



**Ardersier Port Ltd.
Habitats Regulations Appraisal**



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Ardersier Port Ltd.

Habitats Regulations Appraisal

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EXECUTIVE SUMMARY

The proposed redevelopment of Ardersier Port is in the proximity of European designated sites, therefore a Habitats Regulations Appraisal (HRA) is required to determine the effects of the proposed development on the qualifying features of the following designated sites:

- Moray Firth proposed Special Protection Area (pSPA);
- Inner Moray Firth Special Protection Area (SPA);
- Cromarty Firth SPA;
- Moray and Nairn Coast SPA;
- Loch Flemington SPA;
- Moray Firth Special Area of Conservation (SAC);
- River Moriston SAC;
- Culbin bar SAC;
- Dornoch Firth and Morrich More SAC.

It was not possible to rule out Likely Significant Effects (LSEs) for the Moray Firth SAC and Dornoch Firth and Morrich More SAC, during the HRA screening process. The effects on the qualifying features for these sites should therefore be taken forward for further consideration in the next HRA stage, an Appropriate Assessment.

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1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Limited has been commissioned by Ardersier Port Ltd. to undertake a Habitats Regulations Appraisal (HRA) in support of the proposed redevelopment of the port. The Scoping Opinion received from Marine Scotland (Marine Scotland, 2018) and the Highland Council highlighted that the proposed works could have Likely Significant Effects (LSEs) on the Moray Firth proposed Special Protection Area (pSPA), the Moray Firth Special Area of Conservation (SAC), the River Moriston SAC, and the Dornoch Firth and Morrich More SAC, and that a HRA would be required to determine the effect of the proposal on the qualifying features of the designated sites. Further sites within 15km of the proposed development that have also been included in the HRA are the Cromarty Firth SPA, Moray and Nairn Coast SPA, Loch Flemington SPA and Culbin bar SAC.

1.2 Scope of Report

It is the responsibility of the competent authority (Marine Scotland) to conduct the HRA, however, this document aims to provide the information necessary for them to undertake the appraisal by:

- Providing an outline of the proposed works and any integral mitigation;
- Identifying European designated sites which are connected to and/or could potentially be affected by the proposed works;
- Identifying how works may impact the qualifying features of the designated site(s), the test of LSE);
- Giving consideration to other projects which may have an 'in combination' effect on European designated sites; and
- Recommending sites which need to be taken forward for further assessment if LSEs for the qualifying features of the European designated site cannot be ruled out;

1.3 Report Usage

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1.4 Legislative Context

The Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (hereafter called the Habitats Directive) requires 'appropriate assessment' of plans and projects that are likely to have a significant effect on European designated Natura 2000 sites.

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".

Article 6(4) goes on to discuss alternative solutions, the test of 'imperative reasons of overriding public interest' (IROPI) and compensatory measures:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted".

Should a decision be reached to the effect that it cannot be said with sufficient certainty that the development will not have any significant effect on the Natura site, then, as stated above, it is necessary and appropriate to carry out an Appropriate Assessment of the implications of the development for the sites in view of their conservation objectives.

The EEC (2001) guidance for Appropriate Assessment states (Section 3.2 pg. 25):

"It is the competent authority's responsibility to carry out the Appropriate Assessment. However, the assessment process will include the gathering and consideration of information from many stakeholders, including the project or plan proponents, national, regional and local nature conservation authorities and relevant NGOs. As with the EIA process, the Appropriate Assessment will usually involve the submission of information by the project or plan proponent for consideration by the competent authority. The authority may use that information as the basis of consultation with internal and external experts and other stakeholders. The competent authority may also need to commission its own reports to ensure that the final assessment is as comprehensive and objective as possible.

In this stage, the impact of the project or plan (either alone or in combination with other projects or plans) on the integrity of the Natura 2000 site is considered with respect to the conservation objectives of the site and to its structure and function."

1.4.1 Special Areas of Conservation (SACs)

SACs are designated under Article 3 of the Habitats Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as part of the Natura 2000 network. It is transposed into Scottish law through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). This network comprises Annex I habitats - "natural habitat types of community interest whose conservation requires the designation of Special Areas of Conservation" and the habitats of Annex II species - "animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation". Candidate SACs (cSACs)

are sites that have been submitted to the European Commission, but not yet formally adopted. They are given the same level of protection as SACs.

