (HVDC) export cables, landfall works, transition joint bays (TJBs), an onshore land substation (LSS), and associated grid connection infrastructure.

The purpose of the MHPGC Project HRA Screening Report is to determine whether the MHPGC Project, either alone or in combination with other plans or projects, is likely to have a significant effect on any site within the United Kingdom's (UK) National Site Network (formerly referred to as European sites). This includes Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and Ramsar sites. The HRA Screening Report has been undertaken in accordance with the Habitats Regulations. It represents Stage 1 of the HRA process and precedes the preparation of the Report to Inform Appropriate Assessment (RIAA).

The MHPGC Project HRA Screening Report considers a range of potential impact pathways across all project phases (construction, operation and maintenance (O&M) and decommissioning) and applies a precautionary approach in defining Zones of Influence (Zoi) for each receptor group. It has been informed by a Rochdale Envelope approach, which allows for flexibility in design while ensuring that the worst-case environmental impacts are assessed. Embedded mitigation measures identified in the MHPGC Project Scoping Report have been considered as part of the project description, but no additional mitigation has been assumed at this stage, in line with relevant case law.

This MHPGC Project HRA Screening Report is based on the MHPGC Project Interim Red Line Boundary, which represents a refinement of the MHPGC Project Scoping Boundary (presented within the MHPGC Project Scoping Report (RPS, 2025)). Throughout the development of the Preliminary Environmental Information Report (PEIR), it is expected to be further refined as the design progresses and this will be reflected in subsequent stages of reporting.

The MHPGC Project HRA Screening Report has been structured around key ecological receptor groups associated with each site, such as Annex I marine and terrestrial habitats, Annex II species (notably migratory fish and marine mammals) and Annex I bird species. Both offshore and onshore environments have been assessed, based on the best available scientific evidence, including statutory conservation advice, peer-reviewed literature and guidance from NatureScot, Natural England and the Joint Nature Conservation Committee (JNCC). The report has also been informed by consultation with statutory stakeholders, including the Planning Inspectorate (PINS), the Marine Directorate – Licensing Operations Team (MD-LOT) and the Marine Management Organisation (MMO). Their feedback has been incorporated into the assessment methodology, site selection and impact pathway assessment.

Where there was no credible impact pathway to the qualifying features of a National Site or where the distance to the MHPGC Project Interim Boundary exceeded the defined Zoi, these sites have been screened out of further assessment. National Sites and qualifying features could not be excluded from the potential for likely significant effect (LSE), and those requiring further assessment are: Durham Coast SAC, Northumbria Coast SPA/Ramsar site, Teesmouth and Cleveland Coast SPA/Ramsar site, Berwickshire and North Northumberland Coast SAC, River Tweed SAC, River Dee SAC, Tweed Estuary SAC, River South Esk SAC, Isle of May SAC, River Tay SAC, Moray Firth SAC and River Teith SAC.

# 1 Introduction

## 1.1 Overview

- 1.1.1.1 This report presents the Morven Hawthorn Pit Grid Connection (MHPGC) Project (hereafter referred to as MHPGC Project) Habitats Regulations Assessment/Habitat Regulations Appraisal (HRA) Screening Report, which has been prepared to support the relevant consent applications for the MHPGC Project, on behalf of Morven Offshore Wind Limited (a joint venture between JERA Nex bp and Energie Baden-Württemberg AG, hereafter referred to as 'The Applicant').
- 1.1.1.2 This MHPGC Project HRA Screening Report has been submitted prior to the MHPGC Project Preliminary Environmental Impact Report (PEIR) submission, to help inform the MHPGC Project PEIR and the MHPGC Project Report to Inform the Appropriate Assessment (hereafter MHPGC Project RIAA).
- 1.1.1.3 The MHPGC Project HRA Screening Report will support separate consent applications for the MHPGC Project to both the Scottish and English administrations. In Scotland, this will be submitted to the Marine Directorate - Licencing Operation Team (MD-LOT) and NatureScot, in accordance with the Marine (Scotland) Act 2010 (Scottish Parliament, 2010); in England, this will be submitted to the Planning Inspectorate (PINS) and Natural England (NE), pursuant to Planning Act 2008 (HM Government 2008).
- 1.1.1.4 Furthermore, the MHPGC Project HRA Screening Report supports the Section 35 directive issued by the Secretary of State (SoS) under the Planning Act 2008. This directive refers to the SoS confirming that for the section of the MHPGC Project in England and English waters, it is to be treated as a Nationally Significant Infrastructure Project, and therefore requiring a Development Consent Order (DCO), despite the MHPGC Project not fitting into the 'usual' NSIP criteria set out within Part 3 of the Planning Act 2008 (HM Government 2008).

## 1.1.2 Purpose of report

- 1.1.2.1 The MHPGC Project HRA Screening Report informs the Competent Authority of the likelihood for the MHPGC Project to have a significant effect on National Sites. The MHPGC HRA Screening Report follows the requirements of the Habitats Regulations. This MHPGC Project HRA Screening Report forms Stage 1 of the HRA process.
- 1.1.2.2 Based on available evidence, if it can be demonstrated the MHPGC Project poses no risk of likely significant effect (LSE) to designated features of a National Site or Ramsar site, either alone or in combination with other plans and projects, these features are screened out and require no further assessment. If LSE cannot be ruled out, the affected site and feature will be screened in for progression to the next stage where the Competent Authorities in both Scotland and England will conduct an Appropriate Assessment (AA). The MHPGC Project HRA Screening Report, adhering to the precautionary principle, relies on existing knowledge of the baseline environment and the MHPGC Project activities as outlined in the MHPGC Project Scoping Report (RPS, 2025). Where National Sites or Ramsar sites are required to undergo AA, a Report to Inform Appropriate Assessment (RIAA) will be prepared for the MHPGC Project for submission for statutory consultation.
- 1.1.2.3 The MHPGC Project HRA Screening Report is based on the MHPGC Project Interim Red Line Boundary [see Figure 3.2]. The MHPGC Project Interim Boundary presents a refinement of the MHPGC Project Scoping Boundary presented within the MHPGC Project Scoping Report (RPS, 2025). Throughout the development of the Preliminary Environmental Information Report (PEIR), it is expected to be further refined as the design progresses, and this will be reflected in subsequent stages of reporting.

## 1.1.3 Project background and design

- 1.1.3.1 The MHPGC Project aims to connect the offshore substation platform(s) (OSP) of Morven North Offshore Wind Array Project or Morven South Offshore Wind Array Project (hereafter 'Morven North and Morven South') located approximately 61 kilometres (km) at its closest point from the

Aberdeenshire coast in Scottish waters, to the National Grid Hawthorn Pit Substation in England. The offshore export cables will traverse Scottish offshore, English offshore and English inshore waters. At the time of writing the MHPGC Project HRA Screening Report, two landfall location options are being considered, falling north and south of Seaham, England.

1.1.3.2 The key offshore components of the MHPGC Project, as described by the MHPGC Project Scoping Report (RPS, 2025), are likely to include the following:

- A maximum of six High Voltage Direct Current (HVDC) offshore export cables (from the OSPs associated with Morven North and Morven South to mean high water springs (MHWS)):
  - The offshore export cable corridor will have a maximum total length of 341km (up to 80km in Scotland and 261km in England).
  - The offshore export cables will have a maximum voltage of 525 kilovolts (kV).
  - The offshore export cables are to be buried by either jet trenching, mechanical trenching, dredging, ploughing, control flow excavation, rock cutting or backfilling.
  - The target offshore export cables burial depth is 0.5 to 2.5m.
  - Cable protection will be used where burial is not feasible. Cable protection may comprise concrete mattresses, rock placement, rock bags, grout bags, cement bags, sandbags, articulated pipes, cast iron shells, bend restrictors/stiffeners, cable protection, systems and frond mats.
- Seabed preparation (such as seabed levelling, removing surface and subsurface debris) will be required prior to offshore export cables installation:
  - Methods such as plough, jetting, scar plough, remotely operated vehicle grabs, boulder grab and grapnel may be employed.
  - Unexploded ordinance (UXO) will be avoided where possible, through survey investigations, microrouting and adoption of industry best practice standards. Detonation and clearance of UXO will be considered through a separate marine licence application once the size and location of any UXO is known. However, a maximum design envelope for UXO detonation will be considered when this is available within the MHPGC Project RIAA.
- Cable ducts for trenchless techniques at landfall. The cable will be installed between the offshore and onshore schemes beneath the intertidal area using trenchless techniques such as horizontal directional drilling (HDD) or direct pipe.

1.1.3.3 The key onshore components, above mean low water springs (MLWS), of the MHPGC Project are likely to include:

- Cable landfall and transition joint bays (TJB) (an underground concrete structure located on the landward side of the landfall maximum of eight exit pits and two TJBs).
- A maximum of six HVDC onshore export cables from the TJBs to the onshore land substation (LSS). The onshore export cables will be buried in up to two separate trenches using either open trenches or pulled through pre-installed ducting.
- Onshore LSS.
- Alternating current connection cables from the onshore LSS to the grid connection point, including:
  - Up to four circuits (each consisting of three power cables, earthing and various communication control cables). These cables will be buried in up to four separate trenches each containing multiple cables;
  - Associated link boxes;
  - Connection works at National Grid Hawthorn Pit Substation.

## 1.2 Legislative and policy context

### 1.2.1 Legislation

1.2.1.1 The HRA Screening process in Scotland and in England are grounded in several key legislative frameworks designed to protect biodiversity and ensure sustainable development. Both are

grounded in Council Directive 92/43/EEC, commonly known as the 'Habitats Directive' (EU, 1992), and Council Directive 2009/147/EC, known as the 'Birds Directive' (EU, 2009). These directives were established to safeguard Europe's most vulnerable habitats and species.

- 1.2.1.2 In Scotland, the Conservation of Offshore Marine Habitats and Species Regulations 2017 (HM Government 2017a) apply in Scottish offshore waters. These regulations necessitate the assessment of any plan or project not directly connected with or necessary to the management of the National Site Network, to determine its potential effects on habitats and species of European importance.
- 1.2.1.3 In England, the Habitats Directive and Birds Directive were transposed into law by the Conservation of Habitats and Species Regulations 2017 similarly applying also to territorial waters. The Conservation of Offshore Marine Habitats and Species Regulations 2017 apply to English offshore waters (HM Government, 2017a and 2017b).
- 1.2.1.4 Following the UK's departure from the European Union (EU), the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019a and 2019b, respectively) decoupled the previous regulations from EU Directives while maintaining stringent protections for designated sites. This ensured continued compliance with international conservation obligations and supports the integrity of the National Site Network (a network of protected sites across the UK safeguarding biodiversity).
- 1.2.1.5 The MHPGC Project HRA Screening Report has been prepared with consideration of all relevant case law related to the 2017 Regulations, the Habitats Directive, and the Birds Directive. Notably, the European Court of Justice (CJEU) ruling in People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17) established that mitigation measures cannot be considered at the screening stage but can be considered at Stage 2 (CVRIA, 2018).

## 1.2.2 National policy context

### *National Policy Statements*

- 1.2.2.1 National Policy Statements (NPS) set out the primary policy framework for a DCO under which the MHPGC Project will be considered. This framework includes guidelines, requirements and criteria that the MHPGC Project must meet to obtain consent and proceed with development.
- 1.2.2.2 Table 1.1 provides details of relevant NPS relevant to the HRA Screening Report and how and where they are covered in the PEIR:
  - NPS for energy (EN-1) (DESNZ 2024a);
  - NPS for renewable energy infrastructure (EN-3) (DESNZ, 2024b);
  - NPS for electricity networks infrastructure (EN-5) (DESNZ, 2024c).

Table 1.1: Summary of NPS requirements relevant to the MHPGC Project HRA Screening Report

| Policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Response                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NPS EN-1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                      |
| Paragraph 5.4.17: "Where the development is subject to Environmental Impact Assessment (EIA), the applicant should ensure that the Environmental Statement (ES) clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England), on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity, including irreplaceable habitats". | This HRA Screening Report screens for an LSE to the National Site Network. Where an LSE has been identified, a detailed impact assessment will be undertaken in the RIAA.<br><br>The HRA Screening and RIAA reports also support and inform the EIA. |
| <b>NPS EN-3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paragraph 2.8.267: "If, during the pre-application stage, Statutory Nature Conservation Bodies (SNCB) indicate that the proposed development is likely to adversely impact a protected site, the applicant should include with their application such information as may reasonably be required to assess potential derogations under the Habitats Regulations or the Marine and Coastal Access Act 2009".                                                                                                              | This HRA Screening Report screens for an LSE to the National Site Network. Where an LSE has been identified, sites will be carried forward for assessment in the RIAA. If any significant impact is identified at this stage, the MHPGC Project will proceed to derogation.<br><br>Impacts to MCZs/Marine Protected Areas (MPAs) will be assessed in the MHPGC Marine Conservation Zone/Marine Protected Area Assessment. |
| Paragraph 2.8.303: "The SoS should be satisfied that, in the development of their proposal, the applicant has made appropriate, and extensive, use of up-to-date evidence from previous deployments and research results from scientific peer reviewed papers and the programmes listed in paragraph 2.8.107 and assessed through HRA/Marine Conservation Zone (MCZ) processes, the impact on any protected species or habitats".                                                                                       | This HRA Screening Report screens for an LSE to the National Site Network. Where an LSE has been identified, sites will be carried forward for assessment in the RIAA.<br><br>Impacts to MCZs/MPAs will be assessed in the MHPGC Marine Conservation Zone/Marine Protected Area Assessment.                                                                                                                               |
| Paragraph 2.11.57: "The designation of an area as a protected site (including HRA sites, MCZs and Sites of Special Scientific Interest) does not necessarily restrict the construction or operation of tidal stream arrays in, near, or through that area (see also Sections 5.4 of EN-1). However, where adverse effects on site integrity/conservation objectives are predicted the Secretary of State should consider the extent to which the effects are temporary or reversible, and the timescales for recovery". | This HRA Screening Report screens for an LSE to the National Site Network. Where an LSE has been identified, sites will be carried forward for assessment in the RIAA, at which time the temporal extent of an impact will be considered to determine the significance of an impact.<br><br>Impacts to MCZs/MPAs will be assessed in the MHPGC Marine Conservation Zone/Marine Protected Area Assessment.                 |
| <b>NPS EN-5</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Paragraph 2.9.6: "Particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds, where they are functionally linked to sites designated or allocated under the 'National Site Network' provisions of the Conservation of Habitats and Species Regulations".                                                                                                                                                                                                         | Functionally linked habitats are considered in Section 4.2.1 for terrestrial designated sites and within the relevant receptors for offshore designated sites [see Section 4.1].                                                                                                                                                                                                                                          |

### *National Planning Policy Framework*

- 1.2.2.3 The National Planning Policy Framework (NPPF) has the potential to be considered important and relevant to the SoS consideration of the MHPGC Project (Department for Levelling Up, Housing and Communities, 2025). Table 1.2 provides details of the elements of the NPPF that are relevant to the MHPGC Project HRA Screening Report and how and where they are covered in this report.

Table 1.2: Summary of NPPF requirements relevant to the MHPGC Project HRA Screening Report

| NPPF section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | How and where this is considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Paragraph 187: "Planning policies and decisions should contribute to and enhance the natural and local environment by [<i>inter alia</i>] ... protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); ... [and] recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; ... [and] minimising impacts on and providing net gains for biodiversity; ...[and] preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability".</p> | <p>Statutory sites of biodiversity value and their associated features of interest potentially subject to impacts from Project activities have been identified within the MHPGC Project HRA Screening Report in Section 3 and Section 4.</p>                                                                                                                                                             |
| <p>Paragraph 188: "Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries".</p>                                                                                                                                                                                                                                                                                                                                   | <p>Nationally designated sites and their associated features of interest potentially subject to impacts from the MHPGC Project activities have been identified within the MHPGC Project HRA Screening Report. Relevant sites have been considered in Section 3 and consideration for potential impacts has been assessed in Section 4.</p>                                                               |
| <p>Paragraph 192: "To protect and enhance biodiversity and geodiversity, plans should:</p> <ul style="list-style-type: none"> <li>Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;</li> <li>promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."</li> </ul>        | <p>Figures depicting the relevant nationally designated sites is provided in Figure 3.2, Figure 3.3, Figure 3.4 and Figure 3.5. Nationally designated sites of importance for biodiversity and their associated features of interest potentially subject to impacts from the MHPGC Project activities have been identified within the MHPGC Project HRA Screening Report in Section 3 and Section 4.</p> |
| <p>Paragraph 194: "The following should be given the same protection as habitats sites: possible Special Areas of Conservation; [and] listed or proposed Ramsar sites; [and] sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."</p>                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>Routing of the offshore export cable corridor has been designed, considering the avoidance of existing protected habitats where possible. Proposed designated sites were also considered and have been identified where relevant in this HRA Screening. A full list of designated sites considered for LSE is provided in Section 3.</p>                                                              |

### 1.2.3 Marine planning policy context

1.2.3.1 The following marine plans are relevant to the MHPGC Project HRA Screening Report and are outlined in Table 1.3 and Table 1.4:

- The UK Marine Policy Statement (DEFRA, 2020);
- Scotland's National Marine Plan (Marine Directorate, 2015);
- Northeast Inshore and Northeast Offshore Marine Plan (MMO, 2024).

Table 1.3: Marine planning policy relevant to HRA - Scotland

| Marine plan description                                                                                                                                                                                                                      | How and where considered in the HRA                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UK Marine Policy Statement ensures that marine resources are used in a sustainable way by ensuring biodiversity is protected and conserved by using the precautionary principle and relying on sound evidence.                               | Adverse effects to nationally designated sites and protected features are avoided where possible. Designated sites and their qualifying features considered in this assessment are provided in Section 3, with LSEs considered in Section 4.<br><br>This policy is relevant to both Scotland and England. However, the Scottish National Marine Plan provides more specific detail and policies for the management of Scottish Waters. |
| Scottish National Marine Plan covers the management of both Scottish inshore waters and offshore waters. It enables sustainable development and use the marine area to protect and enhance the marine environment whilst promoting industry. | SACs and SPAs have been considered in this assessment in Section 3. LSEs on these sites have been considered in Section 4. Where LSE cannot be ruled out, sites will be taken forward to AA to determine whether there is likely to be an adverse effect on site integrity (AEoSI). Potential effects to these sites in conjunction with other plans and projects has also been considered in Section 5.                               |

Table 1.4: Marine planning policy relevant to HRA - England

| Marine plan description                                                                                                                                                                                        | How and where considered in the HRA                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UK Marine Policy Statement ensures that marine resources are used in a sustainable way by ensuring biodiversity is protected and conserved by using the precautionary principle and relying on sound evidence. | Adverse effects to nationally designated sites and protected features are avoided where possible. Designated sites and their qualifying features considered in this assessment are provided in Section 3, with LSEs considered in Section 4.                                                                                                                            |
| Northeast Inshore Marine Plan & Northeast Offshore Marine Plan ensures biodiversity is protected and conserved between the Scottish border to Flamborough Head.                                                | Where possible, the offshore export cable corridor has been routed to avoid significant impact to nationally designated areas. An ecosystems based approach has been adopted to ensure no adverse impacts to nationally designated sites or their qualifying features, with consideration given to in-combination effects from other plans or projects [see Section 5]. |

## 1.2.4 Relevant Guidance

1.2.4.1 The MHPGC Project HRA Screening Report has been carried out with consideration for the following good practice guidance:

- PINS NSIP: Advice on HRAs (PINS, 2024);
- NatureScot Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds - Identifying theoretical connectivity with breeding site SPAs using breeding season foraging ranges (NatureScot, 2023a);
- NatureScot Guidance Note 4: Guidance to Support Offshore Wind Applications: Ornithology - Determining Connectivity of Marine Birds with Marine SPAs and Breeding Seabirds from Colony SPAs in the Non-Breeding Season (NatureScot, 2023b);
- JNCC Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland) (JNCC, 2020a);
- The Chartered Institute of Ecology and Environmental Management (CIEEM) guidance on EIA (CIEEM, 2018 amended 2024);
- PINS NSIPs: Advice on Cumulative Effects Assessment (PINS, 2024b);

- SNCB advice on how to present assessment information on the extent and potential consequences of seabird displacement from Offshore Wind Farm developments (SNCB, updated 2022).

### 1.2.5 National Site Network

1.2.5.1 The National Site Network is designed to protect habitats and species of national importance across the UK. The network includes the following designated sites:

- SACs, designated for their habitats or fauna other than birds;
- SPAs, designated for birds;
- Ramsar sites, designated as wetlands of international importance.

1.2.5.2 SACs are protected areas in the UK designated under the Conservation of Offshore Marine Habitats and Species Regulations 2017 in offshore waters (beyond 12nm) and the Conservation of Habitats and Species Regulations 2017 for England, including the adjacent territorial seas (HM Government, 2017a and 2017b, respectively).

1.2.5.3 SPAs are protected areas for birds classified under the Conservation of Offshore Marine Habitats and Species Regulations 2017 in offshore waters and the Wildlife and Countryside Act 1981 (as amended) (HM Government, 1981) and the Conservation of Habitats and Species Regulations 2017 (as amended) in England (HM Government, 2017a).

1.2.5.4 Whilst Ramsar sites are not formally covered by the Habitats Regulations, as they do not originate from European Directives, they are incorporated in the HRA process in accordance with the PINS HRA Advice Note (Planning Inspectorate, 2024) and as part of NPPF policy and guidance. This recognition acknowledges their status as wetlands of international significance, under the Ramsar Convention of 1971 (Ramsar Convention Secretariat, 1971). The NPPF also requires proposed SACs and potential SPAs to be treated in the same way.

### 1.2.6 Requirements for Habitats Regulations Assessment/Appraisal

1.2.6.1 Regulation 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017 (applicable in both Scotland and England) (HM Government, 2017a) and Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended; applicable in England; HM Government 2017b) sets out the requirements for conducting the Habitats Regulations Appraisal Screening process in Scotland and HRA Screening process in England for plans or projects that may impact the National Site Network. These regulations require:

1.2.6.2 “A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which— (a) is likely to have a significant effect on a European Site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, shall make an Appropriate Assessment of the implications for that site in view of that site’s conservation objectives”.

1.2.6.3 Regulation 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017 and Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) state that the SoS, acting as the Competent Authority for the DCO application, must assess whether the proposed project is likely to significantly impact the qualifying features of the National Site Network (HM Government, 1994, HM Government, 2017a and 2017b, respectively).

1.2.6.4 If it is concluded that the proposed plan or project is likely to have significant effects on a National Site, an AA must be carried out by the Competent Authority (MD-LOT in Scottish waters and SoS in English waters). Following the AA, it must be determined whether there will be AEoSI on a National Site, either alone or in combination with other plans or projects and with the addition of mitigation measures. If this cannot be satisfied, then the project may only proceed if it meets the requirements of the derogation test set out in Regulations 64 and 68 of the Habitats Regulations.

## 1.3 Consultation and engagement

- 1.3.1.1 The MHPGC Scoping Report was issued to MD-LOT and PINS in November 2024 (RPS, 2025). Following consultation with the appropriate statutory bodies, MD-LOT and PINS (on behalf of the SoS) provided the MHPGC Project Scoping Opinions in March 2025 (MD-LOT, 2025; PINS, 2025). A further MHPGC Project Scoping Opinion was provided by the Marine Management Organisation (MMO) in July 2025 (MMO, 2025).
- 1.3.1.2 Table 1.5 provides details of MHPGC Project Scoping Opinions relevant to the MHPGC Project HRA Screening Report.

Table 1.5: Summary of the MHPGC Project Scoping Opinion relevant to the MHPGC Project HRA Screening Report

| Date       | Consultee | Consultation type | Relevant designated sites | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|-----------|-------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scotland   |           |                   |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| March 2025 | MD-LOT    | Scoping opinion   | n/a                       | The Scottish Ministers acknowledge the Applicant's intention to carry out a detailed HRA Screening following submission of the MHPGC Project Scoping Report. The Scottish Ministers recommend that the Applicant submits an MHPGC Project HRA Screening Report at the earliest opportunity and prior to the submission of the EIA Report.                                                                                                                                                                                                                                                                                                                 | The MHPGC Project HRA Screening Report is being submitted to the Scottish Ministers prior to the PIER and ES submissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|            |           |                   | n/a                       | The Scottish Ministers strongly advise the production of an MHPGC Project HRA Screening Report for the Proposed Works and recommend that this should be submitted for comment at the earliest opportunity and in advance of the submission of the EIA Report in order to fully inform the HRA advice for the Proposed Works.                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|            |           |                   | n/a                       | In terms of designated sites, the Scottish Ministers advise that the approach used by the Applicant to identify designated sites with offshore ornithological features within close proximity to the Proposed Works is insufficient and may omit sites and species that could be affected by the Proposed Works. The Scottish Ministers therefore advise that the NatureScot Guidance Note 3 must be used in the EIA Report for determining SPA connectivity. The Scottish Ministers also highlight the NatureScot representation regarding the Outer Firth of Forth and St Andrews Bay Complex SPA and request that this is considered by the Applicant. | <p>NatureScot Guidance Note 3 has been reviewed and followed as part of the screening for SPAs (NatureScot, 2023a).</p> <p>The MHPGC Project does not include an array area and so the application of this guidance for the offshore export cables only, is considered precautionary.</p> <p>Furthermore, this is a change from the approach used within the MHPGC Project Scoping Report, which considered a 50km. However, this distance is still referenced in Section 4.1.3 to distinguish between sites that are far-field and near-field to help focus the Test of LSE assessment.</p> |

| Date | Consultee | Consultation type | Relevant designated sites                                                                                                                                                                                                                              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | How and where considered in the MHPGC Project HRA Screening Report                                                                                            |
|------|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           |                   |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The Outer Firth of Forth and St Andrews Bay Complex SPA is considered in Section 3.1.4 and Section 4.1.3.                                                     |
|      |           |                   | <ul style="list-style-type: none"> <li>Firth of Tay and Eden Estuary SAC;</li> <li>Isle of May SAC;</li> <li>Berwickshire and North Northumberland coast SAC.</li> </ul>                                                                               | Section 7.4.3 presents the two Study Areas defined for benthic subtidal and intertidal ecology: the Benthic Ecology Study Area and the Regional Benthic Ecology Study Area. The Scottish Ministers are broadly content with the Study Areas presented by the Applicant however, the Scottish Ministers highlight the representation by NatureScot regarding the maximum spring tidal excursion distance and advise that this should be clarified by the Applicant in the EIA Report. | The tidal excursion distance has been aligned with Morven North and Morven South, taking a precautionary approach. This is provided as 13.5km (ABPmer, 2014). |
|      |           |                   | <ul style="list-style-type: none"> <li>Firth of Tay and Eden Estuary SAC;</li> <li>Isle of May SAC;</li> <li>Berwickshire and North Northumberland coast SAC.</li> </ul>                                                                               | In relation to the Benthic Ecology Study Area our comments on physical processes Study Area also apply – we would welcome clarification as to why the maximum spring tidal excursion distance differs to that proposed for the Morven North and Morven South, which the MHPGC Project Scoping Boundary encompasses.                                                                                                                                                                  | The tidal excursion distance has been aligned with Morven North and Morven South, taking a precautionary approach. This is provided as 13.5km (ABPmer, 2014). |
|      |           |                   | <ul style="list-style-type: none"> <li>Berwickshire and North Northumberland Coast SAC;</li> <li>Isle of May SAC;</li> <li>Firth of Tay and Eden Estuary SAC;</li> <li>Southern North Sea SAC;</li> <li>Dornoch Firth and Morrich More SAC;</li> </ul> | The Scottish Ministers are content with the two Study Areas presented in Section 7.6.3 of the MHPGC Project Scoping Report. This view is supported by the Nature representation.                                                                                                                                                                                                                                                                                                     | The Study Areas for marine mammals provided in the MHPGC Project Scoping Report have been used to inform the MHPGC Project HRA Screening Report.              |

