Inch Cape
OFFSHORE LIMITED

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Inch Cape Offshore Wind Farm UXO Clearance

Marine Licence Application

Report to Inform Appropriate Assessment (AA)

Inch Cape Acceptance

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Acronyms & Abbreviations

Acronym	Term
AA	Appropriate Assessment
ADD	Acoustic Deterrent Device
ECC	Export Cable Corridor
ECMA	East Coast Management Area
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPS	European Protected Species
EPS-RA	European Protected Species – Risk Assessment
ES	Environmental Statement
FWPM	Freshwater Pearl Mussel
HRA	Habitats Regulation Appraisal
IAMMWG	Inter-Agency Marine Mammal Working Group
ICOL	Inch Cape Offshore Limited
INNS	Invasive non-native species
LSE	Likely Significant Effects
MD-LOT	Marine Directorate – Licensing Operations Team
MHWS	Mean High Water Springs
MU	Mammal Unit

NAS	Noise abatement system
NEQ	Net Explosive Quantities
NtM	Notice to Mariners
OfTI	Offshore Transmission Infrastructure
OfTW	Offshore Transmission Works
OSP	Offshore Substation Platform
OWF	Offshore Wind Farm
RIAA	Report to Inform Appropriate Assessment
ROV	Remotely Operated Vehicle
SAC	Special Area of Conservation
SEI	Supporting Environmental Information
SMT-ROV	Subsea Multi-Tool Remotely Operated Vehicle
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SSC	Suspended Sediment Concentrations
UTM30N	Universal Transverse Mercator Zone 30 Northern Hemisphere
UXO	Unexploded ordnance

Glossary

Defined Term	Meaning
The 2010 Act	Marine (Scotland) Act 2010.
The 2013 Application	The Environmental Statement, HRA Report and supporting documents submitted by the Company on 1st July 2013 to construct and operate an offshore generating station and transmission works.
The 2018 Application	The EIA Report, HRA Report and supporting documents submitted by the Company on 15 August 2018 to construct and operate an offshore generating station and transmission works.
Development	The Inch Cape Offshore Wind Farm (the Wind Farm) and Offshore Transmission Works (OfTW) being developed by Inch Cape Offshore Limited (ICOL).
Development Area	The area for the Wind Farm, within which all Wind Turbine Generators, inter-array cables, interconnector cables, offshore substation platform(s) and the initial part of the Offshore Export Cable and any other associated works must be sited. As stipulated in the Crown Estate agreement for lease.
Inch Cape Offshore Transmission Infrastructure (OfTI)	Components of the Development which are permitted by the OfTI Marine Licence (MS-00010593).
Inch Cape Offshore Wind Farm/ Wind Farm	A component of the Development, comprising wind turbines and their foundations and substructures, and inter-array cables.
Offshore Export Cables	The subsea, buried or protected electricity cables running from the offshore wind farm substation to the landfall and transmitting the electricity generated to the onshore cables for transmission onwards to the onshore substation and the electrical grid connection.

Defined Term	Meaning
Offshore Export Cable Corridor/ Export Cable Corridor	The area within which the Offshore Export Cables will be laid from the OSP and up to Mean High Water Springs.
Offshore Transmission Works (OfTW)	The Offshore Export Cable and OSPs. This includes all permanent and temporary works required.
The Wind Farm	The Inch Cape Offshore Wind Farm.

Executive Summary

Inch Cape Offshore Limited (ICOL) is applying for a marine licence under Part 4 of the Marine (Scotland) Act 2010 ("the 2010 Act"). The marine licence is required for unexploded ordnance (UXO) clearance along the Offshore export Cable Corridor (ECC) and the Development Area for the Inch Cape Offshore Wind Farm (OWF).

As part of the pre-construction works, a number of activities are required in order for construction to proceed. These include UXO clearance. Boulder clearance and UXO identification activities will be covered by a separate marine licence application.

Although the activities involve an impulsive noise, the activities will be relatively, minimally invasive and will be localised, small scale and of short duration, taking place within the existing consented Project area i.e., the Development Area and the Export Cable Corridor (ECC). Based on the consideration of potential impacts on European Designated Sites with potential connectivity to the work, it can be concluded the UXO clearance activities will not result in adverse effects on site integrity where connectivity exists.

In October 2024, a Marine Licence (MS-00010883) was granted for UXO clearance during early construction of the Inch Cape Offshore Wind Farm.

ICOL is seeking to extend the current UXO clearance Marine Licence (MS-00010883) to the end of the construction period (end of Q4 2027) to enable UXO clearance operations throughout the entire construction period.

This document has been prepared by competent experts (The Natural Power Consultants) to provide the supporting information to inform the marine licence application to account for the extension in the programme of works.

1 Introduction

1.1 Background

The Inch Cape Offshore Wind Farm (the Wind Farm) and Offshore Transmission Infrastructure (OfTI), hereafter referred to as the Development, is being developed by Inch Cape Offshore Limited (ICOL) (Figure 1.1).

In 2014, the Scottish Ministers granted ICOL Section 36 and marine licence consents, pursuant to the 2013 Application, for the construction and operation of an offshore wind farm and a marine licence for the construction and operation of offshore transmission infrastructure. The licences granted to ICOL in 2014 (along with those for other Forth and Tay projects, Seagreen Alpha and Bravo and Neart na Gaoithe) were subject to a petition for judicial review in early 2015. A decision was made by the UK Supreme Court in November 2017 to uphold the Scottish Ministers' decisions to grant the offshore consents.

In 2018 the original consent was updated, and a revised application was submitted to Scottish Minsters. In 2013 an Environmental Statement (ES) was produced to accompany the initial application based on the original design of the Wind Farm. This was also subsequently updated in 2018 with the production of an Environmental Impact Assessment Report (EIAR) to enable the use of progressions in technology following the original consent, through a reduction in turbine numbers (fewer turbines with larger generating capacity), and reduction in associated cabling (inter-array and export cables) in order to maximise efficiencies whilst minimising environmental impacts. The EIAR updated the 2013 ES and where impacts were predicted to be less than those already assessed, a new assessment was not undertaken as the conclusions drawn in the original 2013 ES remained valid.

Section 36 and marine licence consents for the revised design, were granted by Scottish Ministers in 2019. Since then, ICOL has successfully sought two variations to the Section 36 and Generation Station marine licence to optimise wind farm efficiency and both were granted consent in June 2023 (Section 36 Variation dated 14 June 2023 and Generation Marine Licence Variation MS-00010140 dated 15 June 2023).

In 2019 a revised marine licence was granted for the OfTI connecting the landfall location, near Cockenzie, East Lothian, and the Inch Cape Offshore Wind Farm. A varied Marine Licence (MS-00010593), to capture changes to deposit quantities and revision to the Offshore Export Cable Corridor coordinates, was granted 9th November 2023.

In October 2024, a Marine Licence (MS-00010883) was granted for UXO clearance during early construction of the Inch Cape Offshore Wind Farm.

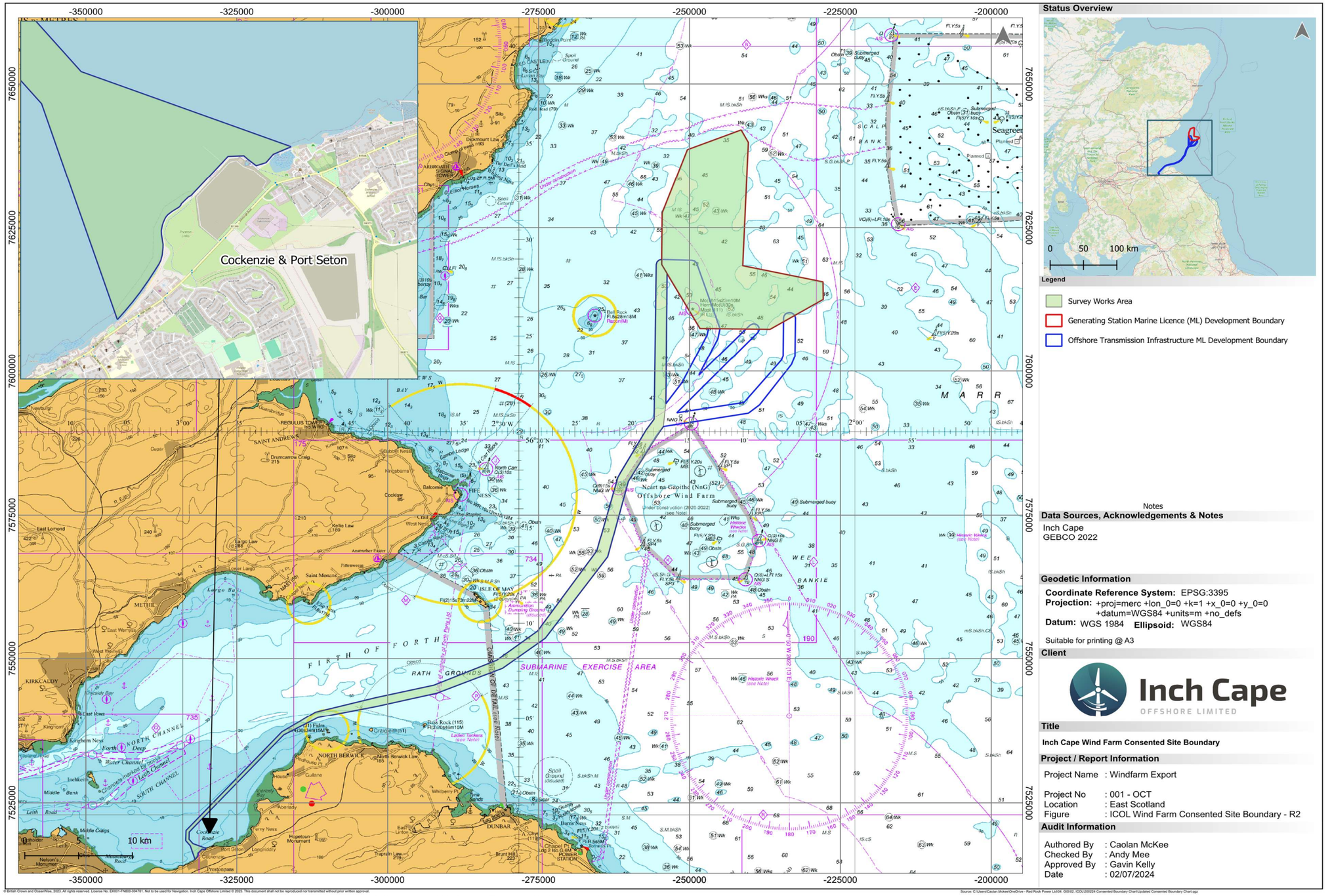

Figure 1.1: Inch Cape Offshore Wind Farm Development Area and Current Offshore Export Cable Corridor

1.2 Intention to Apply for a New Marine Licence

ICOL is applying for a marine licence for the unexploded ordnance (UXO) clearance activities for the whole Project, along the Export Cable Corridor (ECC) and within the Development Area (Figure 1.1).