1.4.2 Special Protection Areas (SPAs)

SPAs are designated under Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (the Birds Directive), transposed into Scottish law through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Under the Directive, Scotland is obliged to protect the habitats of birds which are vulnerable to habitat change or due to their low population numbers i.e. rarity, especially species on Annex 1 of the Directive. Aspects of habitat protection are in the context of pollution, deterioration of habitat and disturbance. SPAs, together with SACs, form what is known as the “*Natura 2000 Network*”. Proposed SPAs (pSPAs) are sites that have been submitted to the European Commission, but not yet formally adopted. They are given the same level of protection as SPAs.

1.4.3 Conservation Objectives

The overriding objective of the Habitats Directive is to ensure that the habitats and species covered achieve ‘Favourable Conservation Status’ and that their long-term survival is secured across their entire natural range within the European Union (EU). In its broadest sense, favourable conservation status means that an ecological feature is being maintained in a satisfactory condition, and that this status is likely to continue into the future. Definitions as per the EU Habitats Directive are given below.

Favourable Conservation Status as defined by Articles 1 (e) and 1(i) of the Habitats Directive

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- its natural range and areas it covers within that range are stable or increasing; and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as ‘favourable’ when:

- the population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats; and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Site-specific conservation objectives define the desired condition or range of conditions that a habitat or species should be in, in order for these selected features within the site to be judged as favourable. At site level, this state is termed ‘favourable conservation condition.’ Site conservation objectives also contribute to the achievement of the wider goal of biodiversity conservation at other geographic scales, and to the achievement of favourable conservation status at national level and across the Natura 2000 network.

2 METHODOLOGY

2.1 The Habitats Regulations Appraisal Process

The Habitats Regulations Appraisal is a four-stage process with specific issues and tests outlined at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required. The stages are summarised in Table 2-1.

Table 2-1 Key Stages in the HRA Process

Stage 1	
Screening for Likely Significant Effect (LSE)	<ul style="list-style-type: none"> - Identify international sites in and around the project area. - Examine conservation objectives of the interest feature(s) (where available). - Review plan policies and proposals and consider potential effects on Natura 2000 sites (magnitude, duration, location, extent). - Examine other plans and programmes that could contribute to 'in combination' effects.
	<ul style="list-style-type: none"> - If no effects likely – report no likely significant effect. - If effects are judged likely or uncertainty exists – the precautionary principle applies, proceed to Stage 2. - If following screening the project is reviewed and includes integral mitigation which will ensure no likely significant effects, then no further Appropriate Assessment needed.
Stage 2	
Appropriate Assessment (AA)	<ul style="list-style-type: none"> - Complete additional scoping work including the collation of further information on sites as necessary to evaluate impact in light of conservation objectives. - Agree scope and method of AA with the competent authority. - Consider how the project 'in combination' with other projects will interact when implemented (the Appropriate Assessment). - Consider how effects on integrity of the site could be avoided by changes to the project and the consideration of alternatives. - Develop mitigation measures (including timescale and mechanisms). - Report outcomes of AA including mitigation measures.
	<ul style="list-style-type: none"> - If the project will not adversely affect European site integrity proceed with plan. - If effects or uncertainty remain following the consideration of alternatives and development of mitigation proceed to Stage 3.
Stage 3	
Alternative Solutions	<ul style="list-style-type: none"> - Consider alternative solutions, delete from project or modify. - Consider if priority species/habitats affected - identify 'imperative reasons of overriding public interest' (IROPI), economic, social, environmental, human health, public safety (only applicable in highly exceptional circumstances).
Stage 4	
Imperative Reasons of Overriding Public Interest (IROPI)	<ul style="list-style-type: none"> - Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. - The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.

2.2 Screening

With reference to the SNH Guidance (SNH, 2015) the screening stage determines whether Appropriate Assessment is required, by:

- Determining whether a project (or plan) is directly connected with or necessary to the conservation management of any European sites;
- Describing the details of the project (or plan) proposals and other projects that may cumulatively affect any European sites;
- Describing the characteristics of relevant European sites; and
- Appraising likely significant effects of the proposed project on relevant European sites.

The guidance (SNH, 2015) gives the following definition of LSE:

“The test of significance is where a plan or project could undermine the site’s conservation objectives. The assessment of that risk (of ‘significance’) must be made in the light, amongst other things, of the characteristics and specific environmental conditions of the site concerned.”