| Date          | Consultee  | Consultation type                             | Relevant designated sites                                                                                                                                                                                                                                                        | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                       |
|---------------|------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |            |                                               | <ul style="list-style-type: none"> <li>Moray Firth SAC.</li> </ul>                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                          |
|               |            |                                               | <ul style="list-style-type: none"> <li>Berwickshire and North Northumberland Coast SAC;</li> <li>Isle of May SAC;</li> <li>Firth of Tay and Eden Estuary SAC;</li> <li>Southern North Sea SAC;</li> <li>Dornoch Firth and Morrich More SAC;</li> <li>Moray Firth SAC.</li> </ul> | Two Study Areas have been proposed for the marine mammal assessment in Section 7.6.3. The Marine Mammal Study Area, defined as the area encompassing the MHPGC Project Scoping Boundary plus 4km buffer – this was defined for aerial surveys of within the Morven North and Morven South Boundary for ornithology and marine mammal surveys. The second Study Area is defined as the marine mammal regional Study Area and extends over the northern North Sea geographic region to the European coastline as shown in Figure 7.21. We are content with both Study Areas proposed.                                                                                                          | The Marine Mammal Study Areas provided in the MHPGC Project Scoping Report have been used to inform the MHPGC Project HRA Screening Report.                                                                                                                                                                                              |
|               |            |                                               | <ul style="list-style-type: none"> <li>River Dee SAC;</li> <li>River Tay SAC;</li> <li>River South Esk SAC;</li> <li>River Teith SAC.</li> </ul>                                                                                                                                 | Section 7.5.3 of the MHPGC Project Scoping Report presents the two Study Areas defined for fish and shellfish ecology. The Scottish Ministers highlight NatureScot's representation regarding the difference in size of maximum spring tidal excursion from the Morven North and Morven South. In addition, the Scottish Ministers highlight the NatureScot representation with regards to the impacts of underwater sound that may extend beyond the fish and shellfish ecology Study Area into the regional fish and shellfish ecology Study Area and advise that underwater noise modelling must inform the Zone of Influence (Zoi) for assessing impact to fish and shellfish receptors. | The tidal excursion distance has been aligned with Morven North and Morven South, taking a precautionary approach. This is provided as 13.5km (ABPmer, 2014).<br><br>Underwater sound modelling will be undertaken to inform the MHPGC Project RIAA. A regional approach has been used to inform the MHPGC Project HRA Screening Report. |
| February 2025 | NatureScot | Advice on the Environmental Impact Assessment | n/a                                                                                                                                                                                                                                                                              | Paragraph 7.5.5.30 identifies several rivers designated as SACs for diadromous fish, which may have connectivity to the proposal. Although an MHPGC Project HRA Screening Report has not been submitted alongside the MHPGC Project Scoping Report we advise that at the                                                                                                                                                                                                                                                                                                                                                                                                                     | Designated sites for which Annex II diadromous fish species are a qualifying feature have been considered within the MHPGC Project                                                                                                                                                                                                       |

| Date | Consultee | Consultation type    | Relevant designated sites                                                                                              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                                                                                                                                    |
|------|-----------|----------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           | (EIA) Scoping Report |                                                                                                                        | present time, diadromous fish should be assessed through the EIA only and not through HRA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HRA Screening Report. This focuses on the SACs specifically, not the specific diadromous fish receptor, reflecting the requirements of the HRA and EIA process, respectively.                                                                                                                                                                                                                                                                         |
|      |           |                      | Outer Firth of Forth and St Andrew's Bay Complex SPA.                                                                  | Paragraph 7.7.5.3 acknowledges that species which occur within the offshore and intertidal ornithology Study Area may be qualifying features of designated sites. It goes on to state that to inform the MHPGC Project Scoping Report, a generic 50km buffer has been used to identify designated sites with offshore ornithological features (e.g. SPAs) within close proximity to the MHPGC proposal. We advise that this approach is insufficient and may omit species and sites that could be impacted by the proposal. For SPA connectivity we advise following our Guidance note 3 – identifying theoretical connectivity with breeding site SPAs using breeding season foraging ranges.<br><br>Table 7.42 includes mention of the Outer Firth of Forth and St Andrews Bay Complex marine SPA – just to highlight that a number of the Outer Firth of Forth and St Andrews Bay Complex SPA qualifying seabird species are functionally linked to breeding colony SPAs along the east coast of Scotland – further information can be found in the Sites' Conservation and Management Advice note via SiteLink, which may be helpful when undertaking the assessment. | Foraging ranges within Guidance Note 3 (NatureScot, 2023a) have been used to screen in SPAs designated for breeding bird species within the MHPGC Project HRA Screening Report [see Section 3.1.4].<br><br>Guidance Note 4 (NatureScot, 2023b) has been considered for the screening of SPAs designated for non-breeding birds [see Section 3.1.4].<br><br>SiteLink has been used to inform the MHPGC Project HRA Screening Report, where applicable. |
|      |           |                      | n/a                                                                                                                    | It is noted in Paragraph 1.1.2.3 that an HRA screening exercise will be undertaken at the MHPGC Project PEIR stage. Our advice is that we generally advise submission of the MHPGC Project HRA Screening Report alongside the MHPGC Project Scoping Report as this enables us to consider and provide advice under each assessment process at the same time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | The MHPGC Project HRA Screening Report has been submitted prior to the MHPGC Project PEIR submission, to help inform the MHPGC Project PEIR and the MHPGC Project RIAA.                                                                                                                                                                                                                                                                               |
|      |           |                      | <ul style="list-style-type: none"> <li>River Dee SAC;</li> <li>River Tay SAC;</li> <li>River South Esk SAC;</li> </ul> | The fish and shellfish ecology Study Area has been defined as the extent of one spring tidal excursion of between 5km and 9km around the MHPGC Project Scoping Boundary and a regional fish and shellfish ecology Study Area encompassing the wider North Sea as shown in Figure 7.12 of the MHPGC Project Scoping Report. In relation to the fish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The tidal excursion distance has been aligned with Morven North and Morven South, taking a precautionary                                                                                                                                                                                                                                                                                                                                              |

| Date       | Consultee             | Consultation type                                  | Relevant designated sites                                          | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                                     |
|------------|-----------------------|----------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |                       |                                                    | <ul style="list-style-type: none"> <li>River Teith SAC.</li> </ul> | and shellfish ecology Study Area, our comments on the physical processes and benthic Study Areas also applies – we would welcome clarification as to why the maximum spring tidal excursion distance differs to that proposed for the Morven North and Morven South, which the MHPGC Project Scoping Boundary encompasses.                                                                                                                                                                                                                                                           | approach. This is provided as 13.5km (ABPmer, 2014).                                                                                                                                                                                                                                                                                                   |
| England    |                       |                                                    |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                        |
| March 2025 | Durham County Council | Scoping opinion                                    | n/a                                                                | The ES should thoroughly assess the potential for the proposal to affect nationally designated sites. The National Site Network (e.g. designated SACs and SPAs) falls within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition, paragraph 194 of the NPPF requires that potential SPAs, possible SACs, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites. | Relevant SPAs, SACs and Ramsar sites are screened for potential impacts from Project activities within the MHPGC Project HRA Screening Report (see Section 3 and Section 4). Where potential impacts have been identified, further assessment will be provided within the Report to Inform Appropriate Assessment for consideration at the PEIR stage. |
| March 2025 | Natural England       | Advice on scope of ES (Annex B: Detailed Comments) | n/a                                                                | Natural England is aware that the use of HDD relies heavily on local site and environmental conditions and so cannot be guaranteed. We recommended that an alternative methodology is identified in advance and is suitably assessed for environmental impacts, to minimise disruption and environmental risks should HDD become unfeasible at short notice. Additionally, the risk of potential contamination of notified habitats, from the use of chemicals for lubrication of the HDD, will need to be considered in the ES and HRA.                                             | Trenchless techniques are proposed for cable installation, completely avoiding the intertidal area. Should HDD be defined as the preferred installation option, between the offshore and onshore schemes, consideration will be given for the potential contamination from HDD drilling fluids.                                                        |
|            |                       |                                                    | n/a                                                                | We encourage the Applicant to use an Evidence Plan to agree what information should be provided to support the HRA, early in the process and welcome the proposal for a steering group to be set up.                                                                                                                                                                                                                                                                                                                                                                                 | The MHPGC Project Evidence Plan Process is ongoing as part of the HRA process.                                                                                                                                                                                                                                                                         |

| Date | Consultee | Consultation type | Relevant designated sites                                                                                                                | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                |
|------|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           |                   | <ul style="list-style-type: none"> <li>Northumbria Coast SPA;</li> <li>Northumbria Coast Ramsar site.</li> </ul>                         | <p>Impacts to the Northumbria Coast SPA and Ramsar site - These sites are partially within the MHPGC Project Scoping Boundary. The sites are designated for their breeding and wintering bird populations.</p> <p>Further information, including conservation advice is available here: Northumbria Coast SPA and Northumbria Coast Ramsar site.</p> <p>The ES and HRA must consider both direct impacts to SPA and Ramsar species, and supporting habitats within the designated site boundary, and those which are utilising areas outside of the site boundary which are functionally linked to the designated sites.</p> | The National Site Network has been considered as part of the MHPGC Project HRA Screening Report. This includes an assessment of LSE to supporting habitat and functionally linked features to the designated sites [see Section 3 and Section 4]. |
|      |           |                   | <ul style="list-style-type: none"> <li>Teesmouth and Cleveland Coast SPA;</li> <li>Teesmouth and Cleveland Coast Ramsar site.</li> </ul> | The ES and HRA must examine the possibility of indirect impacts to these sites resulting from pollution, hydrological and air quality changes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | These impact pathways have been considered as part of the MHPGC Project HRA Screening Report [see Section 5].                                                                                                                                     |
|      |           |                   | <ul style="list-style-type: none"> <li>Durham Coast SAC.</li> </ul>                                                                      | Impacts on Durham Coast SAC - This site is partially within the MHPGC Project Scoping Boundary. The site is designated for its vegetated sea cliffs of the Atlantic and Baltic coasts. The ES must consider the potential for direct impacts and indirect impacts during construction, operations and maintenance (O&M) and decommissioning phases to qualifying features. Any potential for impacts upon the designated site must be considered, including changes to coastal processes.                                                                                                                                    | Durham Coast SAC is considered as part of the MHPGC Project HRA Screening Report [see Section 3 and Section 4].                                                                                                                                   |
|      |           |                   | <ul style="list-style-type: none"> <li>Northumbria Coast SPA;</li> <li>Durham Coast SAC.</li> </ul>                                      | Natural England advise that the Northumbria Coast SPA is also included due to potential impact on its supporting habitats. The Durham Coast SAC citation highlights the vulnerability of communities present on the sea cliffs. It states the communities "are largely maintained by natural processes including exposure to sea spray, erosion and slippage of the soft Magnesian Limestone bedrock and overlying glacial drifts, as well as localised flushing by calcareous water". Changes to these processes from the development should be fully explored in the ES.                                                   | Northumbria Coast SPA and Durham Coast SAC are considered as part of the MHPGC Project HRA Screening Report [see Section 3 and Section 4].                                                                                                        |
|      |           |                   | n/a                                                                                                                                      | <p>The development site is within or may impact on the following European/internationally designated nature conservation sites:</p> <ul style="list-style-type: none"> <li>Durham Coast SAC;</li> <li>Northumbria Coast SPA;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                      | The following sites have been included in Section 3 of the MHPGC Project HRA Screening Report:                                                                                                                                                    |

| Date | Consultee | Consultation type | Relevant designated sites | Comment                                                                                                                                                                                                                                                                                                                                                                                                      | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|-----------|-------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           |                   |                           | <ul style="list-style-type: none"> <li>• Northumbria Coast Ramsar site;</li> <li>• Castle Eden SAC;</li> <li>• Teesmouth and Cleveland Coast SPA;</li> <li>• Teesmouth and Cleveland Coast Ramsar site;</li> <li>• Thrislington SAC;</li> <li>• Northumberland Marine SPA;</li> <li>• Coquet Island SPA;</li> <li>• Farne Islands SPA;</li> <li>• Lindisfarne SPA;</li> <li>• Lindisfarne Ramsar.</li> </ul> | <ul style="list-style-type: none"> <li>• Durham Coast SAC;</li> <li>• Northumbria Coast SPA;</li> <li>• Northumbria Coast Ramsar site;</li> <li>• Teesmouth and Cleveland Coast SPA;</li> <li>• Teesmouth and Cleveland Coast Ramsar site.</li> </ul> <p>The following sites have been considered as part of the offshore MHPGC Project HRA Screening Report as the project falls within the foraging range of sandwich terns [see Section 3]:</p> <ul style="list-style-type: none"> <li>• Northumberland Marine SPA;</li> <li>• Coquet Island SPA;</li> <li>• Farne Islands SPA.</li> </ul> <p>The following sites have been considered but have been screened out of the Test of LSE as the project falls outside the foraging distance for tern species adopted at the screening distance [see Section 3]:</p> <ul style="list-style-type: none"> <li>• Lindisfarne SPA;</li> <li>• Lindisfarne Ramsar site.</li> </ul> <p>The following sites have been considered but have been screened out of the Test of LSE as the project falls outside of the Zol for the</p> |

| Date | Consultee | Consultation type | Relevant designated sites | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | How and where considered in the MHPGC Project HRA Screening Report                                                                                                                   |
|------|-----------|-------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           |                   |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MHPGC Project and are designated for Annex I terrestrial habitats [see Section 3]: <ul style="list-style-type: none"> <li>Thrislington SAC;</li> <li>Castle Eden SAC.</li> </ul>     |
|      |           |                   | n/a                       | Further information on site special interest features, their conservation objectives, and any relevant conservation advice packages for designated sites is available on Natural England's Access to Evidence and Designated Sites View.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | These two data sources have been used to gather information on conservation objectives and qualifying features of designated sites to inform the MHPGC Project HRA Screening Report. |
|      |           |                   | n/a                       | The ES should thoroughly assess the potential for the proposal to affect internationally designated sites of nature conservation importance/the National Site Network, including marine sites where relevant. The National Site Network (SAC and SPA fall within the scope of the Conservation of Habitats and Species Regulations 2017 (the 'Habitats Regulations'). In addition paragraph 187 of the NPPF requires that potential SPAs, possible SAC, listed or proposed Ramsar sites, and any site identified or required as compensatory measures for adverse effects on habitat (National) sites, potential SPAs, possible SACs and listed or proposed Ramsar sites have the same protection as classified sites (sites falling within the scope of regulation 8 of the Conservation of Habitats and Species Regulations 2017 are defined as 'habitats sites' in the NPPF). | All relevant sites within the National Site Network and Ramsar sites have been considered in the MHPGC Project HRA Screening Report [see Section 3 and Section 4].                   |
|      |           |                   | n/a                       | Under Regulation 63 of the Habitats Regulations, an appropriate assessment must be undertaken in respect of any plan or project which is (a) likely to have a significant effect on the National Site Network (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site. The consideration of LSEs should include any functionally linked land outside the designated site. These areas may provide important habitat for mobile species populations that are qualifying features of the site, for example birds, mammals and fish. This can also include areas which                                                                                                                                                                                                                         | The results of the Test of LSE will determine what designated sites and qualifying features will be screened into HRA Stage 2: RIAA.                                                 |

| Date       | Consultee | Consultation type | Relevant designated sites                                               | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | How and where considered in the MHPGC Project HRA Screening Report                                                                   |
|------------|-----------|-------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|            |           |                   |                                                                         | have a critical function to a habitat feature within a designated site, for example by being linked hydrologically or geomorphologically.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                      |
|            |           |                   | n/a                                                                     | Should a LSE on a European/internationally designated site be identified (either alone or in-combination) or be uncertain, the competent authority (in this case the SoS) may need to prepare an AA in addition to the consideration of impacts through the EIA process. Further guidance is set out in Planning Practice Guidance on appropriate assessment: <a href="https://www.gov.uk/guidance/appropriateassessment">https://www.gov.uk/guidance/appropriateassessment</a> .<br><br>This should also take into account any agreed strategic mitigation solution that may be being developed or implemented in the area to address recreational disturbance, nutrients, or other impacts. | The results of the Test of LSE will determine what designated sites and qualifying features will be screened into HRA Stage 2: RIAA. |
| March 2025 | PINS      | Scoping Opinion   | <ul style="list-style-type: none"> <li>Northumbria Coast SPA</li> </ul> | The Northumbria Coast SPA is not included within the identified designated sites the assessment should include this site within the assessment to determine the likely effects on this site. The applicant is directed to Natural England's response at appendix 2 of this Opinion.                                                                                                                                                                                                                                                                                                                                                                                                           | Northumbria Coast SPA is included in the National Site Network considered as part of this HRA Screening.                             |

## 2 Methodology

- 2.1.1.1 There are three main stages of the HRA process [see Figure 2.1], though not all stages may be completed, depending on the conclusion of the preceding stage. In Scotland, these are broken down further into additional stages (nine in total), but the key steps can still be summarised as follows:
- HRA Stage 1 – Screening for LSE;
  - HRA Stage 2 – Appropriate Assessment (AA); and
  - HRA Stage 3 – Derogations (including assessment of alternatives and assessment of Imperative Reason of Overriding Public Interest (IROPI)).
- 2.1.1.2 This MHPGC Project HRA Screening Report represents Stage 1 of the HRA process. In this stage, the Applicant must supply adequate information for the competent authority to determine if an AA is required. If Stage 1 concludes that LSEs to a site, its qualifying features, or its conservation objectives are probable, the Applicant must provide sufficient assessment details to enable the Competent Authority to conduct an AA (Stage 2).
- 2.1.1.3 Should the AA at Stage 2 conclude that the MHPGC Project will not have an adverse effect on the integrity of the National Site(s), consent may be granted at this stage.
- 2.1.1.4 However, if an AEoSI is identified, and cannot be adequately mitigated or resolved, the project proceeds to Stage 3. Within Stage 3, it must be considered whether alternatives are feasible to avoid impact. If no alternatives are available and AEoSI persists, an assessment of IROPI is needed to determine whether the public benefit outweighs the risk of harm to the site. Where it has been shown that there are not feasible alternative solutions and the IROPI test is passed, compensatory measures must be implemented to preserve the overall UK National Site Network.

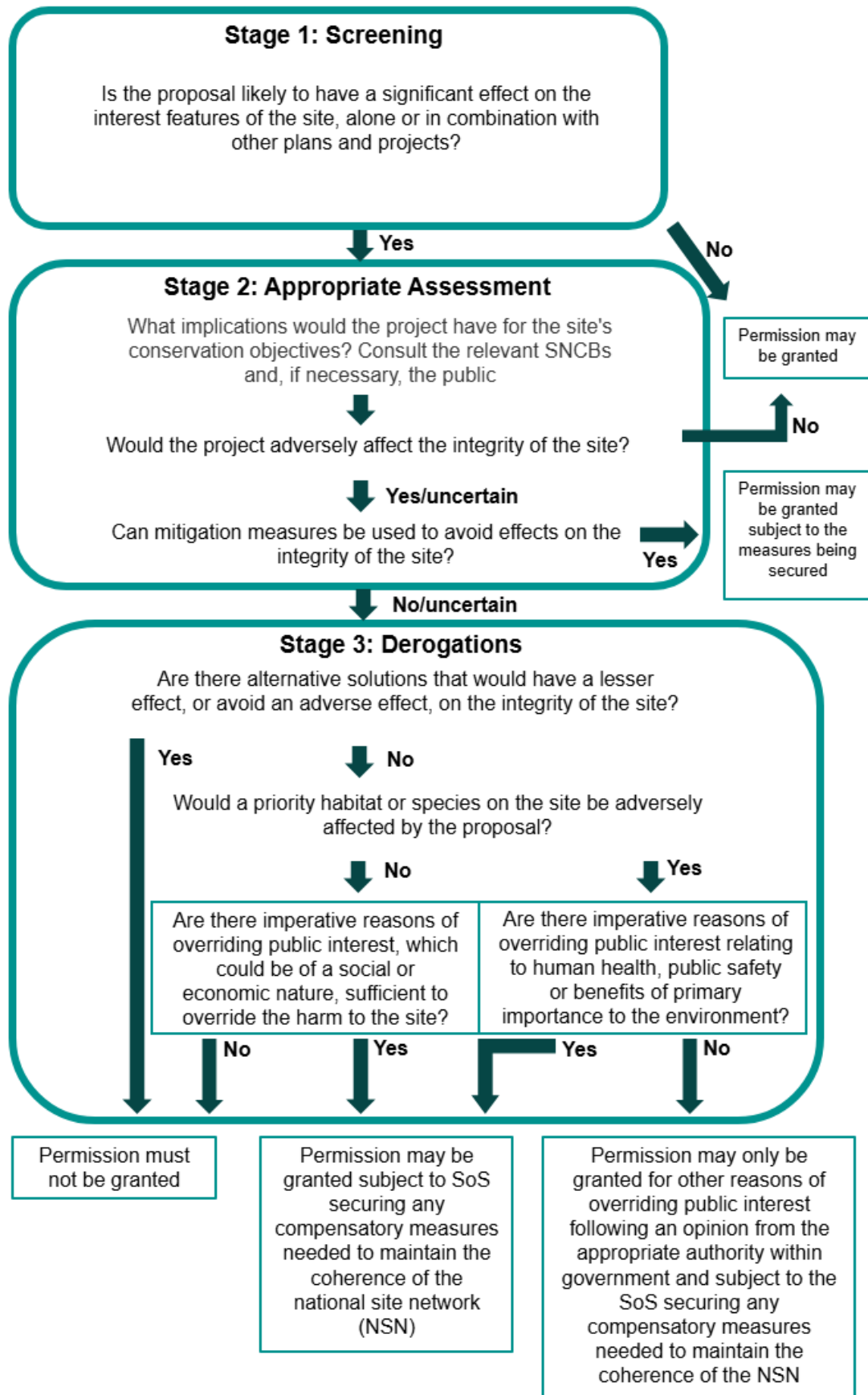


Figure 2.1: HRA stages as provided in PINS advice for NSIPs (Planning Inspectorate, 2024)

## 2.1 Habitats Regulation Assessment Stage 1 – Test for Likely Significant Effects

- 2.1.1.1 The Test of LSE determines whether the MHPGC Project, without detailed appraisal, is likely to have a significant effect on a site within the National Site Network or a qualifying feature of a site. Where there is no pathway for adverse interaction between the MHPGC Project and a site or its qualifying features, the site can be 'screened out' of further assessment in Stage 2. If it cannot be ruled out, based on scientific evidence that the MHPGC Project is likely to have a significant effect on a site or its qualifying features, a precautionary approach is applied, and these aspects proceed to Stage 2.
- 2.1.1.2 Further detail on Stage 2: AA methods and the other stages of the HRA process will be considered in more detail at the next stage of the HRA process.
- 2.1.1.3 Stage 1 of the HRA process is broken down further into three different sections, to help facilitate this process. Further detail on each of these sections and their methods are provided below and are as follows:
- Screening (or identification) of National Sites;
  - Test (or determination) of LSE for project alone;
  - In-combination screening.
- 2.1.1.4 To determine which National Sites are screened in, consideration was first given to the type of qualifying features to be included within the assessment. Qualifying features of National Sites fall into one of the following receptor groups:
- Offshore:
    - Annex I benthic habitats;
    - Annex II fish and shellfish;
    - Annex II marine mammals;
    - Annex I marine ornithology
  - Onshore:
    - Annex I terrestrial habitats;
    - Annex I terrestrial ornithology;
    - Annex II terrestrial flora;
    - Annex II terrestrial fauna.
- 2.1.1.5 Each stage of the Test of LSE has been considered with relevance to the Rochdale Envelope, which provides a worst-case approach which provides sufficient detail to evaluate the LSE of the project. This is in line with guidance published by the PINS published 'Advice Note Nine: Rochdale Envelope' in July 2018 (PINS, 2018).
- 2.1.1.6 At the time of writing the HRA Screening Report the project description has not been defined in full and is based on that provided in the MHPGC Project Scoping Report (RPS, 2025). The MHPGC Project design will be refined as part of the PEIR submission at which point the conclusions of the HRA Screening Report will be reviewed.

### 2.1.2 Screening of National Sites

- 2.1.2.1 The screening of National Sites is the process by which it is determined which designated sites should be considered within the Test of LSE. A stepwise approach has been used to remove any sites which do not have a physical overlap with the MHPGC Project Interim Boundary or potential overlap of the receptor-led impacts and associated ZoI. This is noting the wide-ranging nature of particular receptors, such as those found offshore (i.e. marine mammals and ornithology).
- 2.1.2.2 The screening of National Sites has followed a stepwise approach, via the adoption of 3 screening criteria:
- Screening Criterion 1: National Sites which overlap with the MHPGC Project Interim Boundary;

- Screening Criterion 2: The MHPGC Project Interim Boundary and the Zol overlaps with the mobile range of qualifying species, taking into consideration ecological factors such as foraging and migratory movements (i.e. for migratory fish and for breeding bird species);
- Screening Criterion 3: National Sites which overlap with the maximum Zol distance of the MHPGC Project (for a specific receptor).

2.1.2.3 The Zol is defined by CIEEM guidance on EIAs in the UK and Ireland, as the 'area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities' (CIEEM, 2018, amended 2024). Examples of Zol are provided by PINS as part of the 2024 cumulative effects assessment guidance for NSIPs (PINS, 2024b), which includes air quality effects, such as "construction dust and vehicle emissions – Zol defined by relevant institute guidelines". In the marine environment, Zols can be far ranging, due to currents and waves, which can transport materials over further distances, such as in the case of sediment disturbed as part of the MHPGC Project activities. Other examples include the Zol for underwater sound which represents the distance over which the MHPGC Project sound can propagate and be above threshold levels for a particular receptor (e.g. for marine mammals and fish and shellfish).

2.1.2.4 Further information on the screening approaches relevant to each receptor group is provided in Section 3.

2.1.2.5 To aid in the understanding of mammal and bird species which occur near the MHPGC Project, Digital Aerial Surveys (DAS) were undertaken within the Morven North and Morven South boundary. Monthly surveys were undertaken over the Morven Option Agreement Area via an aircraft from January 2021 to August 2023, where digital still images were collected and analysed for the presence of marine megafauna, including marine mammals and seabirds (APEM, 2025). These images were used to calculate species-specific abundances, and density estimates in the survey area. Although these surveys did not include the MHPGC Project Interim Boundary they provide an understanding of offshore habitat use in the area by key receptors, as well as an indication of which qualifying species of nearby nationally designated sites may be present.

## 2.1.3 Test of Likely Significant Effects

2.1.3.1 The Test of LSE identifies the impact pathways likely to have a significant effect on designated sites, and therefore those that need to be included in Stage 2: AA in the MHPGC Project RIAA.

2.1.3.2 To undertake the Test of LSE, first the relevant impact pathways for each qualifying receptor were outlined. This was considered for each stage of the MHPGC Project, covering construction, O&M, and decommissioning.

2.1.3.3 The focus of the Test of LSE is whether the plan or project could compromise the conservation objectives of the site. This requires a site-specific evaluation, considering not only the Zol of the MHPGC Project, but also the ecology of the receptor being considered, the scale of the impact and whether the MHPGC project could undermine the conservation objectives of the National Site. The judgment of whether an effect is "likely" must be made by applying the precautionary principle. This means that if there is any uncertainty, then LSE must be concluded either alone or in combination, and the site should be taken to Stage 2: AA.

2.1.3.4 This assessment is guided by legal precedent, particularly case law, which has clarified how the term "likely" should be interpreted. 'Likely' refers to situations where a significant effect cannot be excluded based on objective evidence. This interpretation stems from the Waddenzee ruling (European Court of Justice, Case C-127/02).

2.1.3.5 With regard to mitigation, the European Court of Justice in People Over Wind and Sweetman (Case C323/17) ruled that "...in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site".

2.1.3.6 Environmental management plans are specifically provided for minimising risk to the environment and therefore have not been considered within this assessment. However, compliance with international regulations and conventions which must be adhered to as standard, have been considered at screening. For example, all MHPGC Project vessels must comply with the International

Regulations for Preventing Collisions at Sea (IMO, 1972) and regulations relating to International Convention for the Prevention of Pollution from Ships (the MARPOL Convention 73/78) (IMO, 2021). These are aimed at preventing and minimising pollution from ships.

## 2.1.4 In-Combination Scope

- 2.1.4.1 Under the Habitats Regulations, it is mandatory to assess not only the likely significant effects of the MHPGC Project alone but also any likely significant in-combination effects with other plans or projects (HM Government, 1994, HM Government, 2017a and 2017b, respectively). This in-combination assessment is particularly relevant when an impact pathway might otherwise be screened out due to a lack of LSE.
- 2.1.4.2 Several plans or projects (both those with pending applications and those already in operation) that might interact with the MHPGC Project will be identified in the RIAA. Types of plans or projects, that are currently being considered for the final long-list, based on their potential impact pathways to the National Site Network, are detailed in Section 5.
- 2.1.4.3 Section 5 also outlines the in-combination assessment methodology that will be followed in the RIAA, together with a table showing receptor groups, their associated impact pathways and examples of possible in-combination effects [see Table 5.2].