Under the Marine (Scotland) Act 2010, and the Marine and Coastal Access Act 2009, a marine licence is required for UXO clearance activities. The requirement to considered European Protected Species (EPS) in developments in waters off Scotland derives from the Conservation of Offshore Marine Habitats and Species Regulations, 2017, which transpose the requirements of the Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora). ICOL intends to apply for a new marine licence under Part 4 of the Marine (Scotland) Act 2010 ("the 2010 Act") for UXO clearance activities.

This document forms a suite of supporting application documents constituting the complete marine licence application, namely:

- RIAA (This document – Ref: IC02-INT-EC-OFL-012-INC-RPT-004);
- Supporting Environmental Information (SEI) Report (IC02-INT-EC-OFL-012-INC-RPT-003);
- European Protected Species (EPS) Risk Assessment (RA) (NP Ref: 1355322, ICOL Ref: IC02-INT-EC-OFL-012-INC-RPT-005); and
- Marine Mammal Mitigation Plan (MMMP) (NP Ref: 1655320, ICOL Ref: IC02-INT-EC-OFL-012-INC-PLA-001).

ICOL is seeking to extend the current UXO clearance Marine Licence (MS-00010883) to the end of the construction period (end of Q4 2027) to enable UXO clearance operations throughout the entire construction period.

1.3 Scope of this Document

This document has been produced to provide the supporting information to inform the marine licence application, and contains the following:

- Description of the UXO clearance activities (Section 2);
- Habitats Regulations Appraisal (HRA) Screening including potential for connectivity and Likely Significant Effect (LSE) screening (Section 0);
- Potential for adverse effect on site integrity from the UXO clearance activities (Section 4);
- Summary and Conclusions (Section 5); and
- References (Section 6).

The UXO clearance activities have been considered against whether they could result in likely LSE on European designated sites. For those sites where LSE cannot be ruled out, these are taken forward for further assessment to determine any potential effect on site integrity.

2 Description of the UXO Clearance Activities

In order to undertake construction activities, a number of route preparation activities will be required to clear the area. This application considers the need for clearance of UXO, should they be present in the area affected by planned construction work. The UXO identification survey activities will be covered by a separate marine licence application.

A hierarchical approach to addressing confirmed UXO (cUXO) will be applied. This will be (in order of preference), avoidance, relocation, or clearance (deflagration or detonation).

2.1 Outline Programme

The UXO clearance works will be undertaken between the start of Q2 2025 and the end of Q4 2027.

2.2 Outline Method Statement

2.2.1 UXO Clearance

A variety of options for managing UXOs on site are available and will be considered on a case-by-case basis:

- Micro-siting i.e., avoidance of UXO;
- Relocation ('lift and shift') of UXO (where deemed safe to do so); and
- Clearance of UXO using either low or high order clearance. Low order clearance will be used in the first instance. High order clearance will be used as a last resort.

It should be noted that in the case of UXO relocation, live UXO's will only be relocated when it is unsafe to clear in situ. In these cases, the UXO will be moved to an identified safe location within the licenced area for future disposal. It is anticipated that a maximum of 85 UXO targets may be present across the Development Area and ECC (westernmost corridor) (depths ranging between 40 – 59 m) and will require clearance. It is anticipated that 75 UXO targets will be cleared using low order clearance methods whilst up to ten UXO may require high order clearance methods. These numbers are based on the findings of the UXO risk assessment (50028_UXOTARA_Inch Cape OWF Array_Vysus_V2.0) which is based on current published data on UXO presence in the project area. It is likely that different types of UXO will be present (small projectiles, mines, aerial bombs and torpedoes originating from WWI and WWII), many of which are likely to have been subject to degradation or burying over time. It is anticipated that the largest UXO may have a net explosive quantity (NEQ) of 254 kg in the Development Area and 1179 kg along the ECC.

Different sized initiation explosives may be required for different sized UXOs.

The area will be surveyed in advance of any UXO clearance activities being undertaken in order to reach ALARP, however, considering the potential for UXO being located in the future due to sediment movement or the movement of UXO, this application also includes for clearance operations throughout the full duration of the construction phase, until the end of Q4, 2027.

2.2.2 Vessels

It has not yet been confirmed which vessels will be used for the UXO clearance work. It is anticipated

that up to three vessels will be required during each UXO clearance occasion, throughout the construction period:

- An 'ROV support vessel';
- Rigid Inflatable support vessel.
- A support vessel for the deployment of a noise abatement system (NAS) if required (High order only)

The vessels will be on site for a limited duration throughout the construction period (until end of Q4 2027). The potential for impact on the designated sites from the use of vessels will mainly be related to indirect disturbance both in terms of noise and physical presence. Vessels will undertake 24/7 working, with clearance activities only being undertaken during daylight hours, and the UXO clearance strategy will be planned to minimise vessel transit lengths between targets.

2.3 Embedded Mitigation

There are a number of embedded mitigation measures which will be implemented to reduce the potential for certain impacts.:

- A hierarchical approach to addressing confirmed UXO (cUXO) will be applied. This will be (in order of preference and where possible), avoidance, relocation, or clearance (deflagration or detonation) to ensure the chances of high order detonation are reduced as low as possible;
- Compliance with IMO conventions including COLREGs and SOLAS to ensure standard levels of navigation and vessel safety are adhered to;
- Issue of Notice to Mariners (NtM) notifying of the type and location of the boulder clearance and UXO activities;
- Implementation of appropriate safety distances during UXO investigation;
- Waste management on board vessels is covered the Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations 2008. These regulations implement revised Annex IV of MARPOL 73/78 (Regulations for the Prevention of Pollution by Sewage from Ships), and Annex V of MARPOL 73/78 (including amendments) (Regulations for the Prevention of Pollution by Garbage from Ships); and
- Appropriate biosecurity, aimed at preventing invasive non-native species (INNS).

2.3.1 Marine Mammal Mitigation Protocol

To support the marine licence application for UXO clearance works a UXO clearance specific Outline Marine Mammal Mitigation Protocol (MMMP) ((Ref: 1355320) has been drafted in accordance with JNCC mitigation guidelines to help reduce potential risk of injury to marine mammals from impulsive sounds sources (i.e., deflagration, detonation). It is intended the MMMP will be read alongside this document.

In accordance with the JNCC Guidelines for Minimising the Risk of Disturbance and Injury to Marine Mammals whilst using Explosives (JNCC, 2010) and Interim Position Statement (OGL, 2022), where possible, Inch Cape will adopt UXO clearance methods to ensure the lowest practicable noise levels

are produced by the required UXO clearance works. An example of which, is the application of low order disposal methods (deflagration) for UXO clearance, noting that this is a new technique yet to be widely used on commercial projects and therefore may not be feasible, or successful, in all scenarios.

Other mitigation approaches which may be required include avoidance of UXO clearance at all through using alternative methods such as micro-siting or relocation ('lift and shift') where safe to do so, the use of Acoustic Deterrent Devices (ADDs) to encourage dispersal prior to detonation, and the use of noise abatement systems.

As above, it should be noted that in the case of UXO relocation, live UXO's will only be relocated when it is unsafe to clear in situ. In these cases, the UXO will be moved to an identified safe location within the development area for future disposal.

3 Habitats Regulation Appraisal (HRA) Screening

This section of the report is intended to provide consideration of the potential for the UXO clearance activities to lead to Likely Significant Effect (LSE) on the conservation objectives of any relevant European designated Natura 2000 or Ramsar site. LSE is defined, in this context, as any effect (either alone or in-combination with other projects) that may be reasonably predicted as a consequence of a plan or project, to affect the conservation objectives of the features for which the site was designated. If LSE cannot be excluded from the activity, then the Competent Authority is required to make an Appropriate Assessment (AA) of the implications of the activity in view of the conservation objectives for any potentially affected Natura 2000 site, under the Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations).

The information in this report provides consideration whether a qualifying feature is likely to be directly or indirectly affected by the proposed activities. The HRA process involves two initial stages:

Stage one: Initial screening is undertaken to determine whether there is the potential for connectivity between the designated site features and the proposed activities. Further information is provided to determine and justify the conclusion of LSE on the site either alone or in combination with other proposals.

Stage two: Where there is risk of a LSE, or insufficient evidence to rule out a risk of LSE, then a more detailed Appropriate Assessment must be carried out.

This section provides the Competent Authority with the relevant information to enable them to determine the potential for LSE and therefore the requirement for AA.