*“A likely effect is one that cannot be ruled out on the basis of objective information. The test is a ‘likelihood’ of effects rather than a ‘certainty’ of effects. Although some dictionary definitions define ‘likely’ as ‘probable’ or ‘well might happen’, in the Waddenzee case the European Court of Justice ruled that a project should be subject to Appropriate Assessment “**if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either individually or in combination with other plans and projects**”. Therefore, ‘likely’, in this context, should not simply be interpreted as ‘probable’ or ‘more likely than not’, but rather whether a significant effect can objectively be ruled out.”*

2.3 Appropriate Assessment

The Appropriate Assessment establishes whether or not a project’s LSE identified during the screening stage will have an adverse effect on the integrity of the affected site with regard to its conservation objectives. Based on the guidance provided by SNH (2015) the effects of the proposal on the designated sites’ qualifying features will be determined by:

- Gathering information required to assess impacts (from site documents, scientific literature, EU and UK guidance on impact assessment and impact assessments from similar projects);
- Predicting the type and nature of impacts e.g. direct or indirect, short or long term;
- Assessing whether there will be adverse effects on the integrity of the site as defined by the conservation objectives and the status of the site. The precautionary principle must be applied at this stage. If it cannot be demonstrated with supporting evidence that there will be no adverse effects then adverse effects will be assumed; and
- Ascertaining if it is possible to mitigate adverse effects.

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Site Location and Description of Proposed Development

The site location and the proposed development are detailed in Chapter 3 of the Environmental Impact Assessment Report (EIAR).

3.2 In-Combination Effects

From the sites identified in the cumulative assessment (EIAR Chapter 12) the following sites have been considered:

- Norbord Factory Extension, Dalcross
- Castle Stuart Golf Course
- Tornagrain New Town
- A96 Improvements
- Nigg Fabrication Yard
- Invergordon Service Base
- BOWL and MORL Offshore wind farms
- European Offshore Wind Deployment Centre, Aberdeen Bay
- Shetland High Voltage Direct Conversion Cable
- Nigg Bay, Aberdeen Harbour Expansion
- Co-op Distribution Centre, Inverness Airport

The proposed development is not predicted to add to the associated impacts from any of these sites, due to the localised nature of the works and the distance of the sites from the proposed development.

4 SCREENING FOR APPROPRIATE ASSESSMENT

For LSE to arise there must be a risk enabled by having a 'source' (e.g. construction works at a proposed development site), a 'receptor' (e.g. a European site or its qualifying interests), and a pathway between the source and the receptor (e.g. mobile species travelling between the proposed development site and a European site). The identification of a pathway does not automatically mean that LSE will arise. The likelihood of LSE will depend upon the characteristics of the source (e.g. duration of construction works), the characteristics of the pathway (e.g. what species and the number individuals travelling between the two sites) and the characteristics of the receptor (e.g. the sensitivities of the European site and its qualifying interests).

SNH (2015) guidance states that sites with mobile species should be considered within the screening process where there is a significant ecological link between the designated site and the proposed development site. It also states that for developments which could increase recreational pressures on designated sites, all sites within reasonable travel distance of the development should be considered for screening. It is also necessary to consider sites which are part of the same coastal ecosystem, where the proposed development may affect coastal processes.

The following sites were identified as being present in proximity to the development site and have therefore been considered within the screening for Appropriate Assessment. The location of the designated sites in relation to the proposed development is shown in Appendix A.

4.1 Designated Sites

4.1.1 Moray Firth pSPA

This site (1,762 km²) covers an extensive stretch seaward from the Helmsdale coast in the north, to Portsoy in the east and it includes the outer Dornoch and Cromarty Firths, Beauly and Inverness Firths, as well as part of the wider Moray Firth. In winter, the waters of the Moray Firth are a stronghold for one of the largest concentrations of sea ducks, Velvet Scoter and shags in Great Britain; the third largest population of Scaup; and the largest Scottish non-breeding populations of Common Scoter and Goldeneye. Important numbers of four other marine birds also spend winter in the Firth. In summer, these waters continue to provide feeding grounds for breeding shag.

4.1.2 Inner Moray Firth SPA

The Inner Moray Firth SPA comprises the Beauly Firth and the Inverness Firth, which together form the eastern-most estuarine component of the Moray Basin ecosystem. The SPA contains extensive intertidal flats, saltmarsh and sand dunes. The boundary of the SPA follows those of the Beauly Firth Site of Special Scientific Interest (SSSI), Longman and Castle Stuart Bays SSSI, Whiteness Head SSSI and most of Munloch Bay SSSI.

The site supports populations of European importance of the Annex 1 species: Osprey forage throughout the SPA (12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population); Common Tern (310 pairs, 2% of the GB population) and Bar-tailed Godwit (2% of the GB population). The SPA also supports migratory populations of Greylag Goose, Red-breasted Merganser and Redshank. The site also regularly supports in excess of 20,000 individual waterfowl.

4.1.3 Cromarty Firth SPA

Cromarty Firth