## 3 Screening

### 3.1 Offshore

#### 3.1.1 Annex I benthic habitats

- 3.1.1.1 The MHPGC Project HRA Screening Report considers the direct and indirect interactions between the MHPGC Project and SACs designated for benthic habitat features listed under Annex I of the Habitats Regulations.

##### *Screening Criterion 1*

- 3.1.1.2 There are no National Sites for which Annex I benthic habitat are a qualifying feature, which overlap with the MHPGC Project Interim Boundary.

##### *Screening Criterion 2*

- 3.1.1.3 The second criterion provided is only relevant to qualifying features that are mobile (i.e. Annex II species and Annex I ornithology) rather than habitats which are fixed in location. Therefore, Screening Criterion 2 is not relevant for Annex I benthic habitats.

##### *Screening Criterion 3*

- 3.1.1.4 The maximum likely Zol to benthic habitats associated with MHPGC Project activities, is from the effect of increased suspended sediment concentrations (SSC). This effect has the potential to travel over several kilometres, transported by water movements. The maximum potential dispersion of sediments is described by the maximum spring tidal excursion, that is the potential distance suspended sediment may be transported before being carried back on the returning tide. For the majority of the route, the maximum tidal excursion ranges between 5km and 9km depending on location along the offshore export cable corridor. At the northern extent of the Morven North and Morven South Boundary, the tidal excursion was numerically modelled to be up to 13.5km (RPS, 2025). This distance has been considered as the maximum Zol for this receptor, for the whole offshore cable corridor, on a precautionary basis.
- 3.1.1.5 There are no National Sites designated for Annex I benthic features within 13.5km of the MHPGC Project Interim Boundary and as such, there are no sites designated for this receptor group that have been screened in for further consideration.

#### 3.1.2 Annex II fish and shellfish

- 3.1.2.1 The MHPGC Project HRA Screening Report considers several fish and shellfish features listed under Annex II of the Habitats Regulations that may have direct and indirect interactions with the MHPGC Project.

##### *Screening Criterion 1*

- 3.1.2.2 There are no National Sites for which Annex II fish and shellfish are a qualifying feature, which overlap with the MHPGC Project Interim Boundary.

##### *Screening Criterion 2*

- 3.1.2.3 Migratory fish species designated as part of SACs are highly mobile and can, in some instances, migrate over large distances. To ensure that fish species which may pass through the MHPGC Project Interim Boundary and the largest MHPGC Project Zol (which is for the effect of increased SSC) have been screened in, a regional approach has been adopted (labelled as 'Regional Fish and Shellfish Ecology Study Area' in Figure 3.2).
- 3.1.2.4 The Regional Fish and Shellfish Ecology Study Area has been defined based on the location of the designated sites where the migratory routes of Annex II fish species into these rivers overlap with the MHPGC Project Interim Boundary and maximum Zol. This regional approach is described further

by ABPmer (2014), outlining key migratory fish routes across the UK, including those in the Northeast which could overlap the MHPGC Project [see Figure 3.1]. The Regional Fish and Shellfish Ecology Study Area approximately includes this North East area, where the anadromous fish region boundaries are located. A total of four sites in Scottish waters, and two in English waters have been screened in based on Screening Criterion 2.

### Screening Criterion 3

- 3.1.2.5 The maximum Zol for fish and shellfish is from increased SSC effects (the full list of impact pathways considered for this receptor are provided in Section 4 and Table 4.1). The distance for SSC effects is based on the local tidal excursion distance. This is 13.5km and has been adopted as a precautionary distance. There are no National Sites which fall within this Zol distance.

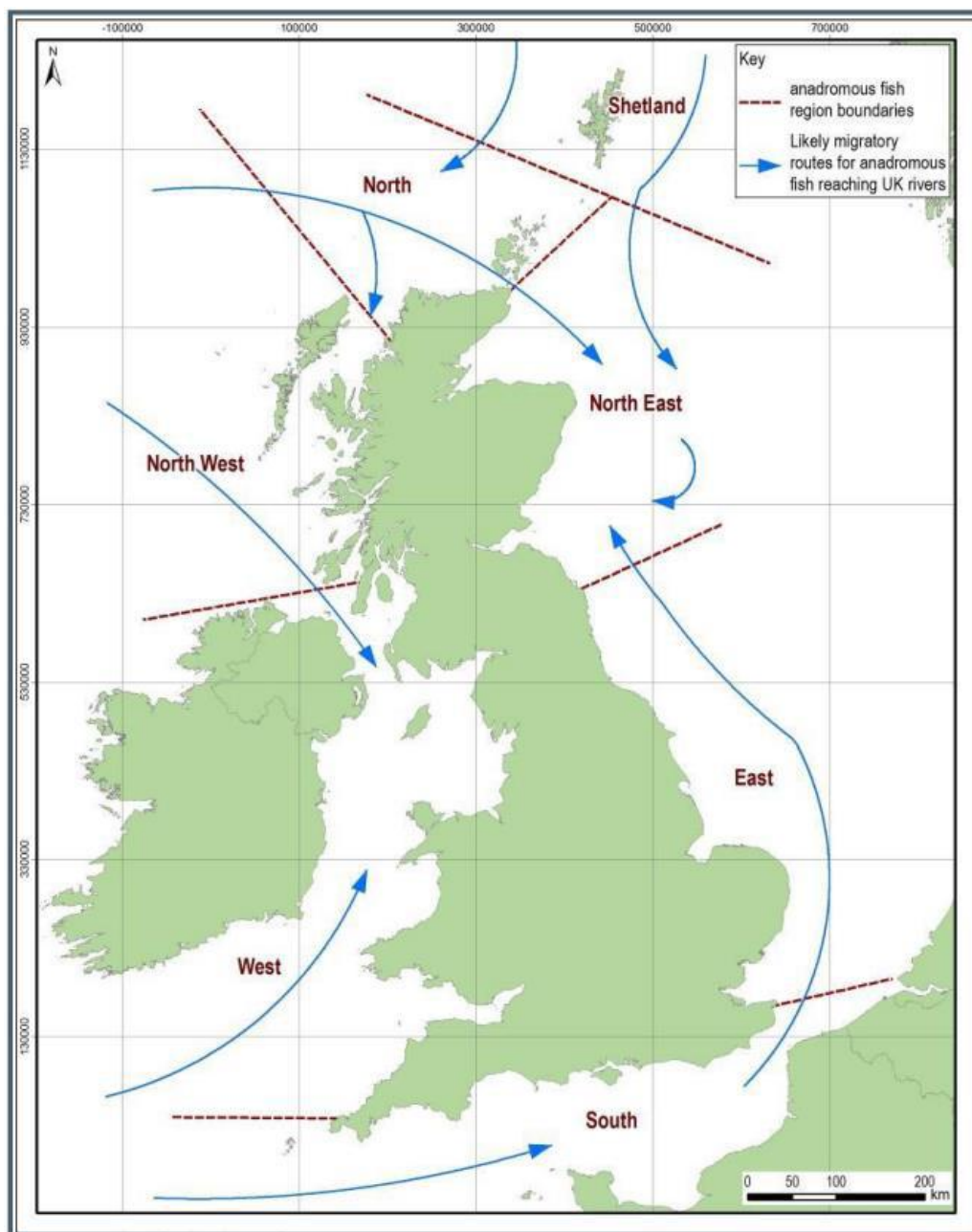


Figure 3.1: Likely migration routes for anadromous fish entering UK river (ABPmer, 2014)

3.1.2.6 In summary, sites designated for Annex II fish and shellfish receptors within this Regional Fish and Shellfish Ecology Study Area are provided in Table 3.1 and Figure 3.2. This comprises four sites in Scottish waters and two sites in English waters.

Table 3.1: National Sites designated for Annex II fish and shellfish and screened into the Test of LSE

| Relevant designated sites       | Qualifying feature(s)                                                                                                                                                                       | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Scottish National Site Network  |                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                            |
| River Dee SAC (UK0030251)       | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>)</li></ul>                                                                                                        | <p>The overarching conservation objectives for all features are</p> <ul style="list-style-type: none"><li>Ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status;</li><li>Ensure the integrity is restored by meeting objectives for each qualifying feature:<ul style="list-style-type: none"><li>2a: Maintain the population as a viable component of the site;</li><li>2b: Maintain distribution throughout the site;</li><li>2c: Maintain supporting habitats within the site and availability of food.</li></ul></li></ul> | 63.5                                                                       |
| River South Esk SAC (UK0030262) | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>)</li></ul>                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 81.5                                                                       |
| River Tay SAC (UK0030312)       | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>);</li><li>River lamprey (<i>Lampetra fluvialitis</i>);</li><li>Sea lamprey (<i>Petromyzon marinus</i>).</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 104.3                                                                      |
| River Teith SAC (UK0030263)     | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>);</li><li>River lamprey (<i>Lampetra fluvialitis</i>);</li><li>Sea lamprey (<i>Petromyzon marinus</i>).</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 181.4                                                                      |
| English National Site Network   |                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                            |
| River Tweed SAC (UK0012691)     | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>);</li><li>River lamprey (<i>Lampetra fluvialitis</i>);</li><li>Sea lamprey (<i>Petromyzon marinus</i>).</li></ul> | <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:</p> <ul style="list-style-type: none"><li>The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li></ul>                                                                                                                                                                                                                                       | 52.7                                                                       |

| Relevant designated sites     | Qualifying feature(s)                                                                                                                            | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                  | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Tweed Estuary SAC (UK0030292) | <ul style="list-style-type: none"> <li>Sea lamprey (<i>Petromyzon marinus</i>);</li> <li>River lamprey (<i>Lampetra fluviatilis</i>).</li> </ul> | <ul style="list-style-type: none"> <li>The structure and function (including typical species) of qualifying natural habitats;</li> <li>The structure and function of the habitats of qualifying species;</li> <li>The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;</li> <li>The populations of qualifying species;</li> <li>The distribution of qualifying species within the site.</li> </ul> | 66.5                                                                       |

3.1.2.7 Further baseline information on the fish and shellfish qualifying features screened into the Test of LSE, is provided below.

#### 1095 Sea lamprey (*Petromyzon marinus*)

3.1.2.8 Sea lamprey are an anadromous species that migrate from marine to freshwater habitats to spawn in late spring to early summer. They are solitary feeders and are typically found dispersed throughout the open ocean during their adult lifecycle, seldom being observed in coastal or estuarine environments (Moore *et al.*, 2003). Their presence is largely influenced by the location of their natal rivers (Waldman *et al.*, 2008), and they are commonly encountered at significant depths in offshore marine habitats (Moore *et al.*, 2003).

3.1.2.9 Migration to their spawning habitat typically occurs around April-June, spawning in May and June (Zancolli *et al.*, 2018). Migration out to sea can vary by river, but downstream migration has been observed between late autumn-early winter in north-western European waters (Maitland 1980, Bird *et al.* 1994, Quintella *et al.* 2003, Silva *et al.* 2013, Hansen *et al.* 2016). In the North Sea, a recent study of sea lamprey distribution indicated a widespread distribution across both open sea and coastal locations.

3.1.2.10 The River Tay SAC (104.3km from the closest point of the MHPGC Project Interim Boundary) is considered to support one of the most important sea lamprey populations in Scotland, whilst the River Teith SAC (181.4km from the closest point of the MHPGC Project Interim Boundary) is also a crucial part of the east coast range for sea lamprey. Sea lamprey are also a qualifying feature of the River Tweed SAC and Tweed Estuary SAC (52.7km and 66.5km from the closest point of the MHPGC Project Interim Boundary, respectively).

#### 1099 River lamprey (*Lampetra fluviatilis*)

3.1.2.11 River lamprey are also anadromous, but are more commonly found in coastal waters, estuaries, and rivers that are easily accessible. Juveniles often gather in large groups (Maitland, 2003). In the North Sea, their presence is greatest along the north-eastern European coast (Elliott *et al.*, 2021), but in UK waters, their distribution is primarily concentrated in Wales, Northern Ireland, and southern parts of Scotland.

3.1.2.12 Upstream migration of river lamprey can extend from July through to June the following year, but there appear to be distinct spring and autumn runs (Maitland 1980, 2003, Moser *et al.* 2015, Elliott *et al.*, 2021). Post metamorphic river lamprey migrate downstream between mid-winter through April (Maitland 2003, Dawson *et al.* 2015, Pavlov *et al.* 2017, Elliott *et al.*, 2021). Adults typically spend between one and two years in estuarine environments before migrating upstream to spawn.

3.1.2.13 The River Teith SAC (181.4km from the closest point of the MHPGC Project Interim Boundary), supports a robust population of river lamprey. It has minimal artificial migration barriers, good water

quality and suitable habitats (gravel and silt beds) to sustain the river lamprey's full life cycle. River lamprey are also a qualifying feature, but not a primary reason for site selection of the River Tay, River Tweed (104.3km and 52.7km from the closest point of the MHPGC Project Interim Boundary, respectively), and Tweed Estuary SACs (66.5km).

### 1160 Atlantic salmon (*Salmo salar*)

- 3.1.2.14 Atlantic salmon are an anadromous species that migrate between freshwater and marine environments throughout their life cycle. Spawning typically occurs in the upper reaches of rivers during late autumn and early winter, favouring gravel substrates (Heessen *et al.*, 2015; NASCO, 2012). The migration of smolts usually occurs between spring and early summer, with larger smolts tending to migrate earlier in the season. Most smolts have left freshwater habitats by June (Thorstad *et al.*, 2012). After spending one to five years at sea, adult salmon return to their natal rivers to spawn, with peak migration periods in the UK typically falling between June and August, and again from October to December (Cowx and Fraser, 2003). Salmon at sea, are not considered to have well defined migratory routes and predominantly use the upper 5m of the water column to migrate (Godfrey *et al.*, 2014; and 2015).
- 3.1.2.15 The River Dee and River South Esk SACs (63.5km and 81.5km from the closest point of the MHPGC Project Interim Boundary, respectively) support salmon populations encompassing the full range of life-history types, including sub-populations of spring and summer salmon (JNCC, 2022). In the River Dee, spawning occurs in late autumn and early winter, with mid-November marking the peak of activity. Smolts from the River Dee migrate in early summer to feeding grounds off the southwest coast of Greenland, the Faroe Islands, the Norwegian Sea, or northwest Scotland (The River Dee, 2022). The River Dee has a proposed classification of 1 under the Salmon fishing: proposed river gradings 2022, indicating that exploitation is sustainable and no additional management action is currently required.
- 3.1.2.16 The River South Esk, by contrast, has a proposed classification of 2 under the same gradings, suggesting that management action is necessary to reduce exploitation. In this case, catch and release should be strongly promoted (Scottish Government, 2021).
- 3.1.2.17 The River Tay and River Teith (104.3km and 181.4km from the closest point of the MHPGC Project Interim Boundary, respectively) SACs also support high-quality salmon populations and the full range of life-history types. Adult salmon enter these rivers throughout the year to spawn in different parts of the catchment. The River Tay is proposed as classification 1, while the River Teith is classification 2 under the 2022 gradings.
- 3.1.2.18 In English waters, the River Tweed SAC supports a high-quality Atlantic salmon population and exemplifies a large river system with a nutrient gradient, ranging from oligotrophic headwaters to nutrient-rich lowlands near Berwick. The river sustains a significant portion of Scotland's salmon population, with recent catches accounting for up to 15% of all salmon caught in the country. These salmon exhibit large seasonal migrations, with distinct runs occurring in both spring and autumn (Natural England, 2014b).

### 3.1.3 Annex II marine mammals

- 3.1.3.1 The MHPGC Project HRA Screening Report considers several marine mammal features listed under Annex II of the Habitats Regulations that may be directly or indirectly affected by the MHPGC Project.

#### Screening Criterion 1

- 3.1.3.2 There are no National Sites for which Annex II marine mammals are a qualifying feature, which overlap with the MHPGC Project Interim Boundary.

#### Screening Criterion 2

- 3.1.3.3 Marine mammals are highly mobile as they may forage or migrate over large distances. As such, the screening for the National Sites designated for Annex II marine mammals considers species specific management units, which reflect likely densities of species.

- 3.1.3.4 For cetaceans, screening considers the species-specific Management Units (MU) defined by the Inter-Agency Marine Mammal Working Group (IAMMWG). These MU's have been developed for seven of the most common species in UK waters, defined according to the biological structure, movement, habitat use and relevant management boundaries (IAMMWG, 2023). The MU's for harbour porpoise and bottlenose dolphin, the only cetacean species for which sites in the National Site Network have been designated, are provided within Table 3.2.
- 3.1.3.5 For pinnipeds, the Special Committee on Seals has outlined Seal Management Units (SMUs) that were developed based on expert knowledge and opinion on seal ecology in the UK, using a pragmatic approach to management without inferring discrete populations [see Table 3.2]. These SMUs are considered to take into consideration known foraging ranges of harbour and grey seals, that are defined as 273km and 448km, respectively (Carter *et al.*, 2022).
- 3.1.3.6 Within these MUs and SMUs, all National Sites designated for the protection of Annex II marine mammals have been considered for the Test of LSE and are provided in Table 3.3 and Figure 3.2.

### Screening Criterion 3

- 3.1.3.7 The maximum Zol for marine mammals is from underwater sound effects (the full list of impact pathways considered for this receptor are provided in Section 4 and Table 4.3). At PEIR Stage, project specific modelling will be undertaken to inform the MHPGC Project PEIR and MHPGC Project RIAA. However, in the absence of these data, Effective Deterrence Ranges (EDRs) have been considered, which were provided in JNCC (2020a) guidance for assessing noise disturbance to harbour porpoise SACs.
- 3.1.3.8 The EDR value provided by the JNCC is 26km (which is for high order detonations specifically, as a worst-case). This is considered to encompass potential disturbance from other construction activities (e.g. geophysical surveys, vessel use), which generally have smaller disturbance ranges. There are no EDR values for other marine mammal species, but as harbour porpoise is generally considered to have a particularly high sensitivity to underwater sound compared to other species (Southall *et al.*, 2019), though low frequency species also demonstrate high sensitivity, EDR values can be considered as a precautionary Zol for bottlenose dolphin and seals.
- 3.1.3.9 There is one National Site that falls within the maximum EDR distance of 26km. This is the Berwickshire and North Northumberland Coast SAC, which is designated for grey seal.
- National Sites that have been screened in are provided in Table 3.3 and Figure 3.2. This comprises four sites in Scottish waters and two sites in English waters.

Table 3.2: Management units for relevant marine mammal species

| Species            | Management Units                                  |
|--------------------|---------------------------------------------------|
| Harbour porpoise   | North Sea                                         |
| Bottlenose dolphin | Coastal East Scotland (CES) and Greater North Sea |
| Grey seal          | East Scotland and North East England              |
| Harbour seal       | East Scotland and North East England              |

Table 3.3: National Sites designated for Annex II marine mammals and screened into the Test of LSE

| Relevant designated sites                                   | Qualifying feature(s)                     | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Scottish National Site Network                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                            |
| Berwickshire and North Northumberland Coast SAC (UK0017072) | • Grey seal (Halichoerus grypus)          | The overarching conservation objectives for all features is: <ul style="list-style-type: none"><li>• Ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status;</li><li>• Ensure the integrity is restored by meeting objectives for each qualifying feature:<ul style="list-style-type: none"><li>– 2a: Maintain the population as a viable component of the site;</li><li>– 2b: Maintain distribution throughout the site;</li><li>– 2c: Maintain supporting habitats within the site and availability of food.</li></ul></li></ul>                                                                                                                                                                                                                            | 25.6                                                                       |
| Isle of May SAC (UK0030172)                                 | • Grey seal (Halichoerus grypus)          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 94.1                                                                       |
| Firth of Tay and Eden Estuary SAC (UK0030311)               | • Harbour Seal (Phoca vitulina)           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 95.9                                                                       |
| Moray Firth SAC (UK0019808)                                 | • Bottlenose dolphin (Tursiops truncatus) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 160.0                                                                      |
| English National Site Network                               |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                            |
| Berwickshire and North Northumberland Coast SAC (UK0017072) | • Grey seal (Halichoerus grypus)          | The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring: <ul style="list-style-type: none"><li>• the extent and distribution of qualifying natural habitats and habitats of the qualifying species;</li><li>• the structure and function (including typical species) of qualifying natural habitats;</li><li>• the structure and function of the habitats of the qualifying species;</li><li>• the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;</li><li>• the populations of each of the qualifying species the distribution of qualifying species within the site.</li></ul> | 25.6                                                                       |
| Southern North Sea SAC (UK0030395)                          | • Harbour porpoise (Phocoena Phocoena)    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 99.1                                                                       |

3.1.3.10 Further baseline information on the marine mammal qualifying features screened into the Test of LSE, is provided in the sections below.

#### 1315 Harbour porpoise (*Phocoena phocoena*)

3.1.3.11 Harbour porpoise is a common species around the UK and is particularly abundant in the North Sea. They most commonly occur along the continental shelf in waters less than 100m but exhibit seasonal shifts in their use of coastal and offshore habitats (Heinänen and Skov, 2015). They exhibit peak densities along inshore waters in summer months, but are present throughout the year (Hague

*et al.*, 2020). In the North Sea, the greatest abundances occur in the southern region, reflecting the designation of the Southern North Sea SAC. Despite this, they are still regularly observed in Forth and Tay regions (Hammond *et al.*, 2020).

- 3.1.3.12 The MHPGC Project is located within the IAMMWG North Sea MU for harbour porpoise. Within this MU, only the Southern North Sea SAC (99.1km from the closest point of the MHPGC Project Interim Boundary) is designated for harbour porpoise. This SAC contains sandy, coarse sediments that are preferable to the harbour porpoise, likely due to availability of prey (JNCC, 2023). Recent DAS surveys of Morven North and Morven South reported 599 individuals, with annual peaks in observations reported in May-June of each year (APEM, 2025).

#### 1349 Bottlenose dolphin (*Tursiops truncatus*)

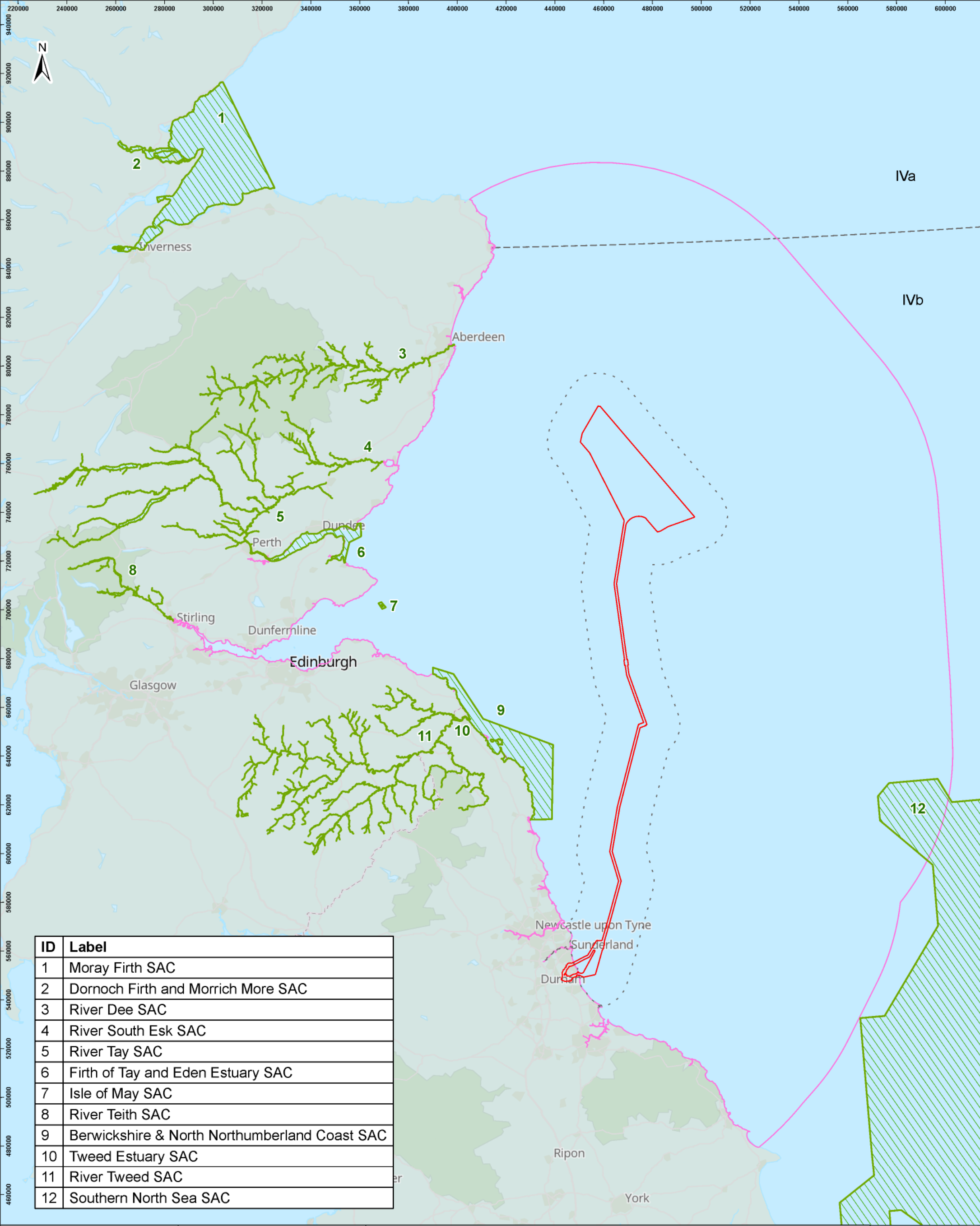
- 3.1.3.13 Bottlenose dolphins are present in UK waters in two discrete populations: one along the western isles and the other around the Moray Firth. Bottlenose dolphin are also present in two ecotypes in Scottish waters, the wide-ranging offshore ecotype and the philopatric coastal ecotype (Louis *et al.* 2014). Both populations are the coastal ecotype, primarily occurring in coastal waters and exhibiting high site fidelity. The Moray Firth has been a core location of the Coastal East Scotland population and due to their fidelity, has been designated as the Moray Firth SAC to protect this population (Fernandez-Betelu *et al.*, 2019). Individuals are present in the Moray Firth year-round but in recent years, their range of this population has expanded to regularly include the Tay, with individuals having been observed as far as southern England, Denmark, and the Netherlands (Cheney *et al.*, 2024).
- 3.1.3.14 The MHPGC Project occurs within the Greater North Sea MU for bottlenose dolphin and adjacent to the Coastal East Scotland MU. When considering the potential connectivity between these two MUs for this species, screening has encompassed both. The only designated sites present within these MUs for bottlenose dolphin is the Moray Firth SAC (160km from the closest point of the MHPGC Project Interim Boundary). Recent DAS surveys of Morven North and Morven South reported a total of 94 dolphins/porpoises (APEM, 2025), but identification to species level was not possible in this instance and no bottlenose dolphin were specifically observed.

#### 1364 Grey seal (*Halichoerus grypus*)

- 3.1.3.15 Grey seal are common in UK waters, hosting 34% of the world's breeding population (SCOS, 2024). They rest, breed, and moult at haul out sites along the UK coastline, the majority of which occur in western Scotland. Grey seal are highly mobile and are known to forage up to 448km away from their haul out sites, but typically remain within 100km of their haul out sites (Carter *et al.*, 2022). A recent study of grey seal site fidelity at SACs in Wales indicated that individuals maintain high inter-annual site fidelity, but move widely throughout the region, exhibiting extensive use of sites beyond the boundaries of the designated sites (Langley *et al.*, 2020). As such, it is important to consider designated sites that might occur great distances from the MHPGC Project.
- 3.1.3.16 The MHPGC Project occurs within the East Scotland and North East England MUs for grey seal. Within these MUs, the Berwickshire and North Northumberland Coast SAC and Isle of May SAC (25.6km and 94.1km from the closest point of the MHPGC Project Interim Boundary, respectively) have been designated for grey seal as they host important haul out sites and breeding colonies (SCOS, 2024). Both the Berwickshire and North Northumberland Coast SAC and Isle of May SAC support the large breeding colonies of grey seals, contributing to 3% and 4.5% of annual pup production in the UK respectively (SCOS, 2024).
- 3.1.3.17 The Berwickshire and North Northumberland Coast SAC for example, comprises two main haul-out sites for grey seal, including Farne Islands and Lindisfarne NNR. Individuals from this site are known to forage close to Farne Islands where there is preferred habitat for sandeel, a key food source for grey seals (Natural England, 2020).
- 3.1.3.18 Historic surveys have reported the greatest number of seals present locally occur over shallow sandbanks, such as the banks of the Firth of Forth Banks Complex (i.e. Scalp Bank, Wee Bankie, and Berwick Bank) which are all thought to be important areas for sandeel, a key prey item of grey seal (Sparling 2012; SSER 2022). However, recent DAS surveys for Morven North and Morven South reported only 11 individuals (APEM, 2025), which aligns with models of local at-sea distribution suggesting up to eight individuals may be present at any one time locally (Carter *et al.*, 2022).