3.1 Potential for Connectivity and Identification of Relevant Designated Sites

A number of EU Designated Sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites) have been identified as requiring consideration in this HRA based on their proximity to the UXO clearance activities to be undertaken at the Development, alongside the existence of potential impact pathways relevant to the site features (Table 3.1, Figure 3.1). As the purpose of this report is to identify the potential LSE for work which will be of the same, or shorter duration and more localised than the construction activities assessed for the wider Inch Cape Project, it is considered that effect pathways to more distant designated sites are considered unlikely and therefore have been discounted as having no potential for LSE.

Table 3.1: Identification of Sites with Potential Connectivity

Environmental Receptor	Criterial for determining potential for connectivity with designated sites	Designated sites
Marine Mammals	SAC designated for bottlenose dolphin (*Tursiops truncatus*), based on the Greater North Sea Management Unit (MU) (IAMMWG (2023)).	Moray Firth SAC
	SAC designated for harbour porpoise	None

Environmental Receptor	Criterial for determining potential for connectivity with designated sites	Designated sites
	(*Phocoena phocoena*) based on a 100 km buffer around SAC and overlap with the Project. Based on a lack of evidence to suggest movement of this species over large distances. Therefore, a conservative distance of 100 km from has been considered.	
	SAC designated for harbour seal (*Phoca vitulina*) based on foraging range of 50 km, based on average trip distance of seals tagged at an English haul out site (The Wash) (Sharples *et al.,* 2012).	Firth of Tay and Eden Estuary SAC
	Grey seal (*Halichoerus grypus*) foraging range is 20 km (Mean return-trip maximum extent (McConnell *et al*.,1999)), however SAC are included based on a conservative distance of 50 km.	Isle of May SAC
Ornithology	This assessment considers all SPAs in the vicinity of the UXO clearance activities with seabird features which would reasonably interact with the UXO clearance activities. Distant SPAs were not considered as the work is small scale, localised and short term, and it is believed there is no potential for LSE on any SPA other than those in the Outer Firth of Firth area of the North Sea.	Forth Islands SPA Outer Firth of Forth and St Andrews Bay Complex SPA Firth of Forth SPA Firth of Tay and Eden Estuary SPA (and Ramsar) St Abb's Head to Fast Castle SPA Fowlsheugh SPA Ythan Estuary Sands of Forvie and Meikle Loch SPA (and Ramsar) Buchan Ness to Collieston Coast SPA
Annex I Habitat	Marine SAC with benthic features are included within 10 km of the proposed UXO clearance activities. The results of construction modelling in the ES (Intertek, 2013) predicted all material would settle out within 10 km. 25 km is therefore considered adequately conservative for the purposes of this report	Isle of May SAC Firth of Tay and Eden Estuary SAC
Annex II Fish	Connectivity based on known migration routes	River Tweed SAC River Tay SAC River Teith SAC River Dee SAC

3.2 LSE Screening

The following section (Section 1.1) considers the potential for LSE of the sites identified above (Section 3.1).

The following section considers the potential impacts on the sites identified and screened in. Detailed consideration of the potential effects identified in Stage 1 will establish whether there is any impact on the integrity of European sites, either alone or in-combination with other projects or plans, with respect to the European site's Conservation Objectives. The intention of this process is to determine whether there is objective evidence that adverse effects on the integrity of the site can be excluded. This stage also includes the development of mitigation measures to avoid or reduce any possible effects.

Recent general advice for renewable projects from NatureScot has been incorporated and followed for this work, and is therefore considered appropriate, given the nature of the works.

The only other plans or projects that could be considered to act cumulatively are:

- The other Inch Cape OWF pre-construction and construction related activities;
- Neart na Gaoithe construction (and maintenance activities);
- EGL-1 construction;
- Seagreen 1a OWF construction; and
- Berwick Bank OWF construction.

There is the potential for work could be undertaken during the same timeframe and at the same spatial location.

Other projects in the wider area have been reviewed, and it is considered there is no potential for significant cumulative effects with any other projects, beyond those listed above.

Table 3.2: LSE Screening (Note distances are provided as shortest straight-line distance).

Relevant Qualifying Features	Impact Pathway	LSE Screening
Outer Firth of Forth and St Andrews Bay Complex SPA (Direct overlap)		
Red-throated diver (*Gavia stellata*) non-breeding **Common scoter (*Melanitta nigra*) non-breeding** **Arctic tern (*Sterna paradisaea*),**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened in** There is direct overlap of the UXO clearance activities with this SPA and therefore there is the potential for direct impacts on the SPA features including vessel related disturbances, and indirect impacts through prey. The potential for LSE cannot be ruled out due to the possible disturbance of qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA, arising from the UXO clearance.

Relevant Qualifying Features	Impact Pathway	LSE Screening
breeding **Common tern (*Sterna hirundo*), breeding** **Shag (*Phalacrocorax aristotelis*), breeding and non-breeding** **Gannet (*Morus bassanus*), breeding** **Puffin (*Fratercula arctica*), breeding** **Kittiwake (*Rissa tridactyla*), breeding and non-breeding** **Manx shearwater (*Puffinus puffinus*), breeding** **Guillemot (*Uria aalge*), breeding and non-breeding** **Razorbill (*Alca torda*), non-breeding** **Herring gull (*Larus argentatus*), breeding** **Wintering gulls (little gull (*Hydrocoloeus*		Therefore, this site is considered for further assessment (Section 4.1).

Relevant Qualifying Features	Impact Pathway	LSE Screening
***minutus*), Black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*)).**		
Forth Islands SPA (*Direct overlap)*		
Arctic tern (*Sterna paradisaea*), breeding **Cormorant (*Phalacrocorax carbo*), breeding** **Guillemot (Uria *aalge*), breeding** **Common tern (*Sterna hirundo*), breeding** **Gannet (*Morus bassanus*), breeding** **Herring gull (*Larus argentatus*), breeding** **Kittiwake (*Rissa tridactyla*), breeding** **Lesser black-backed gull (*Larus fuscus*), breeding** **Puffin (*Fratercula arctica*), breeding**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened in** There is direct overlap of the UXO clearance activities with this SPA and therefore there is the potential for direct impacts on the SPA features including vessel related disturbances, and indirect impacts through prey. The potential for LSE cannot be ruled out due to the possible disturbance of qualifying features of the Forth Islands SPA arising from the UXO clearance. Therefore, this site is considered for further assessment (Section 4.2).

Relevant Qualifying Features	Impact Pathway	LSE Screening
Razorbill (*Alca torda*), breeding **Roseate tern (*Sterna dougallii*), breeding** **Sandwich tern (*Sterna sandvicensis*), breeding** **Shag (*Phalacrocorax aristotelis*), breeding** **Seabird assemblage, breeding**		
Firth of Forth SPA (*Direct overlap)*		
Cormorant (*Phalacrocorax carbo*), non-breeding (Ramsar interest feature **Red-throated diver (*Gavia stellata*) non-breeding** **Sandwich tern (*Sterna sandvicensis*), breeding**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened in** The SPA overlaps the landfall of the ECC at Cockenzie and is coastal in nature therefore there is the potential for direct impacts on the SPA features including vessel related disturbances, and indirect impacts through prey. The potential for LSE cannot be ruled out due to the possible disturbance of qualifying features of the Firth of Forth SPA arising from the UXO clearance. Therefore, this site is considered for further assessment (Section 4.3).

Relevant Qualifying Features	Impact Pathway	LSE Screening
Isle of May SAC (*4.3 km*)		
Grey seal (*Halichoerus grypus*) **Reefs**	Grey Seal Increases in underwater noise Indirect effects through impacts on prey Collision with project vessels Reefs Physical disturbance to the seabed leading to an increase in SSC	**Screened in** This site is 4.3 km from the Development. The UXO clearance work will increase overall vessel numbers during construction and underwater noise in the area, leading to an increased potential of collision, auditory injury and behavioural responses. Reef features can be susceptible to smothering and scour from increased sediment in the water column arising as a result of the UXO clearance activities. The potential for LSE cannot be ruled out due to the possible disturbance of qualifying features of the Isle of May SAC arising from the UXO clearance. Therefore, this site is considered for further assessment. (Section 4.4).
River South Esk SAC (*23.97 km*)		
Atlantic salmon (*Salmo salar*) **Freshwater pearl mussel (*Margaritifera margaritifera*)**	Increases in underwater noise Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 23.97 km from the Development. Due to the range of the species, the offshore northward direction of migration, and thus unlikely or nugatory use of the Project Area, impacts from the Project and other offshore wind farm projects is very unlikely to affect the designated River South Esk population of Atlantic salmon and FWPM in any way. FWPM have a complex lifecycle and are reliant on salmonids in their

Relevant Qualifying Features	Impact Pathway	LSE Screening
		first year where they reside on the gills[1] . Therefore, Atlantic salmon and FWPM are screened out of further assessment due to a low likelihood of interaction, and minimal response expected to any noise or SSC. Therefore, LSE can be ruled out both alone and in combination with other plans and projects.
Firth of Tay and Eden Estuary SAC (*24.53 km*)		
Harbour seal (*Phoca vitulina*)	Increases in underwater noise Indirect effects through impacts on prey Collision with project vessels	**Screened in** This site is 24.53 km from the Development. The Firth of Tay and Eden Estuary SAC supports a nationally important breeding colony of harbour seal, which forms part of the east coast population of common seals that typically utilise the sandbanks. Around 600 adults haul-out at the site to rest, pup and moult, representing around 2% of the UK population[2]. The UXO clearance work will increase overall vessel numbers during construction and underwater noise in the area, leading to an increased potential of collision, auditory injury and behavioural responses. The potential for LSE cannot be ruled out. Therefore, this site is considered for further assessment (Section 4.5).