### 1365 Harbour Seal (*Phoca vitulina*)

- 3.1.3.19 Harbour seals are also common in UK waters, hosting approximately 30% of the European population (SCOS, 2024). They are most common along the western Scottish coast throughout the Hebrides and northern islands, but on the east coast they're concentrated around major estuaries such as the Firth of Forth, Firth of Tay, and Moray Firth (SCOS, 2024).
- 3.1.3.20 Harbour seals similarly come onshore to rest, breed, and moult. They have been observed foraging up to 273km but typically remain within 50km of their haul out sites (Carter *et al.*, 2022). As highly mobile animals, the long-term recovery and maintenance of harbour seals in an SAC relies on their ability to utilise habitats and prey in adjacent sea areas (NatureScot, 2024f). Along the eastern UK coast, the most important haul out sites occur in the Moray Firth and Humber Estuary (SCOS, 2024), but there is little evidence of connectivity between these sites (Carter *et al.*, 2022).
- 3.1.3.21 The MHPGC Project occurs within the East Scotland and North East England MUs for harbour seal. Within these MUs, only the Firth of Tay and Eden Estuary SAC (95.9km from the closest point of the MHPGC Project Interim Boundary) is designated for harbour seal. Telemetry data indicates that individuals from this site remain nearby when foraging offshore, rather than travelling long distances to other sites (Carter *et al.*, 2022). Additionally, the population associated with this site has seen drastic declines in recent decades with individuals observed relocating to other haul out sites in the region (Carter *et al.*, 2022). Similarly, DAS surveys of Morven North and Morven South reported no harbour seals (APEM, 2025).



| ID | Label                                         |
|----|-----------------------------------------------|
| 1  | Moray Firth SAC                               |
| 2  | Dornoch Firth and Morrich More SAC            |
| 3  | River Dee SAC                                 |
| 4  | River South Esk SAC                           |
| 5  | River Tay SAC                                 |
| 6  | Firth of Tay and Eden Estuary SAC             |
| 7  | Isle of May SAC                               |
| 8  | River Teith SAC                               |
| 9  | Berwickshire & North Northumberland Coast SAC |
| 10 | Tweed Estuary SAC                             |
| 11 | River Tweed SAC                               |
| 12 | Southern North Sea SAC                        |



Morven

Offshore Wind Farm



Project Name:  
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:  
FIGURE 3.2 OFFSHORE MARINE ECOLOGY DESIGNATED SITES

0102030405060

km

Scale@A3:1:1,400,000

Service Layer Credits:  
Datum: European 1950  
Projection: ED 1950 UTM Zone 30N

Drawing Number:  
MHPGC-RAM-EY-0005-02

Data Sources:  
Ordnance Survey, NatureScot, Natural England, MS, Ramboll

Geodetic Information:  
Sources: Eas, Tonfom, Garmy, FAO, NOAA, USGS, ©OpenStreetMap contributors, and the GIS User Community. Contains OS data © Crown Copyright and database right 2023. Contains data from OS Zoning © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2024. ICS Spatial Facility, NCE, Copenhagen, CO, BY 4.0.

LEGEND

 MHPGC Project Interim Boundary

 13.5km Tidal Excursion ZoI

 Special Area of Conservation (SAC)

 Regional Fish and Shellfish Ecology Study Area

 ICES Statistical Areas FA27 IVa and IVb



### 3.1.4 Annex I marine ornithology

- 3.1.4.1 The MHPGC Project HRA Screening Report considers several marine ornithological features listed under Annex I of the Birds Directive that may be directly or indirectly affected by the MHPGC Project.

#### *Screening Criterion 1*

- 3.1.4.2 There is one marine SPA/Ramsar which overlaps with the MHPGC Project Interim Boundary. This is the Northumbria Coast SPA and Ramsar site, which is designated for both breeding and non-breeding birds, including breeding Arctic tern (*Sterna paradisaea*) and little tern (*Sternula albifrons*).

#### *Screening Criterion 2*

- 3.1.4.3 The approach to screening the National Sites for marine ornithology has taken into consideration statutory advice provided by NatureScot, Natural England and the JNCC, using the latest guidance and advice available. This includes NatureScot's Guidance Note 3 and Guidance Note 4 (NatureScot, 2023a; NatureScot, 2023b), that provides advice for identifying connectivity between breeding and non-breeding qualifying features of SPAs and accounting for species-specific foraging ranges.
- 3.1.4.4 The NatureScot (2023a, 2023b) guidance is considered specific to offshore wind farm developments and states that the approach provided should apply to all elements of proposed developments, including cable routes. Furthermore, Scottish Minister (MD-LOT) responses in the MHPGC Project Scoping Opinions, stated that this guidance should be applied when screening for marine ornithological sites [see Section 1.3].
- 3.1.4.5 To determine the LSE impact pathways for all inshore non-breeding/wintering seabird qualifying features of marine SPAs, the 15km recommended screening distance has been applied (NatureScot, 2023b).
- 3.1.4.6 During the breeding bird period, seabirds typically forage some distance from their nest site, some species travelling over large distances into offshore waters. There is, therefore, potential connectivity between these species that are designating features of SPAs and the MHPGC Project. The species foraging ranges established by Woodward *et al.* (2019), building on work by Thaxter *et al.* (2012), are used to screen in breeding bird SPAs [see Table 3.4].
- 3.1.4.7 In addition, NatureScot (2023a) Guidance Note 3 provides some exceptions to these foraging distances, that have also been considered as part of the screening of breeding bird SPAs [see Table 3.5].
- 3.1.4.8 Taking into consideration the foraging ranges for these species, a total of 32 sites in Scotland and six sites in England have been screened in [provided in Table 3.6, Figure 3.3 and Figure 3.4].

#### *Screening Criterion 3*

- 3.1.4.9 The maximum Zol for marine ornithology is disturbance from increased SSC and indirect impact from impacts to prey species (the full list of impact pathways considered for this receptor are provided in Section 4 and Table 4.5). The Zol for these impact pathways is based on the local tidal excursion distance, for which 13.5km has been adopted as a precautionary distance.
- 3.1.4.10 There are no additional National Sites which have been screened in based on this distance, which have not been considered above.
- 3.1.4.11 Sites designated for Annex I marine ornithological features are provided in Table 3.6, Figure 3.3 and Figure 3.4.

Table 3.4: Recommended foraging distances provided by Woodward *et al.* (2019)

| Relevant species*                                | Recommended foraging range (km) | Metric <sup>†</sup> | Confidence |
|--------------------------------------------------|---------------------------------|---------------------|------------|
| Little tern                                      | 5                               | Max/MM              | Moderate   |
| Roseate tern                                     | 23.2                            | MM+SD               | Moderate   |
| Common tern                                      | 26.9                            | MM+SD               | Good       |
| Arctic tern                                      | 40.5                            | MM+SD               | Good       |
| Sandwich tern                                    | 57.5                            | MM+SD               | Moderate   |
| Herring gull                                     | 85.6                            | MM+SD               | Good       |
| Common guillemot (excluding data from Fair Isle) | 95.2                            | MM+SD               | Highest    |
| Razorbill                                        | 122.2                           | MM+SD               | Good       |
| Lesser black-backed gull                         | 236                             | MM+SD               | Highest    |
| Atlantic Puffin                                  | 265.4                           | MM+SD               | Good       |
| Black-legged kittiwake                           | 300.6                           | MM+SD               | Good       |
| Northern gannet                                  | 509.4                           | MM+SD               | Highest    |
| Great skua                                       | 931.2                           | MM+SD               | Uncertain  |
| Northern fulmar                                  | 1200.2                          | MM+SD               | Good       |
| Manx shearwater                                  | 2365.5                          | MM+SD               | Moderate   |
| European storm petrel                            | 336                             | Max/MM              | Poor       |
| European shag                                    | 23.7                            | MM+SD               | Highest    |
| Great black-backed gull                          | 73                              | Max/MM              | Low        |
| Mediterranean gull                               | 20                              | Max/MM              | Uncertain  |

\* Species with foraging ranges that did not overlap the MHPGC Project have not been included in this table

<sup>†</sup> MM = Mean Max; SD = Standard Deviation

Table 3.5: Exceptions to Woodward *et al.* (2019) foraging distances provided in NatureScot (2023a)

| Species          | Exception Applied      | Recommended Foraging Range (km) | Metric* |
|------------------|------------------------|---------------------------------|---------|
| North gannet     | Forth Islands SPA      | 590                             | Max     |
|                  | Grassholm SPA          | 516.7                           | Max     |
|                  | St Kilda SPA           | 709                             | Max     |
| Common guillemot | All Northern Isle SPAs | 153.7                           | MM+SD   |
| Razorbill        | All Northern Isle SPAs | 164.6                           | MM+SD   |

\* MM = Mean Max; SD = Standard Deviation

Table 3.6: National Sites designated for Annex I marine ornithological receptors with qualifying features screened into the Test of LSE

| Relevant designated sites                                       | Qualifying feature(s)                                                                                                                                                                                                                                                                       | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Scottish National Site Network</b>                           |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                            |
| Outer Firth of Forth and St Andrews Bay Complex SPA (UK9020316) | Breeding: <ul style="list-style-type: none"> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Manx shearwater (<i>Puffinus puffinus</i>);</li> <li>Puffin (<i>Fratercula arctica</i>).</li> </ul> | <ul style="list-style-type: none"> <li>To ensure that the qualifying features of the sites are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.</li> <li>To ensure that the integrity of the sites are restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature: <ul style="list-style-type: none"> <li>2a: The populations of the qualifying features are viable components of the site;</li> <li>2b: The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species;</li> <li>2c: The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the site.</li> </ul> </li> </ul> | 44.3                                                                       |
| Fowlsheugh SPA (UK9002271)                                      | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 59.0                                                                       |
| Buchan Ness to Collieston Coast SPA (UK9002491)                 | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 68.3                                                                       |
| St Abb's Head to Fast Castle SPA (UK9004271)                    | Breeding: <ul style="list-style-type: none"> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 71.4                                                                       |

| Relevant designated sites                      | Qualifying feature(s)                                                                                                                                                                                                                                                                   | Conservation objectives | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|
| Forth Islands SPA (UK9004171)                  | Breeding: <ul style="list-style-type: none"> <li>Gannet (<i>Morus bassanus</i>);</li> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Lesser black-backed gull (<i>Larus fuscus</i>);</li> <li>Puffin (<i>Fratercula arctica</i>).</li> </ul> |                         | 92.6                                                                       |
| Troup, Pennan and Lion's Heads SPA (UK9002471) | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Razorbill (<i>Alca torda</i>);</li> <li>Seabird assemblage.</li> </ul>                     |                         | 107.4                                                                      |
| East Caithness Cliffs SPA (UK9001182)          | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                                                                                                           |                         | 198.0                                                                      |
| North Caithness Cliffs SPA (UK9001181)         | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Puffin (<i>Fratercula arctica</i>).</li> </ul>                                                                                              |                         | 218.1                                                                      |
| Copinsay SPA (UK9002151)                       | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                                                                                                           |                         | 237.0                                                                      |
| Hoy SPA (UK9002141)                            | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Puffin (<i>Fratercula arctica</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul>                                              |                         | 242.7                                                                      |

## Habitats Regulations Assessment Screening Report

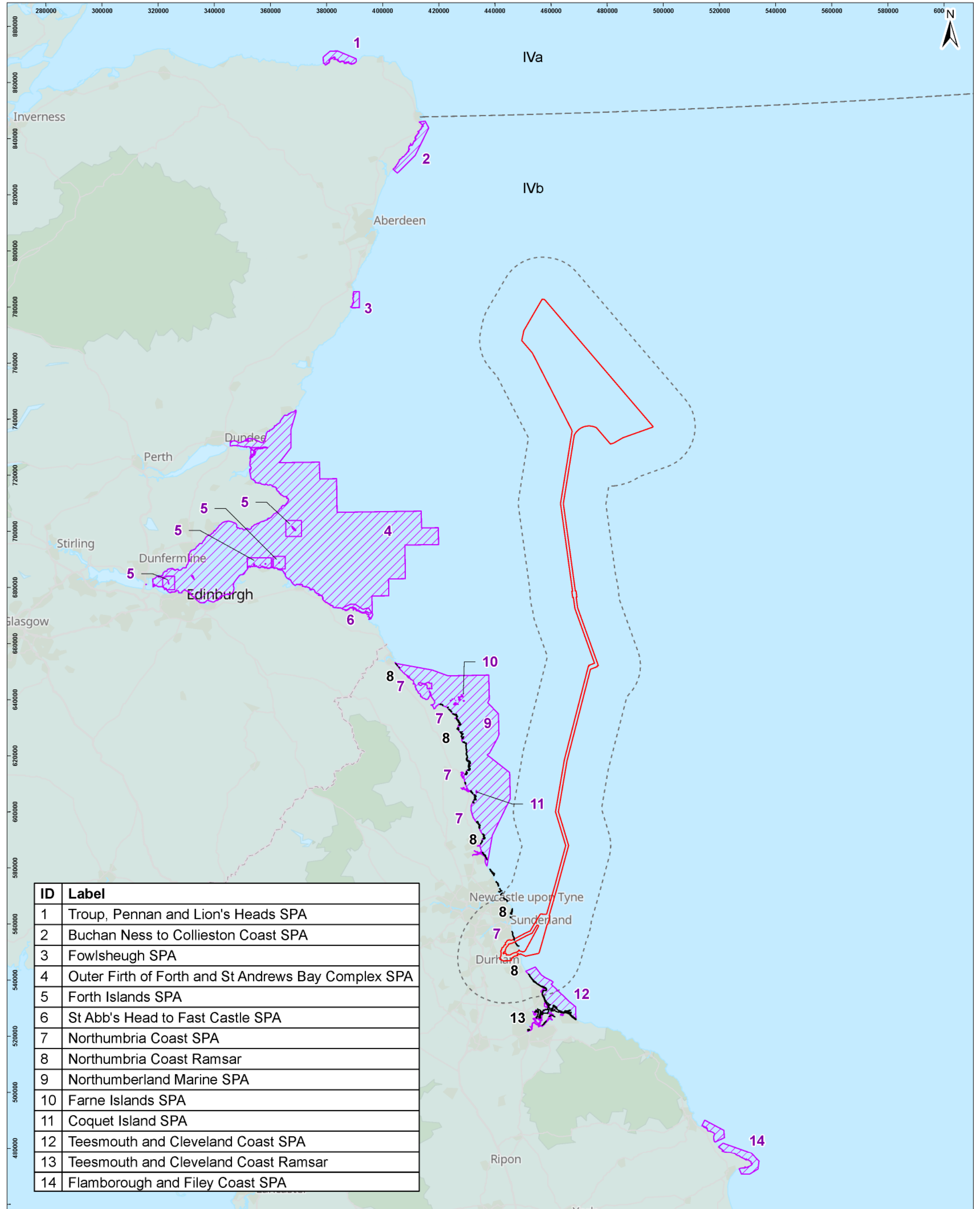
| Relevant designated sites     | Qualifying feature(s)                                                                                                                                                                         | Conservation objectives | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|
| Auskerry SPA (UK9002381)      | Breeding: <ul style="list-style-type: none"> <li>Storm petrel (<i>Hydrobates pelagicus</i>).</li> </ul>                                                                                       |                         | 251.32                                                                     |
| Calf of Eday SPA (UK9002431)  | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                 |                         | 273.4                                                                      |
| Rousay SPA (UK9002371)        | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                 |                         | 274.1                                                                      |
| Marwick Head SPA (UK9002121)  | Breeding: <ul style="list-style-type: none"> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                                                              |                         | 277.2                                                                      |
| West Westray SPA (UK9002101)  | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                 |                         | 284.6                                                                      |
| Priest Island SPA (UK9001261) | Breeding: <ul style="list-style-type: none"> <li>Storm petrel (<i>Hydrobates pelagicus</i>).</li> </ul>                                                                                       |                         | 288.0                                                                      |
| Fair Isle SPA (UK9002091)     | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul> |                         | 288.7                                                                      |
| Cape Wrath SPA (UK9001231)    | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                 |                         | 288.7                                                                      |
| Handa SPA (UK9001241)         | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul> |                         | 291.0                                                                      |

| Relevant designated sites                         | Qualifying feature(s)                                                                                                                                                                                    | Conservation objectives | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|
| Sule Skerry and Sule Stack SPA (UK9002181)        | Breeding: <ul style="list-style-type: none"> <li>Gannet (<i>Morus bassanus</i>);</li> <li>Leach's petrel (<i>Oceanodroma leucorhoa</i>);</li> <li>Storm petrel (<i>Hydrobates pelagicus</i>).</li> </ul> |                         | 307.3                                                                      |
| Sumburgh Head SPA (UK9002511)                     | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>).</li> </ul>                                                                                                          |                         | 325.9                                                                      |
| Shiant Isles SPA (UK9001041)                      | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>).</li> </ul>                                                                                                          |                         | 327.7                                                                      |
| Seas off Foula SPA (UK9020331)                    | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul>                                                          |                         | 329.3                                                                      |
| Noss SPA (UK9002081)                              | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul>                                                          |                         | 357.0                                                                      |
| Foula SPA (UK9002061)                             | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul>                                                          |                         | 358.4                                                                      |
| North Rona and Sula Sgeir SPA (UK9001011)         | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Leach's petrel (<i>Oceanodroma leucorhoa</i>);</li> <li>Gannet (<i>Morus bassanus</i>).</li> </ul>         |                         | 368.5                                                                      |
| Ronas Hill – North Roe and Tingon SPA (UK9002041) | Breeding: <ul style="list-style-type: none"> <li>Great skua (<i>Stercorarius skua</i>).</li> </ul>                                                                                                       |                         | 401.6                                                                      |
| Fetlar SPA (UK9002031)                            | Breeding: <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>);</li> <li>Great skua (<i>Stercorarius skua</i>);</li> </ul>                                                          |                         | 405.0                                                                      |

## Habitats Regulations Assessment Screening Report

| Relevant designated sites                              | Qualifying feature(s)                                                                                                                                                                                                                                                                                        | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Flannan Isles SPA (UK9001021)                          | Breeding: <ul style="list-style-type: none"><li>Fulmar (<i>Fulmarus glacialis</i>);</li><li>Leach's petrel (<i>Oceanodroma leucorhoa</i>).</li></ul>                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 411.1                                                                      |
| Ramna Stacks and Gruney SPA (UK9002021)                | Breeding: <ul style="list-style-type: none"><li>Leach's petrel (<i>Oceanodroma leucorhoa</i>).</li></ul>                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 417.1                                                                      |
| Hermaness, Saxa Vord and Valla Field SPA (UK9002011)   | Breeding: <ul style="list-style-type: none"><li>Fulmar (<i>Fulmarus glacialis</i>);</li><li>Great skua (<i>Stercorarius skua</i>).</li></ul>                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 424.5                                                                      |
| St Kilda SPA (UK9001031)                               | Breeding: <ul style="list-style-type: none"><li>Fulmar (<i>Fulmarus glacialis</i>);</li><li>Great skua (<i>Stercorarius skua</i>);</li><li>Gannet (<i>Morus bassanus</i>);</li><li>Leach's petrel (<i>Oceanodroma leucorhoa</i>);</li><li>Manx shearwater (<i>Puffinus puffinus</i>).</li></ul>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 448.1                                                                      |
| English National Site Network                          |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                            |
| Northumbria Coast SPA/Ramsar site (UK9020325/ UK11049) | Breeding: <ul style="list-style-type: none"><li>Arctic tern (<i>Sterna paradisaea</i>);</li><li>Little tern (<i>Sternula albifrons</i>).</li></ul> Non-breeding: <ul style="list-style-type: none"><li>Purple sandpiper (<i>Calidris maritima</i>);</li><li>Turnstone (<i>Arenaria interpres</i>).</li></ul> | <u>SPA</u><br>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: <ul style="list-style-type: none"><li>the extent and distribution of the habitats of the qualifying features;</li><li>the structure and function of the habitats of the qualifying features;</li><li>the supporting processes on which the habitats of the qualifying features rely;</li></ul> | 0.0 (overlaps with the MHPGC Project Interim Boundary)                     |

| Relevant designated sites                                     | Qualifying feature(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Teesmouth and Cleveland Coast SPA/Ramsar (UK9006061 /UK11068) | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Avocet (<i>Recurvirostra avosetta</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Knot (<i>Calidris canutus</i>);</li> <li>Redshank (<i>Tringa totanus</i>);</li> <li>Ruff (<i>Calidris pugnax</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Waterbird assemblage.</li> </ul> | <ul style="list-style-type: none"> <li>the population of each of the qualifying features;</li> <li>the distribution of the qualifying features within the site.</li> </ul> <p><u>Ramsar site</u></p> <p>Maintaining and restoring the ecological integrity, maintain water quality, monitor ecosystem health, and the protection of designated bird populations.</p> <p>These objectives are guided by the Ramsar Convention and the need to conserve the sites' qualifying features, including breeding and non-breeding bird species, and diverse wetland habitat.</p>                                                                                                                  | 4.5                                                                        |
| Northumberland Marine SPA (UK9020325)                         | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Puffin (<i>Fratercula arctica</i>);</li> <li>Roseate tern (<i>Sterna dougallii</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Seabird assemblage.</li> </ul>                                                                                                         | <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:</p> <ul style="list-style-type: none"> <li>the extent and distribution of the habitats of the qualifying features;</li> <li>the structure and function of the habitats of the qualifying features;</li> <li>the supporting processes on which the habitats of the qualifying features rely;</li> </ul> <ul style="list-style-type: none"> <li>the population of each of the qualifying features;</li> <li>the distribution of the qualifying features within the site.</li> </ul> | 16.7                                                                       |
| Coquet Island SPA (UK9009243)                                 | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>).</li> </ul>                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 28.7                                                                       |
| Farne Islands SPA (UK9006021)                                 | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Guillemot (<i>Uria aalge</i>).</li> </ul>                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 39.7                                                                       |
| Flamborough and Filey Coast SPA (UK9006101)                   | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>).</li> </ul>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 84.0                                                                       |



| ID | Label                                               |
|----|-----------------------------------------------------|
| 1  | Troup, Pennan and Lion's Heads SPA                  |
| 2  | Buchan Ness to Collieston Coast SPA                 |
| 3  | Fowlsheugh SPA                                      |
| 4  | Outer Firth of Forth and St Andrews Bay Complex SPA |
| 5  | Forth Islands SPA                                   |
| 6  | St Abb's Head to Fast Castle SPA                    |
| 7  | Northumbria Coast SPA                               |
| 8  | Northumbria Coast Ramsar                            |
| 9  | Northumberland Marine SPA                           |
| 10 | Farne Islands SPA                                   |
| 11 | Coquet Island SPA                                   |
| 12 | Teesmouth and Cleveland Coast SPA                   |
| 13 | Teesmouth and Cleveland Coast Ramsar                |
| 14 | Flamborough and Filey Coast SPA                     |

**Project Name:**  
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

**Drawing Title:**  
FIGURE 3.3 OFFSHORE MARINE ORNITHOLOGY DESIGNATED SITES

0 10 20 30 40 50 km

Scale@A3:1:1,200,000

**Service Layer Credits:**  
Datum: European 1950  
Projection: ED 1950 UTM Zone 30N

**Drawing Number:**  
MHPGC-RAM-EY-0006-02

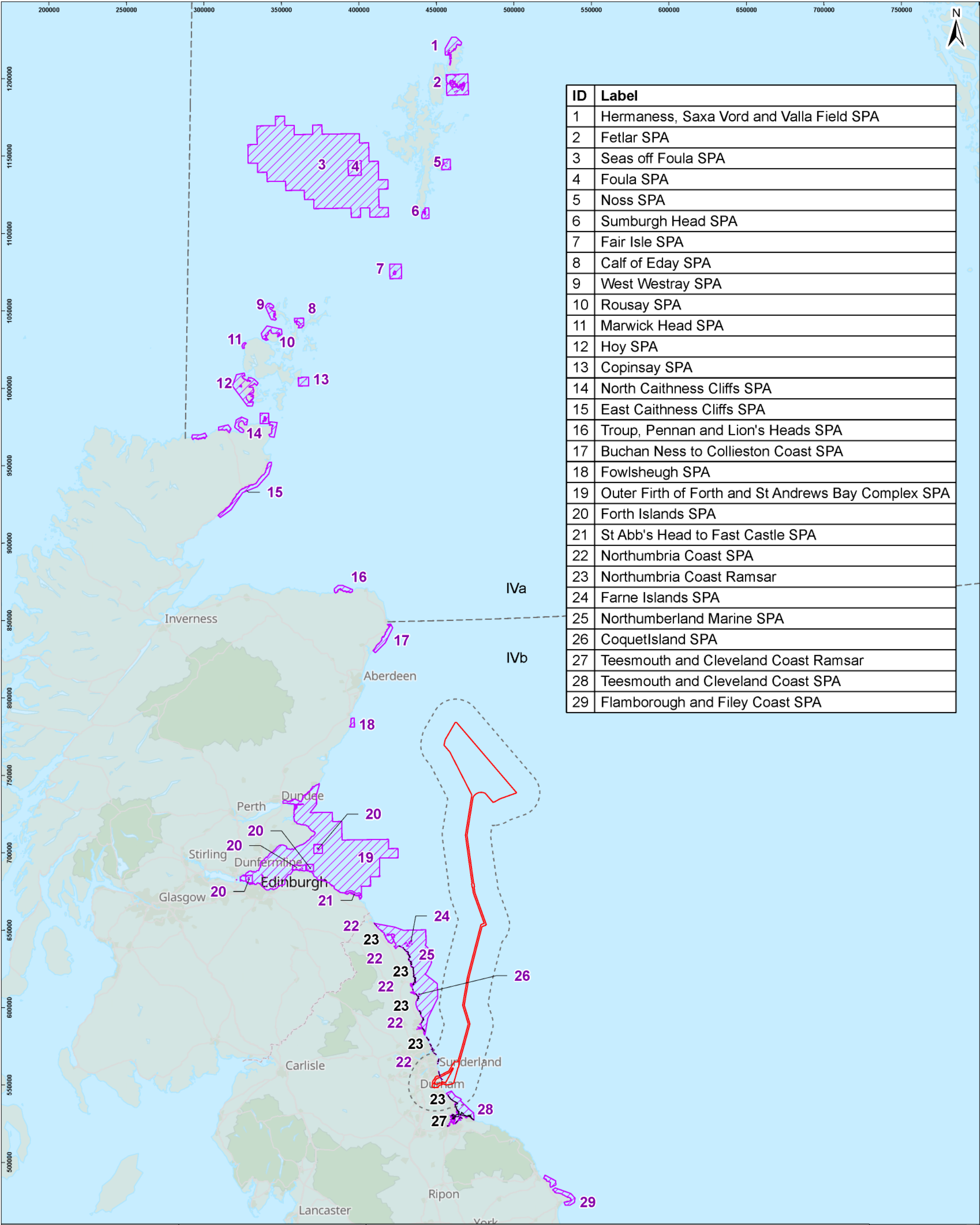
**Data Sources:**  
Ordnance Survey, NatureScot, Natural England, M3, Ramboll

**Geodetic Information:**  
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, ©OpenStreetMap contributors, and the GIS User Community. Contains OS data © Crown Copyright and database right 2023. Contains data from OS Zorinstock © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2024. ICES Statistical Areas, ICES, Copenhagen, CO, BY 4.0.

| VER | DATE     | DETAILS           | BY | CHECK |
|-----|----------|-------------------|----|-------|
| 01  | 17/09/25 | Initial Issue     | JC | RG    |
| 02  | 22/10/25 | Marginalia Update | JC | RG    |
| -   | -        | -                 | -  | -     |
| -   | -        | -                 | -  | -     |

**LEGEND**

- MHPGC Project Interim Boundary
- 15km Non-Breeding Screening Distance
- RAMSAR
- Special Protection Area (SPA)
- ICES Statistical Areas FA27 IVa and IVb



| ID | Label                                               |
|----|-----------------------------------------------------|
| 1  | Hermaness, Saxa Vord and Valla Field SPA            |
| 2  | Fetlar SPA                                          |
| 3  | Seas off Foula SPA                                  |
| 4  | Foula SPA                                           |
| 5  | Noss SPA                                            |
| 6  | Sumburgh Head SPA                                   |
| 7  | Fair Isle SPA                                       |
| 8  | Calf of Eday SPA                                    |
| 9  | West Westray SPA                                    |
| 10 | Rousay SPA                                          |
| 11 | Marwick Head SPA                                    |
| 12 | Hoy SPA                                             |
| 13 | Copinsay SPA                                        |
| 14 | North Caithness Cliffs SPA                          |
| 15 | East Caithness Cliffs SPA                           |
| 16 | Troup, Pennan and Lion's Heads SPA                  |
| 17 | Buchan Ness to Collieston Coast SPA                 |
| 18 | Fowlsheugh SPA                                      |
| 19 | Outer Firth of Forth and St Andrews Bay Complex SPA |
| 20 | Forth Islands SPA                                   |
| 21 | St Abb's Head to Fast Castle SPA                    |
| 22 | Northumbria Coast SPA                               |
| 23 | Northumbria Coast Ramsar                            |
| 24 | Farne Islands SPA                                   |
| 25 | Northumberland Marine SPA                           |
| 26 | Coquet Island SPA                                   |
| 27 | Teesmouth and Cleveland Coast Ramsar                |
| 28 | Teesmouth and Cleveland Coast SPA                   |
| 29 | Flamborough and Filey Coast SPA                     |

**Project Name:**  
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

**Drawing Title:**  
FIGURE 3.4 OFFSHORE MARINE ORNITHOLOGY DESIGNATED SITES

0 10 20 30 40 50 60 70 80 90 100 km

Scale@A3:1:2,200,000

**Service Layer Credits:**  
Datum: European 1950  
Projection: ED 1950 UTM Zone 30N

**Drawing Number:**  
MHPGC-RAM-EY-0007-02

**Data Sources:**  
Ordnance Survey, NatureScot, Natural England, M3, Ramboll

**Geodetic Information:**  
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| VER | DATE     | DETAILS           | BY | CHECK |
|-----|----------|-------------------|----|-------|
| 01  | 17/09/25 | Initial Issue     | JC | RG    |
| 02  | 22/10/25 | Marginalia Update | JC | RG    |
| -   | -        | -                 | -  | -     |
| -   | -        | -                 | -  | -     |

**LEGEND**

- MHPGC Project Interim Boundary
- 15km Non-Breeding Screening Distance
- RAMSAR
- Special Protection Area (SPA)
- ICES Statistical Areas FA27 IVa and IVb

## Seabirds

- 3.1.4.12 Further baseline information on the marine ornithology qualifying features screened into the Test of LSE, is provided in the sections below. Due to the large number of National Sites screened into the Test of LSE, focus has instead been given to the qualifying features of each site closest to the MHPGC Project.

### A009 Fulmar (*Fulmarus glacialis*)

- 3.1.4.13 Fulmar are a common seabird in the UK, with Scotland hosting 97% of the UK population (Scottish Wildlife Trust, No Date). They are pelagic, spending much of their lives at sea, returning to land only during the breeding season. During the breeding season (April-September), fulmar nest of cliff ledges and forage offshore. They have a large foraging range averaging  $542.3 \pm 657.9$ km, with some distances reaching up to 2,890km (Woodward *et al.* 2019). They forage both day and night, primarily as surface-feeding predators and scavengers, diving to depths usually less than 5m (Edwards *et al.* 2013). No sites designated for the protection of non-breeding assemblages of this species occur within 15km of the MHPGC Project, but there are several designated for breeding assemblages that occur within its foraging range [see Table 3.6]. The closest to the MHPGC Project is the Fowlsheugh SPA (59km from the closest point of the MHPGC Project Interim Boundary). Recent DAS surveys of Morven North and Morven South reported an abundance of fulmars, with a maximum of 7,761 individuals observed in June 2022 (APEM, 2025).

### A013 Manx shearwater (*Puffinus puffinus*)

- 3.1.4.14 Manx shearwater are common visitors to Scotland, which hosts around one third of the global population in summer months. They primarily breed on the Isle of Rum in the Hebrides, but can also be found on Canna, St Kilda, and the Treshnish Isles. Manx shearwater travel thousands of kilometres every year from their breeding grounds to waters offshore South America in winter, before returning to the same burrows for breeding. During the breeding season, their mean maximum foraging range is  $1,346.8 \pm 1,018.7$ km, with distances recorded up to 2,890km (Woodward *et al.* 2019).
- 3.1.4.15 The MHPGC Project occurs within the foraging range of Manx shearwater for only two designated sites: the Outer Firth of Forth and St Andrews Bay Complex SPA (44.3km from the closest point of the MHPGC Project Interim Boundary) and St Kilda SPA (448.1km). St Kilda was designated for its breeding colony of Manx shearwater whereas the Outer Firth of Forth and St Andrews Bay Complex SPA is known to support important feeding grounds for a variety of seabird species during breeding season, including Manx Shearwater. The SPA hosts abundant prey such as pelagic and demersal fish like sandeel, along with crustaceans, molluscs and marine worms. This richness in prey attracts numerous seabirds. Manx shearwaters extensively use these waters for foraging, loafing, preening and bathing.
- 3.1.4.16 In recent DAS surveys of Morven North and Morven South (APEM, 2025), Manx shearwater were reported irregularly in the survey area. They were only observed during summer months (May-September) in 2021 and 2023, with a maximum abundance of 425 individuals was estimated for July 2021. The second greatest abundance was 66 individuals, reported in July 2023. All other observations were less than 20 individuals.

### A016 Gannet (*Morus bassanus*)

- 3.1.4.17 Gannets are a common seabird species in UK waters, nesting on coastal cliffs around Scotland, north-east England, the Channel Islands, and Wales. Breeding sites in Scotland supporting around 55% of the global population. During the breeding period, gannets have a mean maximum foraging range of  $315.2 \pm 194.2$ km, with recorded distances exceeding 700km (Woodward *et al.* 2019).
- 3.1.4.18 The MHPGC Project occurs within the foraging range for individuals associated with Sule Skerry and Sule Stack SPA and the Forth Islands SPA (307.38km and 92.6km from the closest point of the MHPGC Project Interim Boundary, respectively). The gannet colony at the Forth Islands SPA is concentrated on Bass Rock, where breeding habitat remains available.

#### A169 Little tern (*Sternula albifrons*)

- 3.1.4.19 Little tern nest in small colonies on sand, pebble and shingle areas near the tideline, making their nests vulnerable to spring tides. Foraging involves plunge-diving or dipping for prey, such as small fish, crustaceans and insects, often in shallow waters close to the shoreline. Although they have a maximum foraging distance of 5km (Woodward *et al.*, 2019), most foraging occurs within 1km of the coast (Natural England, 2012b).
- 3.1.4.20 The MHPGC Project occurs within the foraging range for individuals associated with the Northumbria Coast SPA and Teesmouth and Cleveland Coast SPA. Within Northumbria Coast SPA and Ramsar site, little tern can be found nesting at the sandy beaches and feeding in the shallow inshore waters of the Long Nanny estuary, at Low Newton (Natural England, 2000). At Teesmouth and Cleveland Coast SPA, terns nest at Newton Links/Long Nanny and forage in Beadnell Bay and the surrounding coastal waters, which support a large number of sandeel (Natural England, 2017). This aligns with recent DAS surveys of Morven North and Morven South, which reported no little tern (APEM, 2025).

#### A175 Great skua (*Stercorarius skua*)

- 3.1.4.21 During the breeding season, great skua have a mean maximum foraging range of  $443.3 \pm 487.9$ km, sometimes exceeding 1,000km (Woodward *et al.* 2019). They often bathe communally in freshwater, with Heldale Water and Hoglins Water being the primary bathing sites at Hoy SPA (NatureScot, 2024).
- 3.1.4.22 At Hoy SPA, great skuas nest on moorlands and hillsides, with higher densities in the flatter southern areas. They feed by kleptoparasitism, predating eggs, chicks and adult birds, scavenging, and foraging at sea. Historically, fishery discards have been a significant food source. Recent DAS surveys of Morven North and Morven South only reported 4 individuals, resulting in an estimated abundance of 8 or 9 individuals across the survey area (APEM, 2025). This suggests this species is unlikely to occur locally in great quantities.

#### A183 Lesser black-backed gull (*Larus fuscus*)

- 3.1.4.23 Lesser black-backed gulls are present year-round at the Forth Islands SPA, breeding from mid-March to August, with some migrating to wintering grounds from September to mid-March. They nest on ledges and grass, with the largest colonies on Isle of May, and significant populations on Craighleith and Fidra. Smaller numbers are found on Bass Rock, Inchmickery and The Lamb. Their nests, made from grass, moss and sometimes seaweed, are typically on flat ground. Lesser Black-backed Gulls forage, rest and carry out maintenance activities in coastal and offshore waters, primarily as surface feeders, scavengers and predators (NatureScot, 2024c). During breeding season, their mean foraging range is  $127 \pm 109$ km, extending much further in the non-breeding season (Woodward *et al.* 2019). Recent DAS surveys of Morven North and Morven South reported only a single individual (APEM, 2025), suggesting they are unlikely to occur offshore in the MHPGC Project area in great quantities.

#### A184 Herring gull (*Larus argentatus*)

- 3.1.4.24 Herring gulls are present at the Fowlsheugh SPA year-round, with breeding from March to August and non-breeding from September to February. They nest on cliffs, flat rocks and beaches, typically on flat ground with shallow nests made of grass, moss, and sometimes seaweed. Herring gulls forage, rest and conduct other activities in coastal and offshore waters. They are primarily surface feeders, scavengers, and predators, capable of diving up to 2m for prey and sometimes kleptoparasitising other seabirds for fish like sandeel (*Ammodytes tobianus*) (NatureScot, 2024b). During the breeding season, their mean maximum foraging range is  $58.8 \pm 26.8$ km, which may extend further during the non-breeding season (Woodward *et al.* 2019).
- 3.1.4.25 Recent DAS surveys of Morven North and Morven South reported 65 individuals, resulting in an overall abundance estimate of 353 individuals across the survey area (APEM, 2025). Of those observed, the majority (41 individuals) were reported on a single occasion in July 2021. All other observations were less than 10 individuals.

#### A188 Black-legged Kittiwake (*Rissa tridactyla*)

- 3.1.4.26 Black-legged kittiwakes are surface feeders that take prey by dipping into the water and occasionally performing shallow plunge-dives, typically less than a meter deep. They often follow ships to

scavenge offal and bycatch. Their diet mainly consists of small shoaling fish like sand eels, herrings, and sprats, but during the breeding season, they also forage on intertidal crustaceans and molluscs. Their foraging strategy involves roaming large sea areas, with a recorded maximum distance of 231km and a mean range of 60km. They concentrate in high-productivity regions such as cold water upwellings, water mass fronts and sandbanks. Kittiwakes often forage near common guillemots and razorbills, benefiting from fish driven to the surface by these birds (Natural England, 2012g).

- 3.1.4.27 Recent DAS surveys of Morven North and Morven South reported a total of 3,128 individuals, which were regularly reported in various quantities throughout the survey period (APEM, 2025). In each survey year, the greatest number of individuals were observed during summer months (June-July). This suggests that this species regularly occurs within the area and individuals associated with nearby designated sites may interact with the MHPGC Project.

A191 Sandwich tern (*Sterna sandvicensis*)

- 3.1.4.28 Sandwich terns nest in dense colonies on dunes, shingle spits, ridges and low offshore islands, often near black-headed gull colonies to minimise disturbances. Although they exhibit a maximum foraging distance of 54km and a mean maximum of 49km (Natural England, 2012a), their preferred foraging areas are shallow coastal waters, estuaries and offshore sandbanks. This is supported by Recent DAS surveys of Morven North and Morven South, which reported only a single individual across all survey years (APEM, 2025).
- 3.1.4.29 Within Teesmouth and Cleveland Coast SPA/Ramsar site, in late summer the Sandwich terns aggregate in important numbers at Coatham Sands, Seal Sands, North Gare Sands/Seaton Snook and Bran Sands when on passage (Natural England, 2024).

A193 Common tern (*Sterna hirundo*)

- 3.1.4.30 Common terns nest in diverse locations, such as offshore islands, sand dunes, shingle spits, lagoon islands, gravel pits, lakes, reservoirs and provided floating rafts. Common terns feed on small fish, crustaceans, terrestrial insects and occasionally squid, foraging in various habitats, including rivers, creeks, inlets and bays, especially during the breeding season (Natural England, 2012d). Their mean maximum foraging range has been reported as 26.9km. Within the Teesmouth and Cleveland Coast SPA/Ramsar site, in summer, the common tern breed at various locations but the main colony can be found at Saltholme. They feed within the River Tees, associated water bodies, the wider estuary mouth and bay (Natural England, 2024).
- 3.1.4.31 Recent DAS surveys of Morven North and Morven South reported 225 individuals, the majority of which (205 individuals) were observed on a single occasion in August 2022 (APEM, 2025). However, the survey seemingly recorded both Arctic tern and common tern together, perhaps due to difficulties in identification. Additional confirmed presence of Arctic terns was reported, which are known to forage further offshore than common tern. As such, although some common tern may occur within the MHPGC Project area, it is possible that the individuals reported here are primarily Arctic tern.

A194 Arctic tern (*Sterna paradisaea*)

- 3.1.4.32 Arctic terns nest densely on dunes, shingle spits, ridges and low offshore islands with minimal disturbance, as well as among other tern species. Arctic terns feed on small fish, crustaceans and zooplankton, primarily sandeels, sprat, herring, and saithe in the UK. During the breeding season, they forage in shallow inshore waters and further offshore, favouring bays, rocky shores, tidal rips, ocean fronts and upwellings with a mean maximum foraging range of 40.5km, (Woodward et al., 2019). Arctic terns in the UK are primarily found in northerly regions, with breeding populations concentrated in Shetland, Orkney and north and west Scotland (Mitchell et al. 2004). In England, apart from three large colonies in Northumberland (Coquet Island, the Farne Islands and Newton Links/Long Nanny), Arctic terns are rare breeders (Natural England, 2015).
- 3.1.4.33 Recent DAS surveys of Morven North and Morven South reported 445 individuals, corresponding to an overall abundance estimate of 3,772. Of these, the majority were reported on a single occasion, with 430 individuals observed in August 2022. Additionally, some Arctic tern were recorded together with common tern as 'commic tern', presumably due to identification challenges. For this grouping, a total of 225 individuals were reported. When considering that Arctic tern forage further offshore comparatively to common tern, it is likely that a substantial number of these individuals are Arctic tern, suggesting a potential association with the MHPGC Project for this species.

#### A195 Roseate tern (*Sterna dougallii*)

- 3.1.4.34 Roseate terns typically breed on small, low islands, often choosing sheltered areas like low walls but can also nest within other tern colonies on sandbars, dunes and artificial islands in lagoons (Natural England, 2012c). They primarily feed on small shoaling fish, such as sandeel (*A. tobianus*), and occasionally on small crustaceans, foraging over sandy substrates in shallow waters, utilising areas with upwelling, tidal rips and shoals. Their foraging range is smaller than that of Sandwich terns, with a mean maximum distance of 23.2km (Woodward *et al.*, 2019).
- 3.1.4.35 The Northumberland Marine SPA supports the only existing Roseate tern breeding colony during the breeding season, located at Coquet Island SPA. From 2010 to 2014, Coquet Island hosted an average of 160 breeding adults, which accounts for 93.02% of the UK's breeding population. Models show that Roseate terns primarily forage in areas stretching from Boulmer in the north to Cambois in the south, including offshore waters (Natural England, 2015). This is supported by recent DAS surveys of Morven North and Morven South, which reported no roseate tern (APEM, 2025). This suggests that roseate tern will not interact with the entire length of the MHPGC Project but may be present in inshore waters.

#### A199 Common Guillemot (*Uria aalge*)

- 3.1.4.36 Guillemots nest in dense colonies on steep mainland cliffs, stacks and islands, laying a single tapered egg on a ledge to prevent rolling. They dive from the sea surface, using their wings to pursue smaller schooling fish like sandeel (*A. tobianus*), typically diving less than 50m but capable of reaching 200m. Guillemots form dense feeding flocks when prey is abundant and carry a single fish back to feed their chicks. They forage in inshore and offshore waters, with a mean maximum foraging range of 95.2km (Woodward *et al.*, 2019). Farne Islands SPA and Flamborough and Filey Coast SPA both support a breeding colony of common Guillemot.
- 3.1.4.37 Recent DAS surveys of Morven North and Morven South reported a total of 23,108 individuals, corresponding to an abundance estimate more than 100,000 (APEM, 2025). They were reported in every survey month, with a median value of 309 individuals. As such, they are highly likely to interact with the MHPGC Project.

#### A200 Razorbill (*Alca torda*)

- 3.1.4.38 Razorbills breed at the Troup, Pennan, and Lion's Heads SPA from March to September and then undergo a flightless moult from mid-August to October. They nest in cliff crevices, often mixed with common guillemots, and among boulders on grassy slopes or rocky beaches. Razorbills forage, rest and conduct maintenance activities in coastal and offshore waters. The largest colonies in the SPA are at Troup Head and Crovie to Collie Head (NatureScot, 2024d). During the breeding period, their mean maximum foraging range is 88.7 ± 75.9km (Woodward *et al.* 2019). They often roost on the sea overnight, drifting with the tide during rest (Cooper *et al.* 2018).
- 3.1.4.39 Recent DAS surveys of Morven North and Morven South reported a total of 3,867 individuals, corresponding to an estimated abundance more than 32,000 individuals (APEM, 2025). Individuals were reported in every survey month, with the greatest abundances observed in summer months each year (Jun-Aug). As such, it is likely that this species will interact with the MHPGC Project.

#### A204 Puffin (*Fratercula arctica*)

- 3.1.4.40 Puffins forage, roost and carry out maintenance activities in inshore and offshore waters, diving up to 70m. Their diet consists mainly of pelagic and demersal fish like sandeel (*A. tobianus*), clupeids and gadoids, with sandeel comprising 60 to 90% of their North Sea diet, crucial for breeding success (NatureScot, 2022). The Northumberland Marine SPA supports crucial behaviours for puffin breeding colonies on the Farne Islands and Coquet Island. As of the most recent census in 2013, the combined population of these colonies is 54,242 pairs (108,484 breeding adults), which amounts to 1.05% of the North East Atlantic biogeographic population. Due to its support for over 1% of this population, puffin is proposed as a qualifying feature of the SPA (Natural England, 2015).
- 3.1.4.41 Puffins inhabit the Outer Firth of Forth and St Andrews Bay Complex SPA from mid-March to late August, occasionally feeding chicks into September and their flightless moult occurs from February to mid-March. In the SPA, puffins are densely concentrated around the Isle of May, extending into adjacent waters. They forage both inshore and offshore, with a mean range of 137km during

breeding, up to 380km (Woodward *et al.* 2019), but typically within 10km when feeding chicks. Critical supporting processes at the Outer Firth of Forth and St Andrews Bay Complex SPA include water quality and flow for puffin survival and reproduction (NatureScot, 2022).

- 3.1.4.42 Recent DAS surveys of Morven North and Morven South reported 1,167 individuals, corresponding to an estimated abundance more than 9,000 individuals (APEM, 2025). Individuals were recorded in all but two months, with the greatest abundance observed in spring and summer months each year. As such, it is likely that individuals will interact with the MHPGC Project during their breeding season.

### *Wading birds/waterfowl*

#### A132 Pied avocet (*Recurvirostra avosetta*)

- 3.1.4.43 The avocet, a slender wader, feeds by sweeping its bill side-to-side in shallow water to catch aquatic insects, worms and crustaceans. Commonly found on estuaries and mudflats, it breeds in exposed mud, creating a scrape for nesting. Its primary breeding grounds are shallow coastal lagoons on the east coast of England, and it winters in sheltered estuaries on the south coast. Recently, small numbers have started breeding at inland saline lagoons, including in Worcestershire. This species has been listed as a qualifying feature of the Teesmouth and Cleveland Coast SPA.

#### A148 Purple sandpiper (*Calidris maritima*)

- 3.1.4.44 Purple sandpipers are predominantly found on rocky shores, where they feed on a variety of marine invertebrates with a particular preference for mussels, winkles and dog whelks (Feare, 1996). Occasionally, they forage on banks of rotting seaweed along the strandline, consuming the larvae, pupae and adults of kelp flies (*Coelopidae* sp.) (Lack, 1986). They typically roost on offshore reefs and mainland shores. The Northumbria Coast SPA/Ramsar site supports internationally important numbers of purple sandpiper, as the artificial pier at this site provides vital feeding and roosting habitat for the species.

#### A169 Turnstone (*Arenaria interpres*)

- 3.1.4.45 Turnstones have a more diverse diet than purple sandpiper which includes winkles, shrimps and barnacles (Harris, 1979). Turnstones forage on seaweed-covered rocks and typically gather at high tide to roost on the mainland shore or continue feeding on banks of washed-up seaweed along the strandline. The removal of rotting seaweed from the shore disrupts key habitats for invertebrates like kelp fly larvae (*Coelopidae* sp.), which serve as essential food sources for the Turnstones.

#### A148 Knot (*Calidris canutus*), A162 Redshank (*Tringa tetanus*) and A151 Ruff (*Calidris pugnax*)

- 3.1.4.46 The saltmarsh and mudflat habitats of the Teesmouth and Cleveland Coast SPA are vital for feeding and roosting a diverse array of waterbirds, especially during winter and passage periods. These habitats support internationally significant populations of common redshank, red knot, and ruff. Mudflats are rich in benthic invertebrates, including worms, molluscs and crustaceans, which serve as crucial food sources for migrant and overwintering SPA bird species. Additionally, the saltmarsh areas provide essential feeding and roosting opportunities for the Common Redshank and Red Knot (Natural England, 2024).

## 3.2 Onshore

- 3.2.1.1 The onshore section of the MHPGC Project is located in England only and so there are no Scottish National Sites that have been screened in.

### 3.2.1 Annex I terrestrial habitats

- 3.2.1.1 The MHPGC Project HRA Screening Report considers several terrestrial habitats listed under Annex I of the Habitats Regulations that fall within the ZoI for the MHPGC Project.

#### *Screening Criterion 1*

- 3.2.1.2 There is one onshore National Site designated for Annex I terrestrial habitats which overlaps with the MHPGC Project Interim Boundary. This is the Durham Coast SAC which is protected for vegetated sea cliffs of the Atlantic and Baltic coasts.

### Screening Criterion 2

- 3.2.1.3 The second criterion provided is only relevant to qualifying features that are mobile (i.e. Annex II terrestrial fauna and Annex I ornithology) rather than habitats which are fixed in location. Therefore, Screening Criterion 2 is not relevant for Annex I terrestrial habitats.

### Screening Criterion 3

- 3.2.1.4 For this receptor, the screening of designated sites has considered the maximum ZOI (the full list of impact pathways considered for this receptor are provided in Section 4 and Table 4.8). This is from a change in air quality which has a maximum ZOI of 250 metres (m). This distance relates to guidance published by the Institute of Air Quality Management (IAQM, 2024) suggests that dust impacts may extend up to 250m from construction site boundaries, and up to 250m from the construction site entrance/exit along roads on which construction traffic is travelling.
- 3.2.1.5 No additional National Sites have been screened in based on Screening Criterion 3.
- 3.2.1.6 The following sites were considered initially as they were highlighted as part of the MHPGC Scoping Opinion but were screened out on the basis that they fall outside of the MHPGC Project ZOI and comprise Annex I terrestrial habitats which are fixed in location. These sites are [see Figure 3.5]:
- Castle Eden Dene SAC, designated for *Taxus baccata* woods of the British Isles;
  - Thrislington SAC, designated for semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco Brometalia*).
- 3.2.1.7 National Sites designated for Annex I terrestrial habitats considered within this MHPGC Project HRA Screening Report are presented in Table 3.7 and Figure 3.5.

Table 3.7: National Sites designated for Annex I terrestrial habitats screened into the Test of LSE at the Landfall

| Relevant designated sites    | Qualifying feature(s)                                                                                       | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Durham Coast SAC (UK0030140) | <ul style="list-style-type: none"> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts.</li> </ul> | <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:</p> <ul style="list-style-type: none"> <li>• the extent and distribution of qualifying natural habitats;</li> <li>• the structure and function (including typical species) of qualifying natural habitats;</li> <li>• the supporting processes on which the qualifying natural habitats rely.</li> </ul> | 0.0 (overlaps with the MHPGC Project Interim Boundary)                     |

- 3.2.1.8 Further baseline information on the Annex I terrestrial habitat qualifying features screened into the Test of LSE, is provided in the sections below.

#### 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

- 3.2.1.9 Vegetated sea cliffs are steep coastal slopes formed by marine erosion, featuring diverse vegetation types influenced by maritime conditions. In the UK, high exposure on south-west and northern coasts results in significant salt spray, affecting vegetation salinity, which varies with rainfall. Highly

exposed cliffs support salt-tolerant plants, while sheltered cliffs host flora similar to inland grasslands and heath, with minor maritime influence.

- 3.2.1.10 The Durham Coast SAC is the only example of vegetated sea cliffs on magnesian limestone exposures in the UK. These cliffs stretch over 20km along the North Sea coast, from South Shields to Blackhall Rocks. This habitat is the primary reason for the designation of the Durham Coast SAC.

### 3.2.2 Annex I terrestrial ornithology

- 3.2.2.1 The MHPGC Project HRA Screening Report considers several terrestrial ornithological features listed under Annex I of the Birds Directive that may have direct and indirect interactions with the MHPGC Project.

#### *Screening Criterion 1*

- 3.2.2.2 There are two onshore National Sites designated for ornithological qualifying features which overlap with the MHPGC Project Interim Boundary. These are the Northumbria Coast SPA and Ramsar site.

#### *Screening Criterion 2*

- 3.2.2.3 The distance provided as part of Screening Criterion 2 is a 20km search buffer. This area reflects the potential for bird species that are qualifying features of designated sites which depend on functionally linked land located beyond the boundary of the relevant National Site.
- 3.2.2.4 Marine SPAs may also be subject to impacts from onshore activities where qualifying species have nesting and roosting sites above MHWS. As such, the onshore screening approach also considers these sites where connectivity to their qualifying features is present.
- 3.2.2.5 The Teesmouth and Cleveland Coast SPA/Ramsar sites are located within this screening distance.

#### *Screening Criterion 3*

- 3.2.2.6 For onshore Annex I terrestrial ornithology, the screening of designated sites has considered the maximum Zol for this receptor (the full list of impact pathways considered for this receptor are provided in Section 4 and Table 4.10). This is from a change in air quality which has a maximum Zol of 250m. No additional National Sites have been screened in based on Screening Criterion 3.
- 3.2.2.7 Annex I ornithology National Sites considered within this MHPGC Project HRA Screening Report are presented in Table 3.8 and Figure 3.5.