[1] https://www.nature.scot/plants-animals-and-fungi/invertebrates/freshwater-invertebrates/freshwater-pearl-mussel

[2] https://sac.jncc.gov.uk/site/UK0030311

Relevant Qualifying Features	Impact Pathway	LSE Screening
Estuaries **Intertidal mudflats and sandflats** **Subtidal sandbanks**	Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 24.63 km from the Development. Due to the distance from the UXO clearance activities there is no impact pathway and therefore no potential for LSE both alone and in combination with other plans and projects.
Firth of Tay and Eden Estuary SPA (and Ramsar) (*25.23 km*)		
Common scoter (*Melanitta nigra*), non-breeding (Ramsar interest feature) **Cormorant (*Phalacrocorax carbo*), non-breeding (Ramsar interest feature)** **Little tern (*Sternula albifrons*), breeding (Ramsar interest feature)**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened out** The site is 25.23 km from the Development and therefore is considered too far for the proposed work to impact upon the populations of the qualifying bird species. The additional vessel presence and noise emissions arising from the UXO clearance activities is considered to have a less than negligible potential to disturb SPA ornithological receptors due to the activities being situated in a naturally busy shipping area at some distance from the SPA. It is considered therefore that the work would not materially contribute to an increase in overall vessel traffic or noise levels giving rise to potential effects on ornithological receptors. Therefore, there is no potential for LSE both alone and in combination with other plans and projects.
Berwickshire and North Northumberland Coast SAC (26.45 km)		
Grey seal (*Halichoerus grypus*)	Increases in underwater noise Indirect effects through impacts on prey Collision with project vessels	**Screened in** This site is 26.45 km from the Development. The UXO clearance work will increase overall vessel numbers during construction and underwater noise in the area, leading to an increased potential of collision, auditory injury and behavioural responses. The potential for LSE cannot be ruled out. Therefore, this site is considered for further assessment (Section 4.6).

Relevant Qualifying Features	Impact Pathway	LSE Screening
Reefs **Intertidal mudflats and sandflats** **Large shallow inlets and bays** **Sea caves**	Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 26.45 km from the Development. Due to the distance from the UXO clearance activities there is no impact pathway and therefore no potential for LSE both alone and in combination with other plans and projects.
St Abb's Head to Fast Castle SPA (*27.42 km*)		
Guillemot (*Uria aalge*), breeding **Herring gull (*Larus argentatus*), breeding** **Kittiwake (*Rissa tridactyla*), breeding** **Razorbill (*Alca torda*), breeding** **Shag (*Phalacrocorax aristotelis*), breeding** **Seabird assemblage**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened out** The site is 27.42 km from the Development and therefore is considered too far for the proposed work to impact upon the populations of the qualifying bird species. The UXO clearance activities are relatively unintrusive to the seabed with disturbance representing a relatively small proportion of the total available habitat. The additional vessel presence and noise emissions arising from the UXO clearance activities is considered to have a less than negligible potential to disturb SPA ornithological receptors due to the activities being situated in a naturally busy shipping area at some distance from the SPA. It is considered therefore that the work would not materially contribute to an increase in overall vessel traffic or noise levels giving rise to potential effects on ornithological receptors. Therefore, there is no potential for LSE both alone and in combination with other plans and projects.
Fowlsheugh SPA (*33.11 km*)		
Fulmar (*Fulmarus glacialis*), breeding **Guillemot (*Uria*	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened out** The site is 33.11 km from the Development and therefore is considered too far for the proposed work to impact upon the populations of the qualifying bird species.

Relevant Qualifying Features	Impact Pathway	LSE Screening
***aalge*), breeding** **Herring gull (*Larus argentatus*), breeding** **Kittiwake (*Rissa tridactyla*), breeding** **Razorbill (*Alca torda*), breeding** **Seabird assemblage**		The UXO clearance activities are relatively unintrusive to the seabed with disturbance representing a relatively small proportion of the total available habitat. The additional vessel presence and noise emissions arising from the UXO clearance activities is considered to have a less than negligible potential to disturb SPA ornithological receptors due to the activities being situated in a naturally busy shipping area at some distance from the SPA. It is considered therefore that the work would not materially contribute to an increase in overall vessel traffic or noise levels giving rise to potential effects on ornithological receptors. Therefore, there is no potential for LSE both alone and in combination with other plans and projects.
River Tweed SAC (*47.4 km*)		
Sea lamprey (*Petromyzon marinus*) **River lamprey (*Lampetra fluviatilis*)** **Atlantic salmon (*Salmo salar*)**	Increases in underwater noise Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 47.4 km from the Development. As returning salmon adults are known to migrate from a southerly direction along the east coast, the Project is unlikely to impact the returning adult population, and smolts are not known to follow particular routes once beyond the estuary. Due to the range of the species, and the lack of or nugatory use of the project area, impacts arising from the work are very unlikely to affect the designated River Tweed population of Atlantic salmon in any way. Therefore, Atlantic salmon are screened out of further assessment and there is no potential for LSE. Lamprey do not have a swim bladder and are therefore not considered highly sensitive to noise. River lamprey spend the majority of their life in estuarine habitats, with restricted movements to open sea (Maitland, 2003), rarely leaving estuarine environments. Lamprey are not considered sensitive to changes in suspended sediments as the species are partially estuarine and can tolerate the sorts of increases in suspended sediments likely to arise from this work. Given the UXO

Relevant Qualifying Features	Impact Pathway	LSE Screening
		clearance activities will be of short duration, localised and small scale, lamprey are screened out of further assessment and there is no potential for LSE both alone and in combination with other plans and projects.
River Tay SAC (58.9 km)		
Sea lamprey (*Petromyzon marinus*) **Atlantic salmon (*Salmo salar*)** **River lamprey (*Lampetra fluviatilis*)**	Increases in underwater noise Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 58.9 km from the Development. As returning salmon adults are known to migrate from a southerly direction along the east coast, the Project is unlikely to impact the returning adult population, and smolts are not known to follow particular routes once beyond the estuary. Due to the range of the species, and the lack of or nugatory use of the project area, impacts arising from the work are very unlikely to affect the designated River Tay population of Atlantic salmon in any way. Therefore, Atlantic salmon are screened out of further assessment and there is no potential for LSE. Lamprey do not have a swim bladder and are therefore not considered highly sensitive to noise. River lamprey spend the majority of their life in estuarine habitats, with restricted movements to open sea (Maitland, 2003), rarely leaving estuarine environments. Lamprey are not considered sensitive to changes in suspended sediments as the species are partially estuarine and can tolerate the sorts of increases in suspended sediments likely to arise from this work. Given the UXO clearance activities will be of short duration, localised and small scale, lamprey are screened out of further assessment and there is no potential for LSE both alone and in combination with other plans and projects.
River Teith SAC (*60.85 km*)		
Sea lamprey (*Petromyzon marinus*) **Atlantic salmon**	Increases in underwater noise Physical disturbance to the seabed leading to	**Screened out** This site is 60.85 km from the Development. As returning salmon adults are known to migrate from a southerly direction along the east coast, the Project is unlikely to

Relevant Qualifying Features	Impact Pathway	LSE Screening
(***Salmo salar***) **River lamprey (*Lampetra fluviatilis*)**	an increase in SSC	impact the returning adult population, and smolts are not known to follow particular routes once beyond the estuary. Due to the range of the species, and the lack of or nugatory use of the project area, impacts arising from the work are very unlikely to affect the designated River Teith population of Atlantic salmon in any way. Therefore, Atlantic salmon are screened out of further assessment and there is no potential for LSE. Lamprey do not have a swim bladder and are therefore not considered highly sensitive to noise. River lamprey spend the majority of their life in estuarine habitats, with restricted movements to open sea (Maitland, 2003), rarely leaving estuarine environments. Lamprey are not considered sensitive to changes in suspended sediments as the species are partially estuarine and can tolerate the sorts of increases in suspended sediments likely to arise from this work. Given the UXO clearance activities will be of short duration, localised and small scale, lamprey are screened out of further assessment and there is no potential for LSE both alone and in combination with other plans and projects.
River Dee SAC (*61.66 km*)		
Freshwater pearl mussel (*Margaritifera margaritifera*) **Atlantic salmon (*Salmo salar)***	Increases in underwater noise Physical disturbance to the seabed leading to an increase in SSC	**Screened out** This site is 61.66 km north of the Development and considering the distance from the Project location, the works are not considered likely to interact with salmon from the Dee. Due to the large geographical range of the species, and given the lack of or migratory use of the Project Area, impacts arising from UXO clearance activities are very unlikely to affect the designated River Dee population of Atlantic salmon in any way. FWPM have a complex lifecycle and are reliant on salmonids in their first year where they reside on the gills[1] . Therefore, Atlantic salmon and FWPM are screened out of further assessment and LSE can be ruled out both alone and in combination with other plans and projects.