Table 3.8: National Sites designated for Annex I terrestrial ornithology screened into the Test of LSE at the Landfall

| Relevant designated sites                     | Qualifying feature(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Conservation objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Northumbria Coast SPA (UK9006131)             | Breeding: <ul style="list-style-type: none"> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> Non-breeding: <ul style="list-style-type: none"> <li>Purple sandpiper (<i>Calidris maritima</i>);</li> <li>Turnstone (<i>Arenaria interpres</i>).</li> </ul>                                                                                                                                                                                                                    | Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: <ul style="list-style-type: none"> <li>the extent and distribution of the habitats of the qualifying features;</li> <li>the structure and function of the habitats of the qualifying features;</li> <li>the supporting processes on which the habitats of the qualifying features rely;</li> <li>the population of each of the qualifying features;</li> <li>the distribution of the qualifying features within the site.</li> </ul> | 0.0 (overlaps with the MHPGC Project Interim Boundary)                     |
| Northumbria Coast Ramsar site (UK11049)       | Protecting wetland habitats which support the qualifying features of the Northumbria Coast Ramsar site.                                                                                                                                                                                                                                                                                                                                                                              | Maintaining and restoring the ecological integrity, maintain water quality, monitor ecosystem health, and the protection of designated bird populations.<br><br>These objectives are guided by the Ramsar Convention and the need to conserve the sites' qualifying features, including breeding and non-breeding bird species, and diverse wetland habitat.                                                                                                                                                                                                                                                                              | 0.0 (overlaps with the MHPGC Project Interim Boundary)                     |
| Teesmouth and Cleveland Coast SPA (UK9006061) | Breeding: <ul style="list-style-type: none"> <li>Pied avocet (<i>Recurvirostra avosetta</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> Non-breeding: <ul style="list-style-type: none"> <li>Red knot (<i>Calidris canutus</i>);</li> <li>Ruff (<i>C. pugnax</i>);</li> <li>Common redshank (<i>Tringa tetanus</i>);</li> <li>Sandwich tern (<i>Sterna sandvicensis</i>);</li> <li>Waterbird assemblage.</li> </ul> | Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: <ul style="list-style-type: none"> <li>the extent and distribution of the habitats of the qualifying features;</li> <li>the structure and function of the habitats of the qualifying features;</li> <li>the supporting processes on which the habitats of the qualifying features rely;</li> <li>the population of each of the qualifying features;</li> <li>the distribution of the qualifying features within the site.</li> </ul> | 4.5                                                                        |

| Relevant designated sites                           | Qualifying feature(s)                                                                                       | Conservation objectives                                                                                                                                                                                                                                                                                                                                             | Distance from the closest point of the MHPGC Project Interim Boundary (km) |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Teesmouth and Cleveland Coast Ramsar site (UK11068) | Protecting wetland habitats which support the qualifying features of the Teesmouth and Cleveland Coast SPA. | <p>Maintaining and restoring the ecological integrity, maintain water quality, monitor ecosystem health, and the protection of designated bird populations.</p> <p>These objectives are guided by the Ramsar Convention and the need to conserve the sites' qualifying features, including breeding and non-breeding bird species, and diverse wetland habitat.</p> | 8.2                                                                        |

3.2.2.8 The ornithological features for which there are potential for the MHPGC Project to affect, are designated as part of SPAs with marine components. These birds are dependent on the marine environment for all or part of their life cycle, where species are associated with intertidal or subtidal habitats within the site (i.e. below MHWS). However, these species typically nest, roost or loaf on coastal habitats such as Atlantic meadows and cliffs. These coastal habitats are terrestrial and therefore have the potential to be affected by onshore impact pathways from the MHPGC Project.

3.2.2.9 For further information regarding the ecology of these listed species, see Section 3.1.4.

### 3.2.3 Annex II terrestrial flora

3.2.3.1 The MHPGC Project HRA Screening Report considers the direct and indirect interactions between the MHPGC Project and SACs designated for terrestrial flora features listed under Annex II of the Habitats Regulations.

#### *Screening Criterion 1*

3.2.3.2 There are no National Sites designated for Annex II terrestrial flora which overlap with the MHPGC Project Interim Boundary.

#### *Screening Criterion 2*

3.2.3.3 The second criterion provided is only relevant to qualifying features that are mobile (i.e. Annex II terrestrial fauna and Annex I ornithology) rather than habitats which are fixed in location. Therefore, Screening Criterion 2 is not relevant for Annex II terrestrial flora.

#### *Screening Criterion 3*

3.2.3.4 For onshore Annex II terrestrial flora, the screening of designated sites has considered the maximum Zol for this receptor. This is from a change in air quality which has a maximum Zol of 250m. No additional National Sites have been screened in based on Screening Criterion 3.

3.2.3.5 Overall, no sites designated for Annex II terrestrial flora species were identified within the maximum Zol for the MHPGC Project. Therefore, this receptor has not been taken through to the Test of LSE.

### 3.2.4 Annex II terrestrial fauna

3.2.4.1 The MHPGC Project HRA Screening Report considers the direct and indirect interactions between the MHPGC Project and SACs designated for terrestrial fauna features listed under Annex II of the Habitats Regulations.

#### *Screening Criterion 1*

3.2.4.2 There are no National Sites designated for Annex II terrestrial fauna which overlap with the MHPGC Project Interim Boundary.

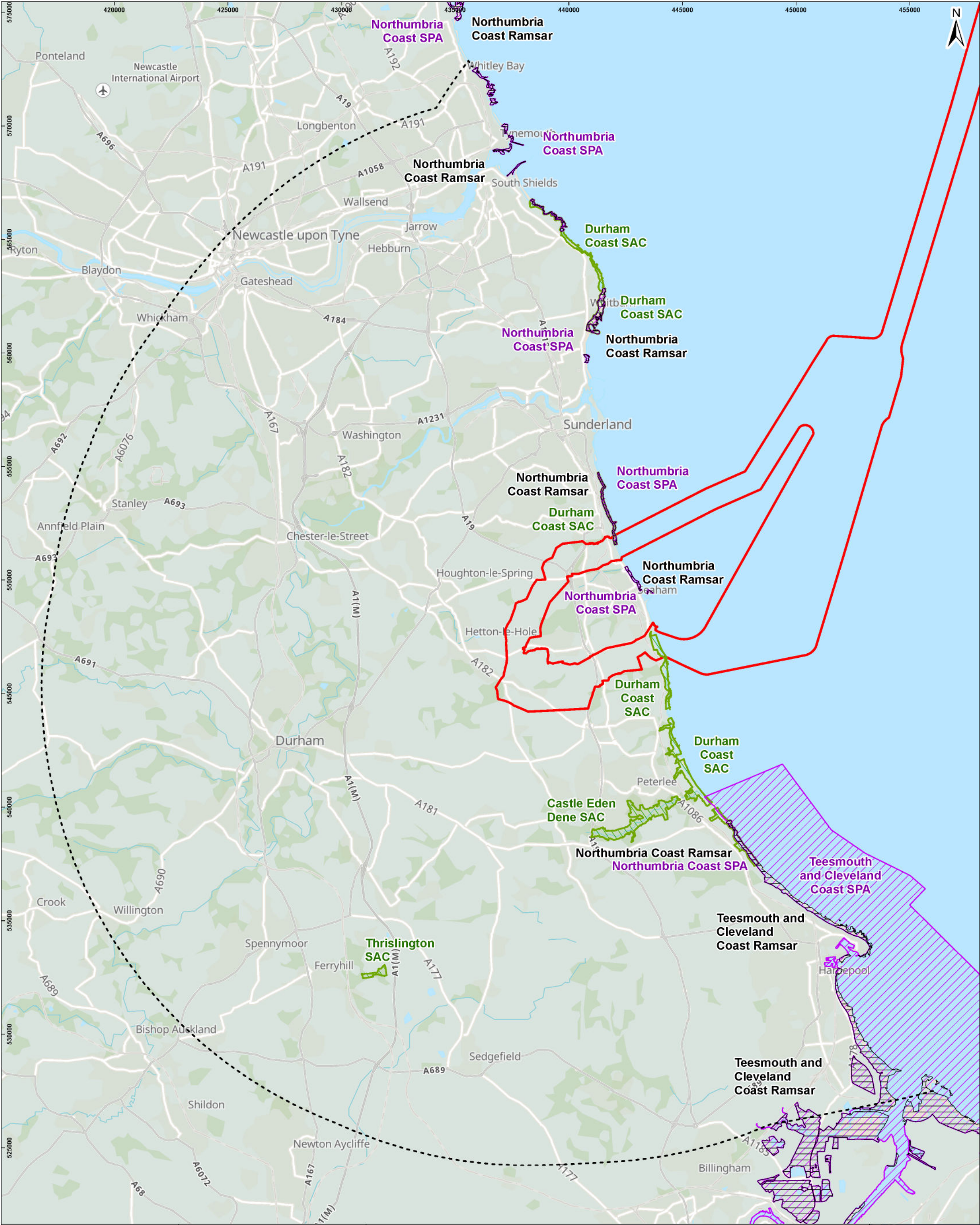
#### *Screening Criterion 2*

3.2.4.3 The distance provided as part of Screening Criterion 2 is a 20km search buffer. This area reflects the potential for terrestrial fauna species that are qualifying features of designated sites which depend on functionally linked land located beyond the boundary of the relevant National Site, such as any bat species.

3.2.4.4 There are no National Sites designated for Annex II terrestrial fauna which fall within this distance.

#### *Screening Criterion 3*

3.2.4.5 For Annex II terrestrial flora, the screening of designated sites has considered the maximum Zol for this receptor. This is from a change in air quality which has a maximum Zol of 250m. No additional National Sites have been screened in based on Screening Criterion 3.





**Project Name:**  
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

**Drawing Title:**  
FIGURE 3.5 ONSHORE DESIGNATED SITES

0 1 2 3 4 5 6 km

Scale@A3:1:150,000

**Geodetic Information:**  
Datum: OSGB 1936  
Projection: British National Grid

**Drawing Number:**  
MHPGC-RAM-EY-0001-04

**Data Sources:**  
Ordnance Survey, Natural England, M3, Ramboll

**Service Layer Credits:**  
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, ©OpenStreetMap contributors, and the GIS User Community. Contains OS data ©Crown Copyright and database right 2023. Contains data from OS Zoomstack © Natural England copyright. Contains Ordnance Survey data ©Crown copyright and database right 2024.

| VER | DATE     | DETAILS           | BY | CHECK |
|-----|----------|-------------------|----|-------|
| 01  | 13/08/25 | Initial Issue     | JC | JSN   |
| 02  | 19/08/25 | Layout Updates    | JC | JSN   |
| 03  | 19/09/25 | Marginalia update | JC | RG    |
| 04  | 22/10/25 | Marginalia update | JC | RG    |

**LEGEND**

-  MHPGC Project Interim Boundary
-  MHPGC Project Interim Boundary 20km Onshore Buffer
-  RAMSAR
-  Special Area of Conservation (SAC)
-  Special Protection Area (SPA)



## 4 Test of Likely Significant Effect

### 4.1 Offshore

#### 4.1.1 Annex II fish and shellfish

4.1.1.1 This section provides the Test of LSE on SACs designated for fish and shellfish [see Table 4.2]. All are migratory fish species. The SACs considered in this assessment have been screened in based on justification provided in Section 3.1.2.

4.1.1.2 The below impact pathways on fish and shellfish for all stages of the MHPGC Project, have been considered for the Test of LSE. The impact pathways are those that were scoped in within the MHPGC Project Scoping Report and additional pathways identified whilst considering the MHPGC Project Scoping Opinions [see Section 1.3]. These impact pathways are:

- Permanent habitat loss;
- Temporary loss and disturbance of habitats, including from physical processes;
- Underwater sound;
- Increased SSC and associated sediment deposition;
- Release of sediment-bound contaminants;
- Electromagnetic Fields (EMF) from subsea electrical cabling;
- Thermal emissions.

4.1.1.3 Further information on these impact pathways (including whether they have been screened in or not) and their ZOI is provided in Table 4.1. Overall, there were no sites for which there was potential for LSE and therefore this receptor will not be taken through to the MHPGC Project RIAA.

Table 4.1: Impact pathways for fish and shellfish receptors of the National Site Network

| Impact Pathway                                                                | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Zol                               |
|-------------------------------------------------------------------------------|---------------|-----|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                                                               | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |
| Permanent habitat loss                                                        | ✓             | ✓   | ✓ | Migratory fish (e.g., salmon, sea and river lamprey) are not considered to have functional associations with seabed habitats due to their life history strategies and transient presence within the Regional Fish and Shellfish Ecology Study Area. Therefore, potential effects from habitat loss are not considered as part of this HRA Screening Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A, pathway screened out.        |
| Temporary loss and disturbance of habitats, including from physical processes | ✓             | ✓   | ✓ | Migratory fish (e.g., salmon, sea and river lamprey) are not considered to have functional associations with seabed habitats due to their life history strategies and transient presence within the Regional Fish and Shellfish Ecology Study Area.<br><br>Therefore, potential effects from temporary loss and disturbance to habitats are not considered as part of this HRA Screening Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A, pathway screened out.        |
| Underwater sound                                                              | ✓             | ✓   | ✓ | <p>There is potential for mortality, injury and/or disturbance to sensitive Annex II fish and shellfish species as a result of some construction phase activities, such as UXO clearance, and pre-construction site investigation surveys.</p> <p>The morphological features used for hearing by fish have been used to group fish into three categories of hearing sensitivity to underwater sound (Popper <i>et al.</i>, 2014):</p> <ul style="list-style-type: none"> <li>• Low hearing sensitivity fish – species with no swim bladder or other gas chamber, including sea and river lamprey, are less susceptible to barotrauma.</li> <li>• Medium hearing sensitivity fish – species with a swim bladder but the structure is not involved in hearing. Includes Atlantic salmon.</li> <li>• High hearing sensitivity fish – includes Allis and twaite shad species, species in which hearing involves a swim bladder or other gas volume.</li> </ul> <p>The potential impact of underwater sound in fish ranges from mortality to recoverable injury and temporary threshold shift (TTS), and behavioural disturbance (Popper <i>et al.</i>, 2014).</p> <p>The greatest sound source associated with the MHPGC Project is from UXO clearance. In the absence of project</p> | The Zol is considered to be 10km. |

| Impact Pathway                                   | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Zol                                 |
|--------------------------------------------------|---------------|-----|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|                                                  | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |
|                                                  |               |     |   | specific noise modelling (which will provided as part of the MHPGC Project RIAA), Popper <i>et al.</i> , (2014) states that behavioural disturbance from underwater noise effects in high hearing sensitivity fish species can occur over 'far' distances (i.e. more than 1km). Using a precautionary approach, the Zol has been defined as 10km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |
| Increased SSC and associated sediment deposition | ✓             | ✓   | ✓ | Sediment disturbance arising from construction activities (e.g. seabed preparation, UXO clearance and cable installation) and maintenance operations (e.g. cable repair/reburial etc.) may result in indirect impacts on fish due to temporary increases in SSCs and associated sediment deposition (i.e. resulting in barrier effect to migration).<br>The Zol is based on the local tidal excursion distance, for which 13.5km has been adopted as a precautionary distance.                                                                                                                                                                                                                                                                                                                                                                                               | The Zol is considered to be 13.5km. |
| Release of sediment-bound contaminants.          | ✓             | ✓   | ✓ | Seabed disturbance associated with construction and maintenance activities (e.g. cable installation) could lead to the remobilisation of sediment-bound contaminants that may result in harmful and adverse effects on migratory fish.<br>The Zol is based on the local tidal excursion distance, for which 13.5km has been adopted as a precautionary distance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The Zol is considered to be 13.5km. |
| EMF from subsea electrical cabling               | X             | ✓   | X | Subsea cables emit EMFs along their length with high voltage alternating current or direct current export cables emitting the greatest EMFs, that have the potential to change the background EMFs. This can affect a variety of sensitive species including migratory fish. However, magnetic fields rapidly reduce as distance increases from the cable (Sinclair <i>et al.</i> , 2023). The OSPAR commission have also stated that: "at the current scale (number and transmission rates) of subsea power cables, ecological impacts are thought to be very limited or absent" (Sinclair <i>et al.</i> , 2023). Therefore, any behavioural responses that do occur are expected to be minor, with localised avoidance of the immediate area of the MHPGC Project. As such, this impact pathway has not been considered further in the MHPGC Project HRA Screening Report. | N/A, pathway screened out.          |

| Impact Pathway                       | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Zol                        |
|--------------------------------------|---------------|-----|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
|                                      | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |
| Thermal emissions from subsea cables | X             | ✓   | X | <p>Operational subsea HVDC cables have been shown to generate and dissipate heat when active, with surface temperatures reaching up to 70°C (Emeana <i>et al.</i>, 2016), which has the potential to alter conditions locally.</p> <p>However, cables have been noted to have a negligible capacity to heat the overlying water column. Additionally, when considering the target depth of cable burial (0.5 to 2.5m), there is expected to be a negligible impact to the seabed and surrounding waters or epibenthic, demersal, or pelagic fauna. Furthermore, as the cable route does not overlap with any sites designated for fish and shellfish features, this impact pathway has been screened out of further consideration in this HRA Screening Report.</p> | N/A, pathway screened out. |

*C = construction phase; O&M = operations and maintenance phase; D = decommissioning phase*

Table 4.2: Test of LSE for National Sites designated for fish and shellfish

| Designated site                | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                             | Impact pathway                                                              | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Screened into Stage 2 |
|--------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Scottish National Site Network |                                                                            |                                                                                         |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |
| River Dee SAC (UK0030251)      | 63.5                                                                       | <ul style="list-style-type: none"> <li>Atlantic salmon (<i>Salmo salar</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul> | <p>The migratory pathways of Atlantic salmon may intersect with the area affected by underwater sound from the MHPGC Project.</p> <p>In the absence of project specific underwater sound modelling, reference has been made to the guidelines provided by Popper <i>et al.</i> (2014) and modelling undertaken as part of the Berwick Bank offshore wind farm, which is in a similar location to the MHPGC Project and therefore has comparable underwater sound physical parameters.</p> <p>The Berwick Bank offshore wind farm (RPS, 2022) modelled potential mortality in fish as a result of UXO clearance, ranging from 30 to 45m for deflagration (0.08 kilogram (kg)), to 50 to 80m for clearance shots (0.5kg). For high order detonations (300kg) the distance is extended to 410 to 680m.</p> <p>Atlantic salmon are considered to be at low risk from behavioural responses or auditory injury from UXO clearance (i.e. over distances greater than 1km) as their swim bladder is not used for hearing (Popper <i>et al.</i>, 2014).</p> <p>Sound produced during UXO clearance will be from a single location, rather than emitted across the entire MHPGC Project Interim Boundary. This is also true of other MHPGC Project Activities, such as from geophysical surveys, which will be from a moving source. This will allow salmon to avoid areas of sound disturbance to migrate to their known rivers, particularly given the distance of this SAC from the MHPGC Project Interim Boundary. Furthermore, salmon at sea are not considered to have well defined migratory routes (Godfrey <i>et al.</i>, 2014).</p> <p>Given the low sensitivity of salmon to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and</p> | No                    |

| Designated site                 | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                             | Impact pathway                                                                                                                                       | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Screened into Stage 2 |
|---------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                                 |                                                                            |                                                                                         |                                                                                                                                                      | the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment in the MHPGC Project RIAA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |
|                                 |                                                                            |                                                                                         | <ul style="list-style-type: none"> <li>Increased SSC and associated sediment deposition;</li> <li>Release of sediment-bound contaminants.</li> </ul> | <p>Increase in SSC and turbidity can result in clogging of gills, reduced feeding success due to decreased visibility, effects related to toxic conditions if sediment-bound contaminants are disturbed and can affect migration and movement between important areas.</p> <p>The migratory pathways of Atlantic salmon have the potential to overlap with the potential area of impact from the MHPGC Project. Despite this, this site is located, at its closest point, approximately 63.5km from the MHPGC Project Interim Boundary. Fine sediment has the potential to be transported over the tidal excursion distance of 13.5km. However, the majority of the sediment will be deposited close to the MHPGC Project Interim Boundary, particularly as the majority of the sediment within the cable corridor comprise sand which will stay in suspension only for short distance (i.e. less than 1km).</p> <p>This provides sufficient distances over which salmon can readily avoid the area of effect. Salmon are known to migrate predominantly within the upper 5m of the water column (Godfrey <i>et al.</i>, 2014; 2015), whereas sediment dispersion from the project is expected to occur primarily near the seabed and close to the offshore export cable corridor. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project, there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p> | No                    |
| River South Esk SAC (UK0030262) | 81.5                                                                       | <ul style="list-style-type: none"> <li>Atlantic salmon (<i>Salmo salar</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                          | Given the low sensitivity of salmon to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No                    |

| Designated site           | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                     | Impact pathway                                                                                                                                     | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Screened into Stage 2 |
|---------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                           |                                                                            |                                                                                                                                                                                                 |                                                                                                                                                    | the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment in the MHPGC Project RIAA.                                                                                                                                                                                                                                                                                                                                                                      |                       |
|                           |                                                                            |                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Increased SSC and associated sediment deposition</li> <li>Release of sediment-bound contaminants</li> </ul> | <p>The majority of the sediment will be deposited close to the MHPGC Project Interim Boundary (i.e. less than 1km). This provides sufficient distances over which salmon can readily avoid the area of effect. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project (which are 81.5km apart), there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p>                                                                                     | No                    |
| River Tay SAC (UK0030312) | 104.3                                                                      | <ul style="list-style-type: none"> <li>Atlantic salmon (<i>Salmo salar</i>);</li> <li>Sea lamprey (<i>Petromyzon marinus</i>);</li> <li>River lamprey (<i>Lampetra fluviatilis</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                        | Given the low sensitivity of salmon and lamprey species (which lack a swim bladder and are considered to be a low sensitivity hearing fish; Popper <i>et al.</i> , 2014) to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment. | No                    |
|                           |                                                                            |                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Increased SSC and associated sediment deposition</li> <li>Release of sediment-bound contaminants</li> </ul> | <p>The majority of the sediment will be deposited close to the MHPGC Project Interim Boundary (i.e. less than 1km). This provides sufficient distances over which salmon and lamprey species can readily avoid the area of effect. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project (which are 104.3km apart), there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p>                                                                | No                    |

| Designated site               | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                 | Impact pathway                                                                                                                                    | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Screened into Stage 2 |
|-------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| River Teith SAC (UK0030263)   | 181.4                                                                      | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>);</li><li>Sea lamprey (<i>Petromyzon marinus</i>);</li><li>River lamprey (<i>Lampetra fluviatilis</i>).</li></ul> | <ul style="list-style-type: none"><li>Underwater sound impacts.</li></ul>                                                                         | Given the low sensitivity of salmon and lamprey species to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment.                                                                                                                                                                                                                                                                                                                                                           | No                    |
|                               |                                                                            |                                                                                                                                                                                             | <ul style="list-style-type: none"><li>Increased SSC and associated sediment deposition;</li><li>Release of sediment-bound contaminants.</li></ul> | <p>The majority of the sediment will be deposited close to the MHPGC Project Interim Boundary (i.e. less than 1km). This provides sufficient distances over which salmon and lamprey species can readily avoid the area of effect. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project (which are 181.4km apart), there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p>                                                                                                                                                                                                                                                                                                         | No                    |
| English National Site Network |                                                                            |                                                                                                                                                                                             |                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |
| River Tweed (UK0012691)       | 52.7                                                                       | <ul style="list-style-type: none"><li>Atlantic salmon (<i>Salmo salar</i>);</li><li>River lamprey (<i>Lampetra fluviatilis</i>);</li><li>Sea lamprey (<i>Petromyzon marinus</i>).</li></ul> | <ul style="list-style-type: none"><li>Underwater sound impacts.</li></ul>                                                                         | <p>The migratory pathways of qualifying fish species, including Atlantic salmon and lamprey, may intersect with the area affected by underwater sound from the MHPGC Project.</p> <p>In the absence of project specific underwater sound modelling, reference has been made to the guidelines provided by Popper <i>et al.</i> (2014) and modelling undertaken as part of the Berwick Bank offshore wind farm, which is in a similar location to the MHPGC Project and therefore has comparable underwater sound physical parameters.</p> <p>The Berwick Bank offshore wind farm (RPS, 2022) modelled potential mortality in fish as a result of UXO clearance, ranging from 30 to 45m for deflagration (0.08kg), to 50 to 80m for clearance shots (0.5kg). For high order detonations (300 kg) the distance is extended to 410 to 680m.</p> | No                    |

| Designated site | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature | Impact pathway                                                                                                                                       | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Screened into Stage 2 |
|-----------------|----------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                 |                                                                            |                             |                                                                                                                                                      | <p>Atlantic salmon and lamprey species are also considered to be at low risk from behavioural responses or auditory injury from UXO clearance (i.e. over distances greater than 1km) as they either lack a swim bladder (sea and river lamprey) or their swim bladder is not used for hearing (salmon; Popper <i>et al.</i>, 2014).</p> <p>Sound produced during UXO clearance will be from a single location, rather than emitted across the entire MHPGC Project Interim Boundary. This is also true of other MHPGC Project Activities, such as from geophysical surveys, which will be from a moving source. This will allow fish species to avoid areas of sound disturbance to migrate to their known rivers, particularly given the distance of this SAC from the MHPGC Project Interim Boundary. This is particularly true for salmon at sea, which are not considered to have well defined migratory routes (Godfrey <i>et al.</i>, 2014).</p> <p>Given the low sensitivity of these species to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment.</p> |                       |
|                 |                                                                            |                             | <ul style="list-style-type: none"> <li>Increased SSC and associated sediment deposition;</li> <li>Release of sediment-bound contaminants.</li> </ul> | <p>Increase in SSC and turbidity can result in clogging of gills, reduced feeding success due to decreased visibility, effects related to toxic conditions if sediment-bound contaminants are disturbed and can affect migration and movement between important areas.</p> <p>The migratory pathways of Atlantic salmon and lamprey species have the potential to overlap with the potential area of impact from the MHPGC Project. Despite this, this site is located approximately 52.7km from the MHPGC Project Interim Boundary. Fine sediment has the potential to be transported over the tidal excursion distance of 13.5km. However, the majority of the sediment will be deposited close to the MHPGC Project</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No                    |

| Designated site           | Distance from the closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                      | Impact pathway                                                                                                                                       | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Screened into Stage 2 |
|---------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                           |                                                                            |                                                                                                                                                  |                                                                                                                                                      | <p>Interim Boundary, particularly as the majority of the sediment within the cable corridor comprise sand which will stay in suspension only for short distance (i.e. less than 1km).</p> <p>This provides sufficient distances over which salmon can readily avoid the area of effect. Salmon specifically are known to migrate predominantly within the upper 5m of the water column (Godfrey <i>et al.</i>, 2014; 2015), whereas sediment dispersion from the project is expected to occur primarily near the seabed and close to the offshore export cable corridor. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project, there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p> |                       |
| Tweed Estuary (UK0030292) | 66.5                                                                       | <ul style="list-style-type: none"> <li>River lamprey (<i>Lampetra fluviatilis</i>);</li> <li>Sea lamprey (<i>Petromyzon marinus</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                          | <p>Given the low sensitivity of lamprey species to underwater sound at relevant distances, the localised nature of sound source effects (which are very small in distance compared to the distance away from the SAC), and the spatial separation between the SAC and the project area, it is considered unlikely that the MHPGC Project will result in LSE on the site's conservation objectives. Therefore, this impact pathway is screened out from further assessment.</p>                                                                                                                                                                                                                                                                                                                                                                   | No                    |
|                           |                                                                            |                                                                                                                                                  | <ul style="list-style-type: none"> <li>Increased SSC and associated sediment deposition;</li> <li>Release of sediment-bound contaminants.</li> </ul> | <p>The majority of the sediment will be deposited close to the MHPGC Project Interim Boundary (i.e. less than 1km). This provides sufficient distances over which lamprey species can readily avoid the area of effect. Furthermore, any increase in SSC will be temporary and short-term.</p> <p>Given the spatial separation between the SAC and the project (which are 66.5km apart), there is not considered to be any potential for LSE, and this impact pathway has been screened out from further assessment.</p>                                                                                                                                                                                                                                                                                                                         | No                    |

#### 4.1.2 Annex II marine mammals

- 4.1.2.1 This section provides the Test of LSE on SACs designated for marine mammals [see Table 4.4]. The SACs considered in this assessment have been screened in based on justification provided in Section 3.1.3.
- 4.1.2.2 The below impact pathways on marine mammals for all stages of the MHPGC Project, have been considered for the Test of LSE. These impact pathways are those that were scoped into the MHPGC Project PEIR stage within the MHPGC Project Scoping Report. These impact pathways are:
- injury and disturbance from underwater sound;
  - impacts on marine mammals due to changes in prey availability;
  - injury to marine mammals due to collision with vessels.
- 4.1.2.3 Further information on these impact pathways (including whether they have been screened in or not) and their Zol is provided in Table 4.3.

Table 4.3: Impact pathways to marine mammal receptors of the National Site Network

| Impact Pathway                                         | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Zol                               |
|--------------------------------------------------------|---------------|-----|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                                        | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |
| Injury and disturbance from underwater sound           | ✓             | ✓   | ✓ | <p>Several activities associated with the MHPGC Project such as UXO clearance (considered for the construction phase only), pre-construction geophysical surveys and vessel use, may result in hearing damage/auditory injury or behavioural disturbance/displacement to marine mammals.</p> <p>Depending on the intensity of the sound underwater activities associated with the MHPGC Project have the potential to affect marine mammals through injury, by causing physiological damage to the individuals' auditory or other internal organs, and temporary or continuous disturbance, which includes disruption to behavioural patterns such as migration, nursing, breeding, foraging, socialising and sheltering (JNCC <i>et al.</i>, 2010).</p> <p>Project specific modelling is expected to be undertaken to inform the MHPGC Project RIAA. However, in the absence of this data, EDRs have been considered, which were provided in JNCC (2020a) guidance for assessing noise disturbance to harbour porpoise SACs. These are based on published ranges where effects were recorded.</p> <p>For high order detonations, the EDR value was provided as 26km. This is considered to encompass potential disturbance from other construction activities (e.g. geophysical surveys, vessel use), which generally have smaller disturbance ranges. Furthermore, harbour porpoise is generally considered to have a particularly high sensitivity to underwater sound compared to other species such as seals (Southall <i>et al.</i>, 2019) though low frequency species also demonstrate high sensitivity.</p> | The Zol is considered to be 26km. |
| Injury to marine mammals due to collision with vessels | ✓             | ✓   | ✓ | <p>Increased vessel traffic during construction, O&amp;M and decommissioning phase activities may result in collisions with marine mammals. This can lead to lethal and sub-lethal injury. A direct strike from a sharp object such as rotating propeller blades has potential to cause lethal injury to marine mammals.</p> <p>Effects from vessel collision to marine mammals will occur within the MHPGC Project Interim Boundary itself, if there is direct contact with a vessel.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The Zol is considered to be 0km.  |

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| Impact Pathway                                                                                       | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Zol                                 |
|------------------------------------------------------------------------------------------------------|---------------|-----|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|                                                                                                      | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                     |
| Impacts on marine mammals due to changes in prey availability                                        | ✓             | ✓   | ✓ | <p>Changes in prey abundance and distribution resulting from construction activities and O&amp;M activities may impact on the ability of marine mammals to forage in the area. This could include effects that change or disturb the seabed, result in increased SSC, or generate underwater noise, that could affect prey availability.</p> <p>The greatest Zol associated with impacts to fish and shellfish prey species is in relation to increased SSC, for which the Zol is 13.5km [see Section 4.1.1].</p> | The Zol is considered to be 13.5km. |
| <i>C = construction phase; O&amp;M = operations and maintenance phase; D = decommissioning phase</i> |               |     |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                     |

Table 4.4: Test of LSE for National Sites designated for marine mammals

| Designated site                                             | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature             | Impact pathway                                         | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Screened into Stage 2 |
|-------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Scottish National Site Network                              |                                                                        |                                         |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |
| Berwickshire and North Northumberland Coast SAC (UK0017072) | 25.6                                                                   | Grey seal ( <i>Halichoerus grypus</i> ) | Underwater sound impacts                               | <p>This SAC overlaps with the MHPGC Project Zol for underwater noise, that could affect the grey seals protected as part of this site.</p> <p>Individual of grey seal from this site are known to forage close to Farne Islands (Natural England, 2020). Despite this and given the proximity of the site to MHPGC Project activities, there is potential for grey seal from this site to within the potential area of effect where mortality, injury, or TTS could occur.</p> <p>In the absence of project specific underwater noise modelling, there is considered to be potential for LSE to the conservation objectives of this SAC. Therefore, this site has been screened into the MHPGC Project RIAA.</p>                                                                                                                                                                                                                                                                                                                                                                 | Yes                   |
|                                                             |                                                                        |                                         | Injury to marine mammals due to collision with vessels | <p>There is a risk of collision between vessels associated with the MHPGC Project and marine mammals. Cases of seal injuries thought to be caused by propellers and thrusters (for dynamic positioning of vessels) have been recorded in the UK (Bexton <i>et al.</i>, 2012). However, evidence suggests that a large proportion of these injuries can be attributed to alternative, natural mechanism for injury such as grey seal infanticide and cannibalism, which may also cause spiral/corkscrew lacerations comparable to those produced by ship propellers (Brownlow <i>et al.</i>, 2016).</p> <p>Although grey seal are known to forage over large ranges, individuals from this site are known to remain close to the Farne Islands for foraging during the breeding season (Natural England, 2020). As such, these individuals will likely not occur near the MHPGC Project. Vessel collision risk for seals is generally considered low (Jones <i>et al.</i>, 2017), with individuals observed to easily void slow moving operations (Todd <i>et al.</i>, 2014).</p> | No                    |

| Designated site             | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature             | Impact pathway                                                | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Screened into Stage 2 |
|-----------------------------|------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                             |                                                                        |                                         |                                                               | On this basis, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |
|                             |                                                                        |                                         | Impacts on marine mammals due to changes in prey availability | Disturbance of the seabed during construction of the MHPGC Project has the potential to affect prey availability where construction phase activities impact demersal fish and shellfish species that are key prey items for marine mammals. Although areas within the MHPGC Project Interim Boundary have been identified as spawning ground for important prey species for grey seal (e.g. cod; Wilson and Hammond, 2016), impacts to the seabed from construction phase activities are likely to be localised, small in extent, and in many cases temporary and unlikely to result in noticeable changes in prey density or distribution. Even where UXO clearance occurs impacts to fish and shellfish will be very localised and small in scale.<br><br>There is not considered to be potential for LSE and this impact pathway has been screened out from further assessment. | No                    |
| Isle of May SAC (UK0030172) | 94.1                                                                   | Grey seal ( <i>Halichoerus grypus</i> ) | Underwater sound impacts                                      | The MHPGC Project occurs within the foraging range of grey seals associated with the Isle of May SAC and thus foraging individuals have the potential to be in proximity with the potential area of effect, where mortality, injury or TTS could occur. In the absence of project specific modelling (which is to be provided in the MHPGC Project RIAA) this site has been screened into the MHPGC Project RIAA on a precautionary basis.                                                                                                                                                                                                                                                                                                                                                                                                                                         | Yes                   |
|                             |                                                                        |                                         | Injury to marine mammals due to collision with vessels        | There is a risk of collision between vessels associated with the MHPGC Project and grey seal associated with this site. Although grey seal are known to forage over large ranges and may overlap with the MHPGC Project, seals are generally considered at a low risk of collision with vessels and exhibit avoidance of slow-moving operations (Todd <i>et al.</i> , 2014; Jones <i>et al.</i> , 2017). On this basis, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment.                                                                                                                                                                                                                                                                                                                                     | No                    |

| Designated site                               | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                      | Impact pathway                                                | Justification                                                                                                                                                                                                                                                                                                                                                                                                                           | Screened into Stage 2 |
|-----------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                                               |                                                                        |                                                  | Impacts on marine mammals due to changes in prey availability | Disturbance of the seabed during construction of the MHPGC Project has the potential to affect availability of key prey species for marine mammals. However, impacts to prey species from construction phase activities are unlikely to result in noticeable changes in density or distribution.<br><br>As such, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment. | No                    |
| Firth of Tay and Eden Estuary SAC (UK0030311) | 95.9                                                                   | Harbour seal ( <i>Phoca vitulina</i> )           | Underwater sound impacts                                      | Several activities will generate underwater sound, such as geophysical surveys, cable installation activities, and UXO clearance. As harbour seal are known to primarily forage within 50km of their haul out site, there is not considered to be potential for LSE to this site and this impact pathway has been screened out from further assessment.                                                                                 | No                    |
|                                               |                                                                        |                                                  | Injury to marine mammals due to collision with vessels        | Installation activities will involve the deployment of several vessels, which pose a risk of collision with harbour seal.<br><br>However, as harbour seals are known to primarily forage within 50km of their haul-out site, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment.                                                                                     | No                    |
|                                               |                                                                        |                                                  | Impacts on marine mammals due to changes in prey availability | Disturbance of the seabed during construction of the MHPGC Project has the potential to affect prey availability. However, as individuals are known to primarily forage within 50km of their haul-out site, they are unlikely to experience indirect effects from these impacts. As such, there is not considered to be any potential for LSE and this impact pathway has been screened out from further assessment                     | No                    |
| Moray Firth SAC (UK0019808)                   | 160.0                                                                  | Bottlenose dolphin ( <i>Tursiops truncatus</i> ) | Underwater sound impacts                                      | Several construction phase activities will generate underwater sound that have the potential to affect bottlenose dolphin associated with this site. Although the MHPGC Project does not occur within the same MU as this site (Coastal East Scotland), the range of the population associated with this site is actively increasing and is now known to regularly occur as far as north-                                               | Yes                   |

| Designated site               | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature | Impact pathway                                                | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Screened into Stage 2 |
|-------------------------------|------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                               |                                                                        |                             |                                                               | east England. As such, there is potential for individuals from this site to occur near the MHPGC Project. As project specific underwater sound modelling will be undertaken for the Environmental Statement, this site has been screened in for the MHPGC Project RIAA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |
|                               |                                                                        |                             | Injury to marine mammals due to collision with vessels        | Installation activities will involve the deployment of several vessels, which may pose a risk of collision with marine mammals. Small cetaceans such as bottlenose dolphin are considered to be fast swimming and agile and have been known to exhibit avoidance to fast moving vessels (Bristow and Reeves, 2001). Many of the reported vessel strikes have occurred between slow swimming baleen whales (IAMMWG, 2015). Furthermore, lethal injuries are typically associated with large ships (over 80m in length) travelling faster than 14 knots (Wilson <i>et al.</i> , 2007). Vessels associated with the MHPGC Project are primarily travelling less than 14 knots, particularly as the cable lay vessel is predicted to be 100 to 180m in length.<br><br>When considering the highly mobile nature of this species in conjunction with the slow speeds of vessels associated with the MHPGC Project, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment. | No                    |
|                               |                                                                        |                             | Impacts on marine mammals due to changes in prey availability | Disturbance of the seabed during construction of the MHPGC Project has the potential to affect prey availability.<br><br>Although areas within the MHPGC Project Interim Boundary have been identified as spawning ground for key prey species of bottlenose dolphin,, impacts to these species are likely to be localised, small in extent, and temporary. As such, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No                    |
| English National Site Network |                                                                        |                             |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |

| Designated site                                             | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                   | Impact pathway                                                | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Screened into Stage 2 |
|-------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Berwickshire and North Northumberland Coast SAC (UK0017072) | 25.6                                                                   | Grey seal ( <i>Halichoerus grypus</i> )       | Underwater sound impacts                                      | As above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Yes                   |
|                                                             |                                                                        |                                               | Injury to marine mammals due to collision with vessels        | As above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                    |
|                                                             |                                                                        |                                               | Impacts on marine mammals due to changes in prey availability | As above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                    |
| Southern North Sea SAC (UK0030395)                          | 99.1                                                                   | Harbour porpoise ( <i>Phocoena phocoena</i> ) | Underwater sound impacts                                      | The Southern North Sea SAC falls sufficient distance from the MHPGC Project to avoid potential underwater sound effects to individuals associated with this site. Although project specific underwater sound modelling will be undertaken as part of the MHPGC Project RIAA, guidance on assessing effects to harbour porpoise associated with the Southern North Sea SAC indicates that the greatest EDR corresponds to 26km (JNCC 2020a). As such, there is not considered to be any displacement of individuals from any area of the SAC as a result of underwater sound and there is not considered to be potential for LSE. This impact pathway has been screened out from further assessment. | No                    |
|                                                             |                                                                        |                                               | Injury to marine mammals due to collision with vessels        | The Southern North Sea SAC is a considerable distance from vessels used as part of the MHPGC Project and the potential for collision risk. Furthermore, given the highly mobile nature of harbour porpoise, this species will likely avoid any vessel activity. Thus, there is not considered to be potential for LSE and this impact pathway has been screened out from further assessment.                                                                                                                                                                                                                                                                                                        | No                    |
|                                                             |                                                                        |                                               | Impacts on marine mammals due to changes in prey availability | Disturbance of the seabed during construction of the MHPGC Project has the potential to affect prey availability. However, part of the rationale for this site designation is that the harbour porpoise preference for these habitats is likely associated with prey aggregations and good feeding opportunities (JNCC, 2023). Furthermore, this site has primarily been classified as sublittoral                                                                                                                                                                                                                                                                                                  | No                    |

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| Designated site | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature | Impact pathway | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Screened into Stage 2 |
|-----------------|------------------------------------------------------------------------|-----------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                 |                                                                        |                             |                | <p>sand and sublittoral coarse sediment, which are a preferred habitat for sandeel, a key prey item for harbour porpoise.</p> <p>When considering that the greatest Zol for impacts to fish species is associated with increased SSC (13.5km) in conjunction with this site likely hosting preferred feeding grounds for harbour porpoise, it is unlikely that there will be a significant effect to prey availability for harbour porpoise from this site. As such, there is not considered to be any indirect LSE to marine mammals and this impact pathway has been screened out from further assessment.</p> |                       |

### 4.1.3 Annex I marine ornithology

- 4.1.3.1 This section provides the Test of LSE on SPAs designated for marine ornithology. The SPAs considered in this assessment have been screened in based on justification provided in Section 3.1.4. The SPAs screened in have been divided into two different tables [see Table 4.6 and Table 4.7], to help focus this assessment into sites that are near-field (within 50km) and those that are far-field (i.e. greater than 50km).
- 4.1.3.2 Near-field sites have been considered on an individual basis, noting the specific ecology of each of these sites and the presence of the qualifying bird species. The 50km distance is considered appropriate, based on professional experience in offshore and intertidal ornithological assessments. It is also considered to be an adequate spatial extent for the consideration of potential LSE on migratory bird species within the MHPGC Project Zol, noting that the greatest densities of foraging bird species will be close to these SPAs. Whilst birds outside of this 50km are likely to be small in number and avoid vessel activity.
- 4.1.3.3 National Sites situated beyond 50km from the MHPGC Project are assessed within Table 4.7]. These tables have been grouped by species, to better consider the foraging ecology of these breeding birds.
- 4.1.3.4 The below impact pathways on marine ornithology for all stages of the MHPGC Project, have been considered for the Test of LSE. These impact pathways are those that were identified to be scoped into the MHPGC Project PEIR stage within the MHPGC Project Scoping Report. These impact pathways are:
- Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels and other offshore activities;
  - Indirect impacts from impacts to prey species;
  - Temporary habitat loss/disturbance from increased SSCs.
- 4.1.3.5 It should be noted that accidental pollution from vessels during all phases of the MHPGC Project has been screened out of the Test for LSE. This is based on the MHPGC Project following industry standard protocols. For example, the implementation of a Marine Pollution Contingency Plan will avoid the risk of significant pollution events. As a result, it is unlikely that seabirds and shorebirds will be significantly impacted by accidental pollution.
- 4.1.3.6 Further information on these impact pathways (including whether they have been screened in or not) and their Zol is provided in Table 4.5.

Table 4.5: Impact pathways for marine ornithological receptors of National Sites

| Impact Pathway                                                                                                                      | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Zol                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------|-----|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|                                                                                                                                     | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                               |
| Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels. | ✓             | ✓   | ✓ | <p>Airborne noise and underwater sound generated during construction activities (such as UXO clearance), and the presence of vessels, may temporarily disturb/displace birds from foraging areas through noise and visual disturbance. In the O&amp;M phase although activity is much reduced, disturbance from vessels undertaking maintenance and repair activities may occur.</p> <p>Parker <i>et al.</i>, (2022) and the updated SNCB guidance (SNCB, 2022), advises that for offshore wind farms a 2km buffer is advised for gannet, puffin, guillemot and razorbill.</p> <p>Red-throated diver has not been screened into the HRA as a qualifying feature of any designated site. Therefore, buffer distances associated for this species (i.e. 10km) has not been considered further.</p> <p>A distance of 2km has been used to define the Zol and encompasses all likely significant effects to other offshore ornithological receptors. This is considered precautionary, given that these distances relate to offshore wind farms rather than cable installation projects.</p> | The Zol is considered to be 2km.                                                                              |
| Indirect impacts from impacts to prey species                                                                                       | ✓             | ✓   | ✓ | <p>There is potential for mortality, injury and/or disturbance to sensitive fish and shellfish species as a result of underwater noise from construction activities such as pre-construction geophysical surveys, UXO clearance and increased SSC. This may cause reduced prey availability and hence energy intake affecting the productivity or survival of birds.</p> <p>The greatest sound source associated with the MHPGC Project is UXO clearance. In the absence of project specific noise modelling (which is to be provided as part of the MHPGC Project RIAA), Popper <i>et al.</i>, (2014) states that behavioural disturbance from underwater sound effects in high hearing sensitivity fish species can occur over 'far' distances (i.e. more than 1km). Using a precautionary approach, the Zol has been defined as 10km.</p> <p>For increased SSC, the Zol is based on the local tidal excursion distance, for which 13.5km has been adopted as a precautionary distance.</p>                                                                                            | The Zol is considered to be 10km for effects from underwater sound and 13.5km for effects from increased SSC. |

| Impact Pathway                                         | Project Phase |     |   | Description                                                                                                                                                                                                                                            | Zol                                 |
|--------------------------------------------------------|---------------|-----|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|                                                        | C             | O&M | D |                                                                                                                                                                                                                                                        |                                     |
| Temporary habitat loss/disturbance from increased SSCs | ✓             | ✓   | ✓ | There is potential for increased SSC as a result of the MHPGC Project to affect the foraging efficiency of diving birds.<br><br>The Zol is based on the local tidal excursion distance, for which 13.5km has been adopted as a precautionary distance. | The Zol is considered to be 13.5km. |

*C = construction phase; O&M = operations and maintenance phase; D = decommissioning phase*

Table 4.6: Test of LSE for National Sites, within 50km of the MHPGC Project (i.e. far-field SPAs), designated for marine ornithological features

| Designated site                                                 | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                                                                                                                 | Impact pathway                                                                                                                                                                                                                                                                                                 | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Screened into Stage 2 |
|-----------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Scottish National Site Network                                  |                                                                        |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |
| Outer Firth of Forth and St Andrews Bay Complex SPA (UK9020316) | 44.3                                                                   | Breeding: <ul style="list-style-type: none"> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Herring gull (<i>Larus argentatus</i>);</li> <li>Kittiwake (<i>Rissa tridactyla</i>);</li> <li>Manx shearwater (<i>Puffinus puffinus</i>);</li> <li>Puffin (<i>Fratercula arctica</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul> | During the breeding season, the Outer Firth of Forth and St Andrews Bay Complex SPA provides important feeding grounds for a large assemblage of birds (over 100,000 individuals). The SPA, including offshore waters, supports a wide variety of pelagic and demersal fish species in sheltered waters, making it ideal for foraging (JNCC, 2020b).<br><br>Although species such as guillemots have a larger foraging range of 95.2km, the highest densities of foraging individuals will be present within the SPA boundary itself, away from the zone of potential MHPGC Project disturbance effects. As such, there is no potential for LSE on the qualifying bird species of this SPA, and this site has been screened out from further assessment. | No                    |
| English National Site Network                                   |                                                                        |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |
| Northumbria Coast SPA/Ramsar site (UK9020325/UK11049)           | 0.0                                                                    | Breeding: <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> Non-breeding: <ul style="list-style-type: none"> <li>Purple sandpiper (<i>Calidris maritima</i>);</li> </ul>                          | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> </ul>                                                                  | Arctic and little tern nest along the coast of this site and forage within the bay and surrounding waters, which support large numbers of sandeel. Whilst the Arctic tern has a large foraging range, they usually forage within shallow inshore waters, favouring bays and rocky shores. Similarly, most foraging by the little tern occurs within 1km of the coast. This suggests these individuals at the Northumbria Coast SPA/Ramsar site may seek prey species close to their nesting site, that would overlap with the MHPGC Project. Furthermore, given the overlap of this site with the MHPGC Project, there is potential for LSE. As such this designated site has been screened into the MHPGC Project RIAA.                                 | Yes                   |

| Designated site                                                    | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impact pathway                                                                                                                                                                                                                                                                                                 | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Screened into Stage 2 |
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|                                                                    |                                                                        | <ul style="list-style-type: none"> <li>Turnstone (<i>Arenaria interpres</i>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul>                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |
| Teesmouth and Cleveland Coast SPA/Ramsar site (UK9006061 /UK11068) | 4.5                                                                    | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Avocet (<i>Recurvirostra avosetta</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Knot (<i>Calidris canutus</i>);</li> <li>Redshank (<i>Tringa totanus</i>);</li> <li>Ruff (<i>Calidris pugnax</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Waterbird assemblage.</li> </ul> | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul> | <p>The breeding bird species associated with this site, forage in shallow inshore coastal areas within the SPA boundaries, except for little tern which forage up to 5km offshore. For non-breeding birds, habitats within the site boundary provide important foraging grounds. For example, knot generally feed at low tide on intertidal mudflats and sandflats, primarily at Seal Sands. Similarly sandwich tern forage in shallow inshore waters around the Tees Estuary.</p> <p>Given the proximity of the Teesmouth and Cleveland Coast SPA/Ramsar site and the MHPGC Project's ZoI for construction and O&amp;M phase activities, there is the potential for effects to the qualifying features of this site.</p> <p>Therefore, there is potential for LSE to this designated site and it has been screened into the MHPGC Project RIAA.</p> | Yes                   |
| Northumberland Marine SPA (UK9020325)                              | 16.7                                                                   | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance</li> </ul>                                                                                                                                                                   | <p>Although this site occurs outside the ZoIs for with the MHPGC Project, breeding bird species associated with this site have foraging ranges that overlap. For example, common terns have a mean max foraging distance of 26.9km (Woodward <i>et al</i>, 2019). Despite this, the SPA boundary protects open coast and offshore habitats typical of areas used heavily for foraging by breeding</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                | No                    |

| Designated site               | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                                                                                                                                        | Impact pathway                                                                                                                                                                                                                                                                                                 | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Screened into Stage 2 |
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|                               |                                                                        | <ul style="list-style-type: none"> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Guillemot (<i>Uria aalge</i>);</li> <li>Puffin (<i>Fratercula arctica</i>);</li> <li>Roseate tern (<i>Sterna dougallii</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Seabird assemblage.</li> </ul> | <ul style="list-style-type: none"> <li>associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul>                                                                                            | terns (Natural England, 2016). As such, it is likely individuals associated with this site will primarily forage within the boundaries of this SPA and thus are unlikely to interact with the MHPGC Project. As such, there is unlikely to be LSE on the qualifying bird species of this SPA, and it has been screened out from further assessment.                                                                                                                       |                       |
| Coquet Island SPA (UK9009243) | 28.7                                                                   | Breeding: <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>).</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul> | Although Coquet Island SPA falls outside the potential Zols for the MHPGC Project, the foraging ranges of arctic and sandwich tern overlap. Despite this, modelling of predictive foraging distances for these species shows that they generally forage close to Coquet Island itself (Natural England, 2015). As such, it is considered unlikely that there will be LSE on the qualifying bird species of this SPA and it has been screened out from further assessment. | No                    |
| Farne Islands SPA (UK9006021) | 39.7                                                                   | Breeding:                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise,</li> </ul>                                                                                                                                                                                                            | The Farne Islands SPA falls outside the potential Zols for the MHPGC Project but is home to the qualifying species during breeding season. Despite the large foraging distance associated                                                                                                                                                                                                                                                                                 | No                    |

| Designated site | Distance from closest point of the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                               | Impact pathway                                                                                                                                                                                                                                               | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Screened into Stage 2 |
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|                 |                                                                        | <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Guillemot (<i>Uria aalge</i>)</li> </ul> | <ul style="list-style-type: none"> <li>underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul> | <p>with these species, modelling of predictive foraging distances of breeding tern species shows that they generally forage close to the islands themselves (Natural England, 2015).</p> <p>Guillemots, however, may still forage out at sea. Despite their wide foraging range, most foraging occurs within 50km of their colony (Natural England, 2012f). When considering the wider availability of offshore foraging habitat and the distance to this SPA, it is unlikely that significant proportions of foraging will occur within the MHPGC Project Interim Boundary to affect the population associated with this site. Therefore, there is no potential for LSE on the qualifying bird species of this SPA, and it has been screened out from further assessment.</p> |                       |

Table 4.7: Test of LSE for English and Scottish National Sites, over 50km from the MHPGC Project (i.e. far-field SPAs), designated for marine ornithological features

| Species                                        | Foraging distance (km) | Designated site                                 | Distance from the MHPGC Project Interim Boundary (km) | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Screened into Stage 2 |
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| Herring gull                                   | 85.6                   | Fowlsheugh SPA (UK9002271)                      | 59.0                                                  | <p>This species may overlap/interact with the MHPGC Project ZOI travelling from all associated designated sites. As their foraging range is relatively large, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>It is important to note that herring gull forage, rest, and conduct other activities in both coastal and offshore waters. Therefore, whilst individuals at these SPAs may not forage in proximity to the MHPGC Project activities, they are still able to forage in alternative areas along the coastline and other offshore areas. Furthermore, most individuals will be foraging within the SPA boundaries itself, due to the importance of these sites for available prey items and habitat.</p> <p>Overall, there is no potential for LSE on herring gull for the SPAs considered and therefore they have been screened out from further assessment.</p> | No                    |
|                                                |                        | Buchan Ness to Collieston Coast SPA (UK9002491) | 68.3                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
|                                                |                        | St Abb's Head to Fast Castle SPA (UK9004271)    | 71.4                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
|                                                |                        | Troup, Pennan and Lion's Heads SPA (UK9002471)  | 107.4                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
| Common guillemot excluding data from Fair Isle | 95.2                   | Fowlsheugh SPA (UK9002271)                      | 59.0                                                  | <p>When considering the foraging range of common guillemot, it is likely that the overall foraging resources will not be significantly depleted, as ample alternative foraging and nesting habitats will remain available. Furthermore, despite their wide foraging range, most of their foraging occurs within 50km of their nesting sites (Natural England, 2012f), and thus individuals from these sites are unlikely to overlap with the MHPGC Project.</p> <p>Overall, there is no potential for LSE on common guillemot for these SPAs and therefore they have been screened out from further assessment.</p>                                                                                                                                                                                                                                                                                                                                                                                    | No                    |
|                                                |                        | Buchan Ness to Collieston Coast SPA (UK9002491) | 68.3                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
|                                                |                        | St Abb's Head to Fast Castle SPA (UK9004271)    | 71.4                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
|                                                |                        | Forth Islands SPA (UK9004171)                   | 92.6                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
|                                                |                        | Flamborough and Filey Coast SPA (UK9006101)     | 84                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |

| Species                  | Foraging distance (km) | Designated site                                | Distance from the MHPGC Project Interim Boundary (km) | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Screened into Stage 2 |
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| Razorbill                | 122.2                  | Troup, Pennan and Lion's Heads SPA (UK9002471) | 107.4                                                 | <p>The MHPGC Project falls within the foraging range for razorbill associated with the Troup, Pennan and Lion's Heads SPA. As such, there is potential for this species to interact with the MHPGC Project.</p> <p>However, when considering their large foraging range, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available. Furthermore, despite this maximum foraging range, they are known to primarily feed within a few kilometres of their colony (Natural England, 2012h), with mean foraging distances of 13km reported (Isaksson <i>et al.</i>, 2019). Therefore, whilst some individuals at the Troup, Pennan and Lion's Heads SPA may be foraging offshore in proximity to the MHPGC Project, it is unlikely that a significant proportion of the population associated with this site will forage at this location.</p> <p>Overall, there is no potential for LSE on razorbill for the Troup, Pennan and Lion's Heads SPA and therefore has been screened out from further assessment.</p> | No                    |
| Lesser black-backed gull | 236.0                  | Forth Islands SPA (UK9004171)                  | 92.6                                                  | <p>The MHPGC Project falls within the foraging range for lesser black-backed gull associated with the Forth Islands SPA. As such, this species may overlap/interact with the MHPGC Project Zol.</p> <p>A recent study of the foraging ranges of a population associated with the Alde-Ore Estuary SPA reported an average foraging distance of 19.5km, including both onshore and offshore foraging sites (Green <i>et al.</i>, 2023). Therefore, despite their large foraging range, it is unlikely that the majority of individuals associated with this population will interact with the MHPGC Project. Furthermore, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available, including terrestrial habitats.</p> <p>Overall, there is no potential for LSE on lesser black-backed gull for the Forth Islands SPA and therefore has been screened out from further assessment.</p>                                                                                                                      | No                    |