Relevant Qualifying Features	Impact Pathway	LSE Screening
Ythan Estuary Sands of Forvie and Meikle Loch SPA (and Ramsar) (*61.86 km*)		
Common tern (*Sterna hirundo*), breeding **Sandwich tern (*Thalasseus sandvicensis*) breeding** **Arctic tern (*Sterna paradisaea),* breeding** **Breeding bird assemblage**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened out** The site is 61.86 km from the Development and therefore is considered too far for the proposed work to impact upon the populations of the qualifying bird species. The UXO clearance activities are relatively unintrusive to the seabed with disturbance representing a relatively small proportion of the total available habitat. The additional vessel presence and noise emissions arising from the UXO clearance activities is considered to have a less than negligible potential to disturb SPA ornithological receptors due to the activities being situated in a naturally busy shipping area at some distance from the SPA. It is considered therefore that the work would not materially contribute to an increase in overall vessel traffic or noise levels giving rise to potential effects on ornithological receptors. Therefore, there is no potential for LSE both alone or in combination with other plans and projects.
Buchan Ness to Collieston Coast SPA (*82.23 km*)		
Fulmar (*Fulmarus glacialis*), breeding **Guillemot (*Uria aalge*), breeding** **Herring gull (*Larus argentatus*), breeding** **Kittiwake (*Rissa tridactyla*), breeding** **Shag (*Phalacrocorax aristotelis*),**	Vessel and noise disturbance Indirect effects through impacts on prey	**Screened out** The site is 82.23 km from the Development and therefore is considered too far for the proposed work to impact upon the populations of the qualifying bird species. The UXO clearance activities are relatively unintrusive to the seabed with disturbance representing a relatively small proportion of the total available habitat. The additional vessel presence and noise emissions arising from the UXO clearance activities is considered to have a less than negligible potential to disturb SPA ornithological receptors due to the activities being situated in a naturally busy shipping area at some distance from the SPA. It is considered therefore that the work would not materially contribute to an increase in overall vessel traffic or noise levels giving rise to potential effects

Relevant Qualifying Features	Impact Pathway	LSE Screening
breeding		on ornithological receptors. The additional vessel presence arising from the UXO clearance activities is considered to have a negligible disturbance effect on the Buchan Ness to Collieston Coast SPA ornithological receptors due to the activities being situated in a naturally busy shipping area. it is considered, the presence of the vessel(s) associated with this work would not materially contribute to an increase in overall vessel traffic giving rise to potential effects on ornithological receptors. Therefore, there is no potential for LSE both alone and in combination with other plans and projects.
Moray Firth SAC (142.98 km)		
Bottlenose dolphin (*Tursiops truncatus*)	Vessel and noise disturbance Indirect effects through impacts on prey Physical disturbance to the seabed	**Screened in** The SAC is a considerable distance from the Development and the location of the UXO clearance activities, however with the southerly expansion of the east Scotland bottlenose dolphin population there is likely connectivity between the Proposed Development and animals from the population which uses this SAC. The potential for LSE cannot be ruled out. Therefore, this site is considered for further assessment (Section 4.7).
Subtidal Sandbanks	Physical disturbance to the seabed leading to an increase in SSC	**Screened Out** The SAC is a considerable distance from the Development and therefore is considered too far for the proposed work to impact upon the static subtidal sandbank features. Therefore, there is no potential for LSE both alone and in combination with other plans and projects.

3.3 Summary of LSE Screening

LSE cannot be ruled out for the following designated sites, which are screened in for further assessment (Section 4):

Likely Significant Effects (LSE) cannot be ruled out on the designated site:

- Outer Firth of Forth and St Andrews Bay Complex SPA;
- Forth Islands SPA;
- Firth of Forth SPA;
- Isle of May SAC;
- Firth of Tay and Eden Estuary SAC (harbour seal);
- Berwickshire and North Northumberland Coast SAC (grey seal); and
- Moray Firth SAC (bottlenose dolphin).

As such, a consideration of the potential for the work to result in adverse effects on site integrity is required. The features and conservation objectives relevant to each European Site are provided within the assessment.

Sites are screened out based upon the lack of connectivity, or due to the negligible potential for environmental effects to arise on receptors from all other European designated sites.

Detail on the potential impacts on screened in receptors are set out in Section 4.

It can be concluded that there is no change to the LSE screening based on the change in the UXO Clearance programme, to account for the entire construction period.

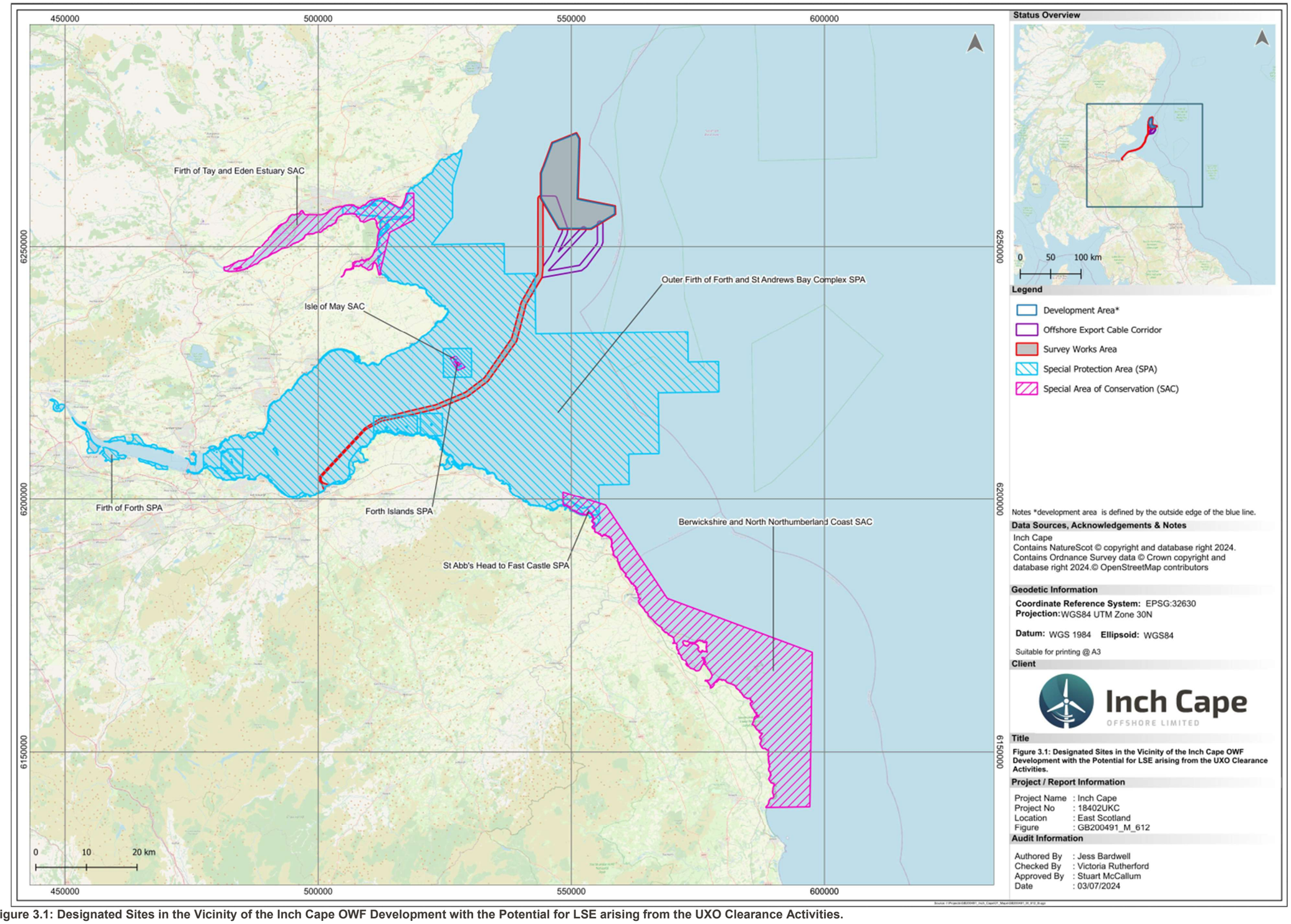

Figure 3.1: Designated Sites in the Vicinity of the Inch Cape OWF Development with the Potential for LSE arising from the UXO Clearance Activities.

4 Potential for Adverse Effect on Integrity from the UXO Clearance Activities

This section assesses the designated sites where the potential for LSE could not be ruled out on features of conservation interest. Conclusions are drawn based on whether there is the potential for adverse effect on site integrity, arising from the Inch Cape OWF UXO clearance activities.

4.1 Outer Firth of Forth and St Andrews Bay Complex SPA

The site covers an area of 2720.68 km2 and the UXO clearance activities will directly overlap the designated site.

Given the short-term, localised and impulse driven nature of individual UXO clearance events, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA for all features, either alone or in-combination, as a result of the UXO clearance activities.

4.1.1 Conservation Objectives

The Conservation Objectives for the site are to:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species.
- This contribution would be achieved through delivering the following objectives for each of the site's qualifying features Population of the species as a viable component of the site:
    - (a) Avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term Structure, function and supporting processes of habitats supporting the species; and
    - (b) To maintain the habitats and food resources of the qualifying features in favourable condition.

4.1.2 Assessment

The Outer Firth of Forth and St Andrews Bay Complex SPA and Forth Islands SPA populations are considered functionally linked as a number of species are known to forage and nest across both sites. Common tern are typically assessed as a 'Firth of Forth metapopulation' as there is a degree of interchange between the Outer Firth of Forth and St Andrew's Bay Complex SPA, and the Forth Islands SPA.

The SPA is used to feed, moult, rest, roost and breed. The area provides feeding grounds for many

species including the largest concentration of common terns in Scotland3. The SPA is an important refuge for birds which have migrated thousands of miles from breeding grounds in northern Europe and western Siberia to overwinter in the SPA4.

Vessel and Noise Disturbance

Disturbance can arise from both vessel presence (including vessel noise) and also through noise generated by UXO clearance activities. Throughout the construction period (until end of Q4, 2027), there will be increased vessel presence within the site due to the UXO clearance activities.. Increased vessels, and UXO clearance activities have the potential to disturb bird species, temporarily displacing them or affecting foraging behaviour. This is particularly true of species such as red-throated diver which forages underwater, and therefore susceptible to physical and / or physiological effects and / or behavioural responses such as disturbance or displacement.

The duration of vessels in any one location is anticipated to be temporary, linked to UXO clearance activities, the sound arising from the UXO detonation will be of short duration and highly localised, and the potential need for high order clearance will be minimised as far as practical through application of the hierarchy of treatment (see Section 2.3). The SPA covers a large area and there is an abundance of available and equivalent feeding and loafing habitats should any birds be temporarily displaced.

Although many of the bird species are sensitive to vessel movements (NatureScot, 2022), it is not considered this work will displace species to a significant degree.