| Species                | Foraging distance (km) | Designated site                                 | Distance from the MHPGC Project Interim Boundary (km) | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Screened into Stage 2 |
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| Atlantic Puffin        | 265.4                  | Forth Islands SPA (UK9004171)                   | 92.6                                                  | <p>The MHPGC Project falls within the foraging range of puffin associated with these designated sites. Despite their large foraging range, the mean foraging range for this species is 62.4km. As such, it is unlikely that a significant proportion of individuals associated with this site will overlap with the MHPGC Project. Furthermore, when considering their large foraging range, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>Overall, there is considered to be no potential for LSE on Atlantic puffin for these SPAs and therefore they have been screened out from further assessment.</p>                                                                                                                           | No                    |
|                        |                        | North Caithness Cliffs SPA (UK9001181)          | 218.1                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | Hoy SPA (UK9002141)                             | 242.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
| Black-legged kittiwake | 300.6                  | Fowlsheugh SPA (UK9002271)                      | 59.0                                                  | <p>The MHPGC Project occurs within the foraging range of black-legged kittiwake for these designated sites and as such, this species may overlap/interact with the MHPGC Project Zol. Despite their large maximum foraging range, the mean reported foraging range is 54.7km (Woodward <i>et al.</i>, 2019). As such, it is unlikely that a significant proportion of the populations associated with these sites will interact with the MHPGC Project. Furthermore, when considering their large foraging range, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>Overall, there is considered to be no potential for LSE on black-legged kittiwake for the SPAs and therefore they have been screened out from further assessment.</p> | No                    |
|                        |                        | Buchan Ness to Collieston Coast SPA (UK9002491) | 68.3                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | St Abb's Head to Fast Castle SPA (UK9004271)    | 71.4                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | Forth Islands SPA (UK9004171)                   | 92.6                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | Troup, Pennan and Lion's Heads SPA (UK9002471)  | 107.4                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | East Caithness Cliffs SPA (UK9001182)           | 198.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | North Caithness Cliffs SPA (UK9001181)          | 218.1                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |
|                        |                        | Copinsay SPA (UK9002151)                        | 237.0                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |

| Species         | Foraging distance (km) | Designated site                             | Distance from the MHPGC Project Interim Boundary (km) | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Screened into Stage 2 |
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|                 |                        | Hoy SPA (UK9002141)                         | 242.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | Calf of Eday SPA (UK9002431)                | 273.4                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | Rousay SPA (UK9002371)                      | 274.1                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | Marwick Head SPA (UK9002121)                | 277.2                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | West Westray SPA (UK9002101)                | 284.6                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | Fair Isle SPA (UK9002091)                   | 288.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
|                 |                        | Flamborough and Filey Coast SPA (UK9006101) | 84.0                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |
| Northern gannet | 509.4                  | Forth Islands SPA (UK9004171)               | 92.6                                                  | <p>The MHPGC Project occurs within the foraging range for northern gannet associated with this SPA and as such, individuals from this site may overlap/interact with the MHPGC Project ZOI.</p> <p>When considering their large foraging range, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>As gannets forage, rest and conduct other activities in both coastal and offshore waters, they are still able to forage along the coastline and other offshore areas away from MHPGC Project activities.</p> <p>As such, there is considered to be no potential for LSE on northern gannet for the Forth Islands SPA and therefore they have been screened out from further assessment.</p> | No                    |
| Great skua      | 931.2                  | Hoy SPA (UK9002141)                         | 242.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No                    |

| Species         | Foraging distance (km) | Designated site                                      | Distance from the MHPGC Project Interim Boundary (km) | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Screened into Stage 2 |
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|                 |                        | Fair Isle SPA (UK9002091)                            | 288.7                                                 | <p>The MHPGC Project occurs within the foraging range for great skua associated with these SPAs and as such, individuals from these sites may overlap/interact with the MHPGC Project Zol.</p> <p>Despite their large maximum foraging range, their mean foraging range is 67km (Woodward <i>et al.</i>, 2019). As such, it is unlikely that a large proportion of the population associated with these sites will interact with the MHPGC Project. Furthermore, when considering their large foraging range, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>Overall, there is no potential for LSE on great skua for the SPAs considered and therefore they have been screened out from further assessment.</p>                                                                                                                                                   |                       |
|                 |                        | Seas off Foula SPA (UK9020331)                       | 329.3                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Noss SPA (UK9002081)                                 | 357.0                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Foula SPA (UK9002061)                                | 358.4                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Fetlar SPA (UK9002031)                               | 405.0                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Hermaness, Saxa Vord and Valla Field SPA (UK9002011) | 424.5                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
| Northern fulmar | 1,200.2                | Fowlsheugh SPA (UK9002271)                           | 59.0                                                  | <p>The MHPGC Project occurs within the foraging range for northern fulmar associated with these SPAs and as such, individuals from these sites may be present within the MHPGC Project Zol.</p> <p>As their foraging range is so large, it is anticipated that the overall foraging resources will not be significantly depleted, and ample alternative foraging and nesting habitats will remain available.</p> <p>It is important to note that northern fulmar forage, rest, and conduct other activities in both coastal and offshore waters. Therefore, whilst individuals at the Fowlsheugh SPA and Buchan Ness to Collieston Coast SPA may not be foraging offshore due to proximity to the MHPGC Project, they are still able to forage along the coastline and other offshore areas away from MHPGC Project activities.</p> <p>Overall, there is no potential for LSE on northern fulmar for the SPAs considered and therefore they have been screened out from further assessment.</p> | No                    |
|                 |                        | Buchan Ness to Collieston Coast SPA (UK9002491)      | 68.3                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Troup, Pennan and Lion's Heads SPA (UK9002471)       | 107.4                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | East Caithness Cliffs SPA (UK9001182)                | 198.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | North Caithness Cliffs SPA (UK9001181)               | 218.1                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Copinsay SPA (UK9002151)                             | 237.0                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
|                 |                        | Hoy SPA (UK9002141)                                  | 242.7                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |

| Species | Foraging distance (km) | Designated site                                      | Distance from the MHPGC Project Interim Boundary (km) | Justification | Screened into Stage 2 |
|---------|------------------------|------------------------------------------------------|-------------------------------------------------------|---------------|-----------------------|
|         |                        | Calf of Eday SPA (UK9002431)                         | 273.4                                                 |               |                       |
|         |                        | Rousay SPA (UK9002371)                               | 274.1                                                 |               |                       |
|         |                        | West Westray SPA (UK9002101)                         | 284.6                                                 |               |                       |
|         |                        | Fair Isle SPA (UK9002091)                            | 288.7                                                 |               |                       |
|         |                        | Sumburgh Head SPA (UK9002511)                        | 325.9                                                 |               |                       |
|         |                        | Seas off Foula SPA (UK9020331)                       | 329.3                                                 |               |                       |
|         |                        | Noss SPA (UK9002081)                                 | 357.0                                                 |               |                       |
|         |                        | Foula SPA (UK9002061)                                | 358.4                                                 |               |                       |
|         |                        | Fetlar SPA (UK9002031)                               | 405.0                                                 |               |                       |
|         |                        | Hermaness, Saxa Vord and Valla Field SPA (UK9002011) | 424.5                                                 |               |                       |

## 4.2 Onshore

### 4.2.1 Annex I terrestrial habitats

- 4.2.1.1 This section provides the Test of LSE on SACs designated for terrestrial habitats [see Table 4.9]. The SACs considered in this assessment have been screened in based on justification provided in Section 3.2.1.
- 4.2.1.2 Impact pathways to terrestrial habitats for all stages of the MHPGC Project have been considered for the Test of LSE. The impact pathways are those that were scoped in within the MHPGC Project Scoping Report and additional pathways identified whilst considering the MHPGC Scoping Opinions [see Section 3.2.1]. These impact pathways are:
- Permanent habitat loss;
  - Temporary loss and physical disturbance to habitats;
  - Changes in air quality;
  - Changes in water quality;
  - Introduction and spread of INNS.
- 4.2.1.3 Further information on these impact pathways (including whether they have been screened in or not) and their Zol is provided in Table 4.8.

Table 4.8: Impact pathways for terrestrial habitats receptors of the National Site Network

| Impact Pathway                                      | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Zol                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------|---------------|-----|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                     |
| Permanent habitat loss                              | ✓             | ✓   | ✓ | The permanent loss of habitat as a result of the MHPGC Project is currently unknown. Therefore, as a precautionary basis this impact pathway has been considered further in the Test of LSE.                                                                                                                                                                                                                                                                                          | All impacts will be confined to the footprint of the MHPGC Project, meaning the Zol is 0.0km.                                                                                                                                                                                                                                       |
| Temporary loss and physical disturbance to habitats | ✓             | ✓   | ✓ | Physical disturbance from the use of machinery/vehicle tracking, could temporarily disturb/damage sensitive habitats. This will also consider any disturbance as a result of changes in physical and coastal processes.                                                                                                                                                                                                                                                               | All impacts will be confined to the footprint of the MHGGC Project, meaning the Zol is 0.0km.                                                                                                                                                                                                                                       |
| Changes in air quality                              | ✓             | ✓   | ✓ | Construction vehicle emissions and dust could adversely affect air quality and thus terrestrial habitats. Examples include dust smothering/suffocating of flora and changes in the oxygen concentration from increases in nitrogen.<br><br>Guidance published by the IAQM (2024) suggests that dust impacts may extend up to 250m from construction site boundaries, and up to 250m from the construction site entrance/exit along roads on which construction traffic is travelling. | Impacts will be localised to the vicinity of the MHPPGC Project with a Zol of 250m.                                                                                                                                                                                                                                                 |
| Introduction and spread of INNS                     | ✓             | ✓   | ✓ | The introduction or spread of INNS during construction activities such as vegetation clearance and vehicle movement could impact terrestrial habitats. INNS could outcompete native species and therefore, there is the potential for LSE to terrestrial habitats through this impact pathway.                                                                                                                                                                                        | Although direct impacts will be confined to the footprint of the MHPGC Project, these species have the potential to spread beyond the initial footprint. As such, a Zol of 0.0km around the MHPGC Project has been established to capture potential spread of INNS, which would be localised to the footprint of the MHPGC Project. |
| Changes in water quality                            | ✓             | ✓   | ✓ | Onshore construction phase activities are associated with the use of vehicles and equipment, that could accidentally discharge hydrocarbons and chemical pollutants into the surrounding habitats, contaminating nearby watercourses and groundwater supply.                                                                                                                                                                                                                          | n/a, pathway screened out.                                                                                                                                                                                                                                                                                                          |

| Impact Pathway | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                              | Zol |
|----------------|---------------|-----|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|                | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                          |     |
|                |               |     |   | However, when considering the implementation of industry best practice measures and management plans (e.g. Pollution Prevention Plan) the risk of an accidental spill occurring is very low. Furthermore, should an accidental spill or leak occur, it will be in a designated area where spills can be easily contained. As such, this impact pathway has been screened out from further consideration. |     |

*C = construction phase; O&M = operations and maintenance phase; D = decommissioning phase*

Table 4.9: Test of LSE for National Sites designated for terrestrial habitats

| Designated site              | Distance from the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                            | Impact pathway                                                                                                                                                                                                             | Justification                                                                                                                                                                                    | Screened into Stage 2 |
|------------------------------|-------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Durham Coast SAC (UK0030140) | 0.0                                                   | Vegetated sea cliffs of the Atlantic and Baltic coasts | <ul style="list-style-type: none"> <li>• Permanent habitat loss;</li> <li>• Temporary loss and physical disturbance to habitats;</li> <li>• Changes in air quality;</li> <li>• Introduction and spread of INNS.</li> </ul> | The Durham Coast SAC falls within the Zol for these impact pathways and LSE cannot be ruled out at this stage. Therefore, this designated site has been taken through to the MHPGC Project RIAA. | Yes                   |

## 4.2.2 Annex I terrestrial ornithology

4.2.2.1 This section presents the Test of LSE on SACs designated for terrestrial ornithology [see Table 4.11]. The SPAs considered in this assessment have been screened in based on justification provided in Section 3.2.2.

4.2.2.2 The below impact pathways on terrestrial ornithology for all stages of the MHPGC Project, have been considered for the Test of LSE. The impact pathways are those that were scoped in within the MHPGC Project Scoping Report and additional pathways identified whilst considering the MHPGC Project Scoping Opinions [see Section 4.2.1]. These impact pathways are:

- Permanent habitat loss, including functionally linked land and bird nests;
- Temporary loss of supporting habitats;
- Disturbance and displacement of birds.

4.2.2.3 Further information on these impact pathways (including whether they have been screened in or not) and their Zol is provided in Table 4.10.

Table 4.10: Impact pathways for terrestrial ornithological receptors of the National Site Network

| Impact Pathway                                                            | Project Phase |     |   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Zol                                                                                           |
|---------------------------------------------------------------------------|---------------|-----|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                                                                           | C             | O&M | D |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                               |
| Permanent habitat loss, including functionally linked land and bird nests | ✓             | ✓   | ✓ | <p>Construction and decommissioning of the onshore LSS, TJBs and landfall may lead to habitat loss, impacting ornithological populations that use the area for foraging, nesting or breeding. This impact pathway will only potentially affect designated sites within the MHPGC Project Interim Boundary.</p> <p>Construction and decommissioning activities may also cause damage to or destruction of bird nests, affecting roosting and breeding. This impact pathway will only potentially affect designated sites within the MHPGC Project Interim Boundary.</p> <p>During the O&amp;M phase, onshore export cables may require periodic repairs or reburying that may impact habitat supporting ornithology features.</p> | All impacts will be confined to the footprint of the MHPGC Project, meaning the Zol is 0.0km. |
| Temporary loss of supporting habitats                                     | ✓             | ✓   | ✓ | <p>Temporary habitat loss from onshore export cables during construction and decommissioning may affect SPA and Ramsar sites. This impact will be localised within the MHPGC Project Interim Boundary but may affect foraging grounds for bird species.</p> <p>During the O&amp;M phase, onshore export cables may require periodic repairs or reburying that may impact habitat supporting ornithology features.</p>                                                                                                                                                                                                                                                                                                            | All impacts will be confined to the footprint of the MHPGC Project, meaning the Zol is 0.0km. |
| Disturbance and displacement of birds                                     | ✓             | ✓   | ✓ | <p>During the construction and decommissioning phases, birds may be affected by noise and visual disturbances through the presence of vehicles and heavy machinery, leading to displacement or avoidance of areas surrounding the construction works and infrastructure.</p> <p>During the O&amp;M phase, onshore export cables may require periodic repairs or reburying that may also impact ornithological features.</p> <p>NatureScot (Goodship and Furness, 2022) published a summary of likely sensitivity to human disturbance of seabirds. This reported that a buffer zone of 1km would be suitable for the majority of species to avoid disturbance effects.</p>                                                       | The Zol from disturbance effects is considered to be 1.0km.                                   |

C = construction phase; O&M = operations and maintenance phase; D = decommissioning phase

Table 4.11: Test of LSE for National Sites designated for terrestrial ornithological receptors

| Designated site                                       | Distance from the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                                                                                                                                        | Impact pathway                                                                                                                                                               | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Screened into Stage 2 |
|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Northumbria Coast SPA/Ramsar site (UK9006131/UK11049) | 0.0                                                   | Breeding: <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> Non-breeding: <ul style="list-style-type: none"> <li>Purple sandpiper (<i>Calidris maritima</i>);</li> <li>Turnstone (<i>Arenaria interpres</i>).</li> </ul> | <ul style="list-style-type: none"> <li>Permanent habitat loss, including functionally linked land and bird nests;</li> <li>Temporary loss of supporting habitats.</li> </ul> | <p>The Northumbria Coast SPA protects predominantly intertidal rock and sandy beach. This habitat represents an important resource for the qualifying features of this site, particularly purple sandpiper and turnstone which use this area to forage for food, such as marine invertebrates and seaweed covered rocks.</p> <p>Although the MHPGC Project Interim Boundary overlaps with this designated site, trenchless techniques have been proposed. This will mean the landfall will avoid the intertidal area and the habitats protected as part of the Northumbria Coast SPA.</p> <p>The punch out point of the cable will be within the subtidal, whilst the onshore LSS is proposed to be located away from the beach, avoiding the requirement for vessels or construction activities to be present at this location.</p> <p>Therefore, there is no potential for LSE to this SPA/Ramsar site from the permanent or temporary loss of habitat during any of the MHPGC Project phases and it has been screened out from further assessment.</p> | No                    |
|                                                       |                                                       |                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Disturbance and displacement of birds.</li> </ul>                                                                                     | <p>The Northumbria Coast SPA/Ramsar site supports a range of protected bird species that may be susceptible to noise generated by construction activities. Such noise-related disturbance can disrupt normal behaviours, including reducing birds' feeding intake rates or prompting temporary displacement from vital foraging grounds. These disturbances may diminish feeding opportunities and increase energy expenditure, with potential consequences for body condition, survival and reproductive success.</p> <p>The intertidal habitats protected as part of this SPA fall in proximity of the proposed northern and central landfall locations and the Zol for potential disturbance and displacement impacts from the MHPGC Project.</p> <p>LSE to the Northumbria Coast SPA/Ramsar site cannot be ruled out and therefore has been screened in for further assessment within the MHPGC Project RIAA.</p>                                                                                                                                     | Yes                   |

| Designated site                                                   | Distance from the MHPGC Project Interim Boundary (km) | Relevant qualifying feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Impact pathway                                                                                                                                                            | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Screened into Stage 2 |
|-------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Teesmouth and Cleveland Coast SPA/Ramsar site (UK9006061/UK11068) | 4.5                                                   | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Avocet (<i>Recurvirostra avosetta</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Knot (<i>Calidris canutus</i>);</li> <li>Redshank (<i>Tringa totanus</i>);</li> <li>Ruff (<i>Calidris pugnax</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Waterbird assemblage.</li> </ul> | <ul style="list-style-type: none"> <li>Permanent habitat loss;</li> <li>Temporary loss of supporting habitats;</li> <li>Disturbance and displacement of birds.</li> </ul> | The Teesmouth and Cleveland Coast SPA/Ramsar site has been designated for habitats that provide important breeding, roosting and foraging opportunities for several bird species. As such, the greatest concentration of individuals will occur within the site boundary. As this site (and potential functionally linked areas) falls outside the ZOI for impact pathways associated with any of the MHPGC Project phases, there is no potential for LSE on the qualifying bird species of this SPA and it has been screened out from further assessment. | No                    |

## 5 In-combination Effects Screening

- 5.1.1.1 It is a requirement of the Habitats Regulations to not only assess the likely significant effects of the MHPGC Project alone, but also in-combination with other plans or projects, including those that may occur concurrently. The intention of this screening is to determine whether an impact pathway that has otherwise not been identified as having LSE on a designated site may have a LSE when combined with effects from other plans or projects.
- 5.1.1.2 Work is ongoing to create a full long-list of relevant plans and projects. Once this is completed, the potential for in-combination effects will be assessed in the MHPGC Project RIAA. For the purposes of this HRA Screening, a high-level review of other plans and projects has been undertaken to provide an initial indication of which projects might interact with the MHPGC Project. Where best available evidence indicates that there is no risk that the MHPGC Project will have LSE on specific features of a site in-combination with other plans or projects by undermining its conservation objective(s), these features will be screened out of further assessment.
- 5.1.1.3 Projects and activities that will be screened for further assessment include:
- assessment with Morven North and Morven South;
  - other offshore wind projects and their associated cabling and infrastructure;
  - onshore wind and solar farms;
  - other forms of cabling (e.g. telecommunications and interconnectors);
  - marine aggregate extraction and dredge disposal;
  - coastal developments.
- 5.1.1.4 Any effect that cannot be ruled out for the project alone is assumed to require in-combination screening, and even effects ruled out alone are revisited in-combination. The only exception is when a pathway to an effect is so minor (trivial in scale, duration and magnitude) that it cannot conceivably influence the site's conservation objectives. These are classed as "inconsequential effects" and dismissed from further consideration. If later evidence (e.g., consultation feedback or new project data) indicates a previously overlooked pathway, the in-combination assessment will be updated accordingly in the MHPGC Project RIAA.

## 5.2 Methodology

- 5.2.1.1 A full in-combination assessment will be undertaken within the MHPGC Project RIAA. The methodology to this assessment is outlined below, based on the following steps:
- identifying other relevant developments;
  - mapping shared impact pathways;
  - evaluating the overall (combined) significance of effects;
  - determining whether mitigation is required.
- 5.2.1.2 The approach formerly set out in PINS Advice Note 17 is now captured in the 2024 guidance (PINS, 2024b; amended 2025). This guidance describes a staged process for CEAs undertaken for NSIPs, which can be applied equally at project level when carrying out an in-combination assessment. Consequently, the PINS four-stage methodology (PINS, 2024b; amended 2025) used for cumulative effects assessment is transferable to HRA in-combination assessments. These four stages are summarised in Table 5.1 below.

Table 5.1: PINS guidance four-staged approach

| Stage   | Task                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stage 1 | Determine a Zol for every topic receptor using a desk-based review. Within each topic Zol, create a 'long list' of other plans or projects. Record for each scheme its location, type, status, timing and a confidence tier that reflects how likely it is to proceed. Share this preliminary list with the relevant planning authorities and statutory consultees to confirm it before moving on to Stage 2. |
| Stage 2 | Refinement of the long list to a short list by only keeping schemes/projects whose timing, scale, nature or environmental setting could realistically overlap with the project and create significant in-combination effects. At this point, information on each retained development is kept high-level, capturing only the key details needed for further assessment.                                       |
| Stage 3 | For each project on the shortlist, compile the latest publicly available information (design, timeline, footprint, parameters, etc.). Document any assumptions made and note data gaps or uncertainties that could affect the assessment.                                                                                                                                                                     |
| Stage 4 | Topic specialists assess each shortlisted scheme/project to see if, and how, it could combine with the MHPGC Project to create in-combination effects (positive or negative). Significance will be assigned to each impact pathway. Where significant adverse effects are predicted, mitigation will be proposed and will indicate how it would be secured.                                                   |

5.2.1.3 Each development on the long list will be assigned a certainty tier, following the PINS guidance (PINS, 2024b (amended 2025)). The tier reflects the development's likelihood of being delivered and helps determine whether it should be taken forward into the in-combination assessment:

- Tier 1 - highest certainty:
  - under construction;
  - permitted applications under the Planning Act or other regimes but not yet implemented;
  - submitted applications under the Planning Act or other regimes but not yet determined;
  - all refusals subject to appeal procedures not yet determined.
- Tier 2 – moderate certainty:
  - projects on the PINS programme of projects.
- Tier 3 – lowest certainty:
  - projects on the PINS programme of projects where a scoping report has not been submitted;
  - identified in the relevant Development Plan and emerging Development Plans, with appropriate weight given as they near adoption, recognising that there will be limited information available on the relevant proposals;
  - identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.

5.2.1.4 This tiering approach aligns with the PINS guidance: NSIP: Advice on HRA (PINS, 2024) which advises that the following (non-exhaustive) categories should be considered in an HRA in-combination assessment:

- projects under construction;
- permitted application or applications not yet developed;
- submitted application or applications not yet decided;
- refused plans or projects subject to an appeal but not yet decided;
- projects on the PINS national infrastructure programme of projects;
- projects identified in the relevant development plan (and emerging development plans – with appropriate weight being given as they move closer to adoption).

## 5.3 Receptors and impact pathways

5.3.1.1 Table 5.2 presents all receptor groups and their associated impact pathways, along with an example scenario where an in-combination effect might take place.

Table 5.2: In-combination effects to be considered in the MHPGC RIAA

| Receptor/Topic          | Shared impact pathway(s)                                                                                                                                                                                                                                                                                                                     | Example of an in-combination effect                                                                                                                                                                                                                |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marine Mammals          | <ul style="list-style-type: none"> <li>Injury and disturbance from underwater sound.</li> </ul>                                                                                                                                                                                                                                              | If the boundaries of other developments lie within the 26km ZoI for underwater sound, triggering an in-combination effect.                                                                                                                         |
| Marine Ornithology      | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels and other offshore activities;</li> <li>Indirect impacts from impacts to prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs.</li> </ul> | Airborne or underwater noise from a neighbouring development close to the MHPGC Project could raise disturbance levels and displace marine birds beyond acceptable thresholds, resulting in an in-combination effect.                              |
| Terrestrial Habitats    | <ul style="list-style-type: none"> <li>Permanent habitat loss;</li> <li>Temporary loss and physical disturbance to habitats;</li> <li>Changes in air quality;</li> <li>Changes in water quality;</li> <li>Introduction and spread of INNS.</li> </ul>                                                                                        | Emissions and dust from vehicles and machinery associated with the MHPGC Project, together with those from nearby developments, could further degrade air quality and give rise to an in-combination effect.                                       |
| Terrestrial Ornithology | <ul style="list-style-type: none"> <li>Permanent habitat loss, including functionally linked land and bird nests;</li> <li>Temporary loss of supporting habitats;</li> <li>Disturbance and displacement of birds.</li> </ul>                                                                                                                 | If neighbouring developments overlap the MHPGC Project area, permanent habitat loss from construction activities, such as cable trenching, could accumulate across projects, resulting in a substantial overall loss and an in-combination effect. |

## 6 Summary

- 6.1.1.1 The National Sites recommended to be taken forward to the AA stage and their relevant impact pathways are provided in Table 6.1.

Table 6.1: Summary of National Sites screened in for Appropriate Assessment

| MHPGC Project Element          | Designated Site                                 | Distance from MHPGC Project Interim Boundary (km) | Impact Pathway                                                                                                                                                                                                                                                                                                                                                            | Relevant Features                                                                                                                                                                                                                                                                                                                |
|--------------------------------|-------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scottish National Site Network |                                                 |                                                   |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                  |
| Offshore                       | Berwickshire and North Northumberland Coast SAC | 25.6                                              | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>).</li> </ul>                                                                                                                                                                                                                                         |
| Offshore                       | Isle of May SAC                                 | 94.1                                              | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>).</li> </ul>                                                                                                                                                                                                                                         |
| Offshore                       | Moray Firth SAC                                 | 160.0                                             | <ul style="list-style-type: none"> <li>Underwater sound impacts.</li> </ul>                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Bottlenose dolphin (<i>Tursiops truncatus</i>).</li> </ul>                                                                                                                                                                                                                                |
| English National Site Network  |                                                 |                                                   |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                  |
| Onshore                        | Durham Coast SAC                                | 0.0                                               | <ul style="list-style-type: none"> <li>Permanent habitat loss;</li> <li>Temporary loss and physical disturbance to habitats;</li> <li>Changes in air quality;</li> <li>Introduction and spread of INNS.</li> </ul>                                                                                                                                                        | <ul style="list-style-type: none"> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts.</li> </ul>                                                                                                                                                                                                                        |
| Onshore                        | Northumbria Coast SPA/Ramsar site               | 0.0                                               | <ul style="list-style-type: none"> <li>Disturbance and displacement of birds.</li> </ul>                                                                                                                                                                                                                                                                                  | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Purple sandpiper (<i>Calidris maritima</i>);</li> <li>Turnstone (<i>Arenaria interpres</i>).</li> </ul> |
| Offshore                       | Northumbria Coast SPA/Ramsar site               | 0.0                                               | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from underwater sound affecting prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs, including indirect impacts on prey species</li> </ul> | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Arctic tern (<i>Sterna paradisaea</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Purple sandpiper (<i>Calidris maritima</i>);</li> <li>Turnstone (<i>Arenaria interpres</i>).</li> </ul> |

| MHPGC Project Element | Designated Site                                 | Distance from MHPGC Project Interim Boundary (km) | Impact Pathway                                                                                                                                                                                                                                                                                                                                                             | Relevant Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|-------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Offshore              | Teesmouth and Cleveland Coast SPA/Ramsar site   | 4.5                                               | <ul style="list-style-type: none"> <li>Disturbance and displacement from airborne noise, underwater sound, and visual disturbance associated with the presence of vessels;</li> <li>Indirect impacts from underwater sound affecting prey species;</li> <li>Temporary habitat loss/disturbance from increased SSCs, including indirect impacts on prey species.</li> </ul> | <p>Breeding:</p> <ul style="list-style-type: none"> <li>Avocet (<i>Recurvirostra avosetta</i>);</li> <li>Common tern (<i>Sterna hirundo</i>);</li> <li>Little tern (<i>Sternula albifrons</i>).</li> </ul> <p>Non-breeding:</p> <ul style="list-style-type: none"> <li>Knot (<i>Calidris canutus</i>);</li> <li>Redshank (<i>Tringa totanus</i>);</li> <li>Ruff (<i>Calidris pugnax</i>);</li> <li>Sandwich tern (<i>Thalasseus sandvicensis</i>);</li> <li>Waterbird assemblage.</li> </ul> |
| Offshore              | Berwickshire and North Northumberland Coast SAC | 25.6                                              | <ul style="list-style-type: none"> <li>Underwater sound impacts;</li> </ul>                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |

## 7 References

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