The change in programme of UXO clearance activities until the end of construction (Q4, 2027) does not affect the original conclusions. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements and therefore it can be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect Effects through Impacts on Prey

Bird species have the potential to show distributional changes due to impacts on prey species. Prey availability has been correlated with breeding success (Bustnes *et al.*, 2013). Fish such as herring and sandeel are a key prey resource where they both have the potential to be impacted by disturbance to the specific sediment, which is relied upon as a key diet component. Long term studies in the Firth of Forth highlighted a long-term decline in the overall prevalence of sandeel in kittiwake chick diet,

[3] https://www.scotlink.org/species/common-tern/#:~:text=Common%20terns%20nest%20mainly%20in,of%20common%20terns%20in%20Scotland.

[4] https://jncc.gov.uk/our-work/outer-firth-of-forth-and-st-andrews-bay-complex-spa/

concomitant with an increase in the relative prevalence of clupeids in Scottish waters (Walness *et al.,* 2018) indicating adaptable diet.

It is considered that any individuals will be sufficiently distant from the works to avoid any impact that may lead to physical or physiological effect. Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. Disruption to the prey habitat at any one location is anticipated to be highly localised, temporary and of short duration (for each occurrence) and habitat recovery would be rapid, given the existing conditions. In addition, there is extensive adjacent equivalent prey habitat in the surrounding area whereby prey availability will not be affected by the UXO clearance activities.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. Given the limited impact on prey resource predicted, the short-term and relatively localised nature of the UXO clearance activities, it can be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.2 Forth Islands SPA

The site covers an area of 97.97 km^2 and the UXO clearance activities will directly overlap the designated site.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Forth Islands SPA for all features, either alone or in-combination, as a result of the UXO clearance activities.

4.2.1 Conservation Objectives

The Conservation Objectives for the site are to:

- Avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site ins maintained; and
- To ensure for the qualifying species that the following are maintained in the long term:
    - Population of the species as a viable component of the site;
    - Distribution of the species within the site;
    - Distribution and extent of habitats supporting the species;
    - Structure, function and supporting processes of habitats supporting the species; and
    - No significant disturbance of the species.

4.2.2 Assessment

Forth Islands SPA consists of a series of islands supporting the main seabird colonies in the Firth of Forth. The area is important for a number of key breeding bird species. For many species (namely: Arctic tern, common tern, Atlantic puffin, common guillemot, European Shag, herring gull, black legged kittiwake, northern gannet) (NatureScot, 2022) functional connectivity exists with the Outer Firth of Forth and St Andrew's Bay Complex SPA. A number of species are experiencing a decline in numbers, including fulmar, puffin, razorbill, guillemot, kittiwake (NatureScot, 2016).

Vessel and Noise Disturbance

Disturbance can arise from both vessel presence (including vessel noise) and also through noise and pressure generated by UXO clearance activities. Throughout the construction period (until end of Q4, 2027), there will be increased vessel presence within the site due to the UXO clearance activities. Increased vessels, and UXO clearance activities have the potential to disturb bird species, temporarily displacing them or affecting foraging behaviour. The duration of vessels in any one location is anticipated to be temporary, linked to UXO clearance activities, the sound arising from the UXO detonation will be of short duration and highly localised, and the potential need for high order clearance will be minimised as far as practical through application of the hierarchy of treatment (see Section 2.3). The SPA covers a large area and there is an abundance of available and equivalent feeding and loafing habitats should any birds be temporarily displaced.

Although many of the bird species are sensitive to vessel movements (NatureScot, 2022), it is not considered this work will displace species to a significant degree.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements and therefore it can be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect Effects through Impacts on Prey

There will be increased vessel presence within the site due to the UXO clearance activities, where bird species have the potential to show distributional changes due to impacts on prey species. Prey availability has been correlated with breeding success (Bustnes et al., 2013). Fish such as herring and sandeel are a key prey resource where they both have the potential to be impacted by disturbance to the specific sediment, which is relied upon as a key diet component. Long term studies in the Firth of Forth highlighted a long-term decline in the overall prevalence of sandeel in kittiwake chick diet, concomitant with an increase in the relative prevalence of clupeids in Scottish waters (Walness et al., 2018) indicating adaptable diet.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. Disruption to the prey habitat at any one location is anticipated to be highly localised, temporary and of short duration and habitat recovery would be rapid, given the existing conditions. In addition, there is extensive adjacent equivalent prey habitat in the surrounding area whereby prey availability will not be affected by the UXO clearance activities.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. Given the limited impact on prey resource predicted, the short-term and relatively localised nature of the UXO clearance activities, it can be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.3 Firth of Forth SPA

The site covers an area of 63.18 km^2 and the UXO clearance activities will directly overlap the designated site.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Firth of Forth SPA for all features, either alone or in-combination, as a result of the UXO clearance activities.

4.3.1 Conservation Objectives

The Conservation Objectives for the site are to:

- To avoid deterioration of the habitats of the qualifying species (listed) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
- To ensure for the qualifying species that the following are maintained in the long term:
    - Population of the species as a viable component of the site;
    - Distribution of the species within the site;
    - Distribution and extent of habitats supporting the species;
    - Structure, function and supporting processes of habitats supporting the species; and
    - No significant disturbance of the species.

4.3.2 Assessment

The Firth of Forth SPA is a complex of coastal and estuarine habitats situated along the Scottish east coast. The site includes extensive invertebrate rich intertidal flats and rocky shores, as well as areas of saltmarsh, lagoons and sand dune.

Vessel and Noise Disturbance

Disturbance can arise from both vessel presence (including vessel noise) and also through noise and pressure generated by UXO clearance activities. Throughout the construction period (until the end of Q4, 2027), there will be increased vessel presence within the site due to the UXO clearance activities.. Increased vessels, and UXO clearance activities have the potential to disturb bird species, temporarily displacing them or affecting foraging behaviour. The duration of vessels in any one location is anticipated to be temporary, linked to UXO clearance activities, the sound arising from the UXO detonation will be of short duration and highly localised, and the potential need for high order clearance will be minimised as far as practical through application of the hierarchy of treatment (see Section 2.3). The SPA covers a large area and there is an abundance of available and equivalent feeding and loafing habitats should any birds be temporarily displaced. Although many of the bird species are sensitive to vessel movements (NatureScot, 2022), it is not considered this work will displace species to a significant degree.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements and therefore it can be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect Effects through Impacts on Prey

Although this site is intertidal in nature, there is the potential to affect prey species sub-tidally, in areas beyond the SPA boundary where qualifying features may forage.

There will be increased vessel presence within the SAC due to the UXO clearance activities, where bird species have the potential to show distributional changes due to impacts on prey species. Prey availability has been correlated with breeding success (Bustnes *et al.*, 2013). Fish such as herring and

sandeel are a key prey resource where they both have the potential to be impacted by disturbance to the specific sediment, which is relied upon as a key diet component. Long term studies in the Firth of Forth highlighted a long-term decline in the overall prevalence of sandeel in kittiwake chick diet, concomitant with an increase in the relative prevalence of clupeids in Scottish waters (Walness *et al.,* 2018) indicating adaptable diet.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. Disruption to the prey habitat at any one location is anticipated to be highly localised, temporary and of short duration and habitat recovery would be rapid, given the existing conditions. In addition, there is extensive adjacent equivalent prey habitat in the surrounding area whereby prey availability will not be affected by the UXO clearance activities.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. Given the limited impact on prey resource predicted, the short-term and relatively localised nature of the UXO clearance activities, it can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.4 Isle of May SAC

The site covers an area of 3.57 km2 and the UXO clearance are 4.3 km from the designated site.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Isle of May SAC for all features, either alone or in-combination, as a result of the UXO clearance activities.

4.4.1 Conservation Objectives

The Conservation Objectives (grey seal) for the site are to:

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- To ensure for the qualifying species that the following are maintained in the long term:
    - Population of the species as a viable component of the site;
    - Distribution of the species within the site;
    - Distribution and extent of habitats supporting the species;
    - Structure, function and supporting processes of habitats supporting the species;
    - Distribution of typical species of the habitat; and
    - No significant disturbance of the species.

The Conservation Objectives (reefs) for the site are to:

- Avoid deterioration of qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- To ensure for the qualifying habitat that the following are maintained in the long term:
    - Extent of the habitat on site;
    - Distribution of the habitat within the site;
    - Distribution and extent of habitats supporting the species;
    - Structure and function of the habitat;
    - Processes supporting the habitat;
    - Distribution of typical species of the habitat;
    - Viability of typical species as components of the habitat; and
    - No significant disturbance of typical species of the habitat.

4.4.2 Assessment

4.4.2.1 Grey Seals

Grey seals inhibit the island year round, but in the autumn, thousands of grey seals gather to give birth and mate, with around 2000 pups born each year, supporting one of the largest breeding group of grey seals in the UK (SNH, 2011; SNH, 2010), with pups born and raised on the shores of the island during the main pupping period (October to January) (SNH, 2011).

Rocky reef surrounds the Isle of May. The reefs are in tide-swept waters, supporting kelp forests and rich marine life, providing the foraging grounds for the seals.

Increases in underwater noise

The following impacts were assessed for marine mammal receptors in the EPS Risk Assessment (including seal species), the conclusions of which, considering the embedded mitigation, are presented below:

- Lethal Effects;
- Auditory Injury; and
- Behavioural responses.

Lethal Effects and Physical Injury

It is likely that the visual and passive acoustic pre-work search of the 1 km radius mitigation zone alone will be sufficient to negate the potential for lethal effects and physical injury. With this, in combination with the other mitigation procedures outlined, individuals will not be present in close proximity to the

proposed UXO clearance work and the potential for lethal effects and physical injury is nil.

Auditory Injury

It is likely that pre-work searches (1 km radius zone) alone will be sufficient to negate the potential for auditory injury as a result of low order clearance work using a 0.05 kg or 0.25 kg initiation explosive. For all high order UXO clearance, and low order UXO clearance using a 10 kg initiation explosive, ADD use will be required to ensure no individuals will be present in the zone of potential effect for auditory injury.

The mitigation was designed around the greatest (i.e., worst case) potential impact ranges which are those for very high frequency cetaceans (i.e., harbour porpoise). Therefore, with mitigation (pre-work search, use of an ADD and use of a NAS for high order clearance >49 kg), phocid carnivores in water (seals), will not be present within the zones of potential effect for auditory injury. Therefore, the potential for auditory injury is nil for all species.

Behavioural Responses

Behavioural responses will likely be short term. Suitable local alternative habitat is likely to be available in the meantime therefore the energetic costs of fleeing should be able to be met relatively quickly. Because each piece of clearance work will only take a few hours, it is unlikely that animals will be excluded from key areas for significant periods of time.

Conclusion

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that following mitigation there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes to arise from underwater noise on grey seals.

Collision with project vessels

The presence of a small number of UXO clearance/guard vessels (up to three) will be very spatially and temporally limited and is not considered to notably increase vessel traffic in the area above baseline levels. The vessels will either be stationary or moving slowly during the proposed work. Where possible and appropriate, vessels will not exceed 14 knots when transiting to and between work sites.

The species present within the inshore and offshore waters of the Inch Cape OWF are considered to be habituated to the presence of vessels. They are predominately small and agile making them less susceptible to collisions than, for example, large whale species.

Although the consequences of a collision (i.e., mortality, injury) may be severe, the likelihood of occurrence is very low for these species in this area and therefore the risk is considered to be negligible.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that here is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect effects through impacts on prey

There will be increased vessel presence in the vicinity of the UXO clearance activities. These have the potential to disturb prey species, ultimately limiting food availability for grey seals. The grey seal diet in the North Sea is dominated by sandeels (78.5% by weight) and to a lesser extent, by gadoids (8.4%), flatfish (8.8%) and salmon (Thompson et al., 2017; Hammond and Wilson, 2016), however they are known to consume a range of prey species including fish, shellfish, squid and octopus (Scottish Natural Heritage, 2010).

Key prey are present in the wider area, and given the ability of grey seals to swim hundreds of kilometres to feed (SNH, 2010) prey availability is not considered to be generally limited.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements. It is therefore considered the presence of additional vessels associated with the activities will have a negligible effect on prey availability and therefore foraging success of grey seal feature of the Isle of May SAC.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.4.2.2 Reefs

Physical disturbance to the seabed leading to an increase in SSC

A single impulse shock from UXO clearance activities have the potential to physically disturb the seabed through sediment clearance around potential UXO, resulting in an increase in SSC within the water column.

Sediment arising from the UXO clearance activities will be limited in volume, being dispersed into the North Sea system which is naturally dynamic with cyclical changes in turbidity and benthic features are largely adapted to these small fluctuations. The UXO clearance activities will be conducted over a small area and as such, limited arisings into the water column are expected. Bedrock and stony reef features are sensitive to smothering (> 5 cm is the benchmark used by the Marine Life Information Network (MarLIN)). Given the site is 4.3 km away and with small sediment arisings, there is no expectation that the sediment would travel a considerable distance, or that there is a lot of sediment to settle out and smother features.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no route to impact and no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.5 Firth of Tay and Eden Estuary SAC

Screened in for harbour seal only, estuaries, intertidal mudflats and sandflats, and subtidal sandbanks were screened out.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Firth of Tay and Eden Estuary SAC for harbour seal, either alone or in-combination, as a result of the UXO clearance activities.

The site covers an area of 154.42 km2 and the UXO clearance activities are 24.53 km from the designated site.

The Conservation Objectives (for harbour seal) for the site are to:

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- To ensure for the qualifying species that the following are maintained in the long term:
    - Population of the species as a viable component of the site;
    - Distribution of the species within site;
    - Distribution and extent of habitats supporting the species;
    - Structure, function and supporting processes of habitats supporting the species; and
    - No significant disturbance of the species.

4.5.1 Firth of Tay and Eden Estuary SAC Assessment

4.5.1.1 Harbour Seal

The Firth of Tay and Eden Estuary SAC supports a nationally important breeding colony of harbour seal, which forms part of the east coast population of common seals that typically utilise the sandbanks. Around 600 adults haul-out at the site to rest, pup and moult, representing around 2% of the UK population[5]. Harbour seal numbers have been in general decline of around 95% since the

[5] https://sac.jncc.gov.uk/site/UK0030311

early 2000s, although since 2012 their numbers are little changed, albeit at a much-reduced level. The population is unfavourable and in declining condition[6].

The latest harbour seal population estimate based on counts undertaken in 2015 is 60 individuals (Duck *et al*. 2016). The latest estimated number of harbour seals within the East Coast Management Area (ECMA) is 311 (95% CI 254 - 415) individuals.

Vessel and Noise Disturbance

Disturbance can arise from both vessel presence (including noise) and also through noise and pressure generated by UXO clearance activities.

Modelling and calculations (within the EPS RA) determined the risk of impact will be reduced over increasing range as the initial shock wave dissipates. This is not only due to the reduction in absolute noise level, but also the changing characteristics of the propagating sound wave.

Throughout the construction period (until end of Q4, 2027), there will be increased vessel presence within the site due to the UXO clearance activities. The proposed activities have the potential to increase disturbance to animals and the risk of collision with vessels resulting in injury or death, particularly during the autumn pupping period (June to July) and moulting (August to September). However, given site connectivity was based on a foraging range of 50 km, a typical foraging range is usually around 20 km, remaining close to haul-out and pupping sites (SNH, 2016).

The proposed UXO clearance activities will require a maximum of three vessels The vessels will be stationary during the works and will follow predetermined lines between work sites. The consistent speed and direction of travel employed whilst travelling between work sites will mean that animals can predict the path of the vessels and potentially alter their direction of travel, thus reducing the risk of collision. Additionally, the presence of up to three survey vessels is unlikely to significantly increase the vessel traffic in the area.

Although the consequences of collision (injury or mortality) can be severe, the likelihood of occurrence is considered to be extremely low. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

In order to ensure the absence of marine EPS, basking sharks and seals in the vicinity of the clearance work mitigation will be put in place. Mitigation preference will start at the least intrusive measure, leading up to the most (see Section 2.3 and mitigation outlined in the EPS-RA).In order to ensure the

[6] https://sitelink.nature.scot/site/8257

absence of marine EPS, basking sharks and seals in the vicinity of the clearance work mitigation will be put in place (See EPS-RA).

This mitigation has been designed around the greatest (i.e., worst case) potential impact ranges which are those for very high frequency cetaceans (i.e., harbour porpoise). If the potential impacts on harbour porpoise are predicted to be negated through mitigation, this will also be the case for all other marine mammal species.

The mitigation follows relevant Guidance including:

- The JNCC guidance for use of explosives (JNCC, 2010b);
- The JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities (JNCC, 2023b); and
- The 2025 UXO clearance Joint Position Statement (which applies to England, Northern Ireland and Scotland((UK Government, 2025) and prioritises low noise alternatives over high order detonations.

Mitigation preference will start at the least intrusive measure, leading up to the most:

- **Micrositing –** Locations within the development area and offshore export cable corridor will be 'micro-sited' to avoid the UXO and prevent the need for a detonation where deemed safe to do so.
- **Lift and shift** - The 'lift and shift' approach (to move the UXO to another location) will be considered on a case-by-case basis where deemed safe to do so.
- **Low order clearance** –
    - Pre-work search (minimum 60 mins);
    - Use of an ADD;
    - Low order clearance; and
    - Post-detonation search (minimum 15 mins).

- **High order clearance** –
    - Pre-work search (minimum 60 mins)
    - Use of an ADD;
    - Use of a NAS (UXO >49 kg);
    - High order clearance; and
    - Post-detonation search (minimum 15 mins).

More detail on mitigation can be found in the EPS Risk Assessment.

Although the consequences of collision (injury or mortality) can be severe, the likelihood of occurrence is considered to be extremely low.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect effects through impacts on prey

There will be increased vessel presence in the vicinity of the UXO clearance activities. These have the potential to disturb prey species, ultimately limiting food availability for harbour seal. The harbour seal diet is the same as grey seal, with a range of prey species including fish, shellfish, squid and octopus. Harbour seal forage over a large distance (50 km (Sharples et al., 2012)) and therefore food availability is not considered to be generally limited.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements. It is therefore considered the presence of additional vessels associated with the activities will have a negligible effect on prey availability and therefore foraging success of the harbour seal feature of the Firth of Tay and Eden Estuary SAC.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.6 Berwickshire and North Northumberland Coast SAC

Screened in for grey seal only, reef features were screened out.

The site covers an area of 652.26 km^2 and the UXO clearance activities are 26.45 km from the designated site.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will

be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the site integrity of the Berwickshire and North Northumberland Coast SAC for grey seal, either alone or in-combination, as a result of the UXO clearance activities

4.6.1 Conservation Objectives

The Conservation Objectives for the site are to:

- To ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving favourable conservation status of its Qualifying Features, by maintaining or restoring:
    - The extent and distribution of qualifying natural habitats and habitats of qualifying species;
    - The structure and function (including typical species) of qualifying natural habitats;
    - The structure and function of the habitats of qualifying species;
    - The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
    - The populations of qualifying species, and,
    - The distribution of qualifying species within the site.

4.6.2 Assessment

4.6.2.1 Grey Seal

The Berwickshire and North Northumberland Coast SAC provides important habitat for grey seal, supporting approximately 3% (estimated to be between 501 and 1000 grey seals[7]) of the British pup production, with breeding, hauling-out and moulting (spring) occurring on habitats above HAT in areas such as Staple Island (within the Farne Islands).

Increases in underwater noise

The following impacts were assessed for marine mammal receptors in the EPS Risk Assessment (including seal species), the conclusions of which, considering the embedded mitigation, are presented below:

- Lethal Effects;
- Auditory Injury; and
- Behavioural responses.

Lethal Effects and Physical Injury

It is likely that the visual and passive acoustic pre-work search of the 1 km radius mitigation zone alone will be sufficient to negate the potential for lethal effects and physical injury. With this, in combination with the other mitigation procedures outlined, individuals will not be present in close proximity to the proposed UXO clearance work and the potential for lethal effects and physical injury is nil.

Auditory Injury

It is likely that pre-work searches (1 km radius zone) alone will be sufficient to negate the potential for auditory injury as a result of low order clearance work using a 0.05 kg or 0.25 kg initiation explosive. For all high order UXO clearance, and low order UXO clearance using a 10 kg initiation explosive, ADD use will be required to ensure no individuals will be present in the zone of potential effect for auditory injury.

The mitigation was designed around the greatest (i.e., worst case) potential impact ranges which are those for very high frequency cetaceans (i.e., harbour porpoise). Therefore, with mitigation (pre-work search, use of an ADD and use of a NAS for high order clearance >49 kg), phocid carnivores in water (seals), will not be present within the zones of potential effect for auditory injury. Therefore, the potential for auditory injury is nil for all species.

Behavioural Responses

Behavioural responses will likely be short term. Suitable local alternative habitat is likely to be available in the meantime therefore the energetic costs of fleeing should be able to be met relatively quickly. Because each piece of clearance work will only take a few hours, it is unlikely that animals will be excluded from key areas for significant periods of time.

Conclusion

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that following mitigation there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes to arise from underwater noise on grey seals.

Collision with project vessels

The presence of a small number of UXO clearance/guard vessels (up to three) will be very spatially and temporally limited and is not considered to notably increase vessel traffic in the area above baseline levels. The vessels will either be stationary or moving slowly during the proposed work. Where possible and appropriate, vessels will not exceed 14 knots when transiting to and between work sites.

The species present within the inshore and offshore waters of the Inch Cape OWF are considered to be habituated to the presence of vessels. They are predominately small and agile making them less susceptible to collisions than, for example, large whale species.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. Although the consequences of a collision (i.e., mortality, injury) may be severe, the likelihood of occurrence is very low for these species in this area and therefore the risk is considered to be negligible.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that here is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect effects through impacts on prey

There will be increased vessel presence in the vicinity of the UXO clearance activities due to the UXO clearance activities. These have the potential to disturb prey species, ultimately limiting food availability for grey seals. Seals utilise a variety of habitats, including sediments and rock, to forage for a variety of prey. They may use different areas at different times of the year to target seasonally variable prey7. The grey seal diet in the North Sea is dominated by sandeels (78.5% by weight) and to a lesser extent, by gadoids (8.4%), flatfish (8.8%) and salmon (Thompson et al., 2017; Hammond and Wilson, 2016), however they are known to consume a range of prey species including fish, shellfish, squid and octopus (Scottish Natural Heritage, 2010). These prey species are present in the wider area, and given the ability of grey seals to swim hundreds of kilometres to feed (SNH, 2010b) prey availability is not considered to be generally limited.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance event will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements. It is therefore considered the presence of additional vessels associated with the activities will have a negligible effect on prey availability and therefore foraging success of grey seal feature of the Berwickshire and North Northumberland Coast SAC.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

4.7 Moray Firth SAC

Screened in for bottlenose dolphin only, subtidal sandbank features were screened out.

The site covers an area of 1512.74 km2 and the UXO clearance are 142.98 km from the designated site.

Given the short-term, localised and impulse driven nature of the UXO clearance activities, there will be no adverse effects on the Conservation Objectives and thus there will be no adverse effect on the

7 https://designatedsites.naturalengland.org.uk/Marine/SupAdvice.aspx?SiteCode=UK0017072&SiteName=berwickshire&SiteNameDisplay=Berwickshire+and+North+Northumberland+Coast+SAC&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=1

site integrity of the Moray Firth SAC for all features, either alone or in-combination, as a result of the UXO clearance activities.

4.7.1 Conservation Objectives

The Conservation Objectives (bottlenose dolphin) for the site are to:

- To ensure that the that the qualifying features of Moray Firth SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status; and
- To ensure the integrity of the Moray Firth SAC is maintained or restored in the context of environmental changes by meeting the following objectives:
    - 2a) the population of bottlenose dolphin is a viable component of the site;
    - 2b) The distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance; and
    - 2c) The supporting habitats and processes relevant to bottlenose dolphin and the availability of prey for bottlenose dolphin are maintained.

4.7.2 Assessment

4.7.2.1 Bottlenose dolphin

Both inshore and offshore bottlenose dolphin ecotypes are recognised in UK waters. One of the largest inshore bottlenose dolphin populations are located in the Moray Firth, East Scotland. The east coast of Scotland bottlenose dolphin population has expanded south since the 1990s and now around 53% of the population uses the Tay Estuary and surrounding waters, which is adjacent to the Inch Cape OWF (Arso Civil et al. 2021).

Due to the behaviour and social structure of the inshore bottlenose dolphin population, which regularly travels along the coastline in close-knit groups, it is difficult to represent their density accurately. For example, the recent SCANS-IV survey did not detect any bottlenose dolphins in the relevant survey block for the Inch Cape OWF and therefore no density was estimated (Gilles et al., 2023). As such, a density surface was created for the inshore bottlenose dolphin population using the most recent population estimate for east Scotland. Half the population (five-year weighted average for the East coast population) are assumed to be from the Moray Firth (Cape Wrath to Rattray Head).

Bottlenose dolphins are present throughout the year with May – September being important for breeding and calving (NatureScot, 2021).

Increases in underwater noise

The following impacts were assessed for marine mammal receptors in the EPS Risk Assessment (including Seal Species), the conclusions of which, considering the embedded mitigation, are presented below:

- Lethal Effects;
- Auditory Injury; and

- Behavioural responses.

Lethal Effects and Physical Injury

It is likely that the visual and passive acoustic pre-work search of the 1 km radius mitigation zone alone will be sufficient to negate the potential for lethal effects and physical injury. With this, in combination with the other mitigation procedures outlined, individuals will not be present in close proximity to the proposed UXO clearance work and the potential for lethal effects and physical injury is nil.

Auditory Injury

It is likely that pre-work searches (1 km radius zone) alone will be sufficient to negate the potential for auditory injury as a result of low order clearance work using a 0.05 kg or 0.25 kg initiation explosive. For all high order UXO clearance, and low order UXO clearance using a 10 kg initiation explosive, ADD use will be required to ensure no individuals will be present in the zone of potential effect for auditory injury.

The mitigation was designed around the greatest (i.e., worst case) potential impact ranges which are those for very high frequency cetaceans (i.e., harbour porpoise). Therefore, with mitigation (pre-work search, use of an ADD and use of a NAS for high order clearance >49 kg), bottlenose dolphins will not be present within the zones of potential effect for auditory injury. Therefore, the potential for auditory injury is nil for all species.

Behavioural Responses

Behavioural responses will likely be short term. Suitable local alternative habitat is likely to be available in the meantime therefore the energetic costs of fleeing should be able to be met relatively quickly. Because each piece of clearance work will only take a few hours, it is unlikely that animals will be excluded from key areas for significant periods of time.

Conclusion

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that following mitigation there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes to arise from underwater noise on bottlenose dolphins.

Collision with project vessels

The presence of a small number of UXO clearance/guard vessels (up to three) will be very spatially and temporally limited and is not considered to notably increase vessel traffic in the area above baseline levels. The vessels will either be stationary or moving slowly during the proposed work. Where possible and appropriate, vessels will not exceed 14 knots when transiting to and between work sites.

The species present within the inshore and offshore waters of the Inch Cape OWF are considered to be habituated to the presence of vessels. They are predominately small and agile making them less susceptible to collisions than, for example, large whale species.

Although the consequences of a collision (i.e., mortality, injury) may be severe, the likelihood of occurrence is very low for these species in this area and therefore the risk is considered to be negligible.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded that here is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

Indirect Effects through Impacts on Prey

There will be increased vessel presence in the vicinity of the UXO clearance activities. These have the potential to disturb prey species, ultimately limiting food availability for bottlenose dolphin. Salmonids are known to be important prey for bottlenose dolphins, based on the analysis of stomach contents (Santos et al., 2001) and direct observations of foraging events. Other prey species important in the diet of bottlenose dolphins from this population include flatfish, mackerel, cod, saithe, whiting, haddock, and cephalopods (Santos et al., 2001). Many of these fish species are dependent on sandeels and sprat availability, but despite this, food availability is not considered to be generally limited.

Although the UXO clearance work has the potential to occur any time up to the end of Q4 2027, each individual UXO clearance operation of work will be short in duration, temporary, and spatially limited to the vicinity UXO clearance activities. There is already a high presence of vessel traffic in the area and the work to be undertaken will have predictable, slow vessel movements. It is therefore considered the presence of additional vessels associated with the activities will have a negligible effect on prey availability and therefore foraging success of the bottlenose dolphin feature of the Moray Firth SAC.

The change in programme of UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. It can therefore be concluded there is no potential for adverse effects on site integrity, either alone or in combination with any other plans or programmes.

5 Summary and Conclusion

It can be concluded that the change in programme of the UXO clearance activities until the end of construction (end of Q4, 2027) does not affect the original conclusions. A total of 16 sites were screened for LSE. LSE could not be ruled out for seven sites which were screened in for further assessment. Although the UXO clearance activities may occur at any time until the end of construction (end of Q4, 2027), each individual UXO clearance operation is relatively small scale and localised at individual targets. Although multiple (up to three) vessels will be working simultaneously, the vessels and activities will not be concentrated in any one area. Based on the above consideration of impacts on all potential environmental receptors, it can be concluded that the UXO clearance activities undertaken throughout the entire construction period (as described in Section 2), will not result in any adverse effects on Conservation Objectives of sites and no adverse effect on site integrity of any European Site either alone or in combination with other plans or programmes.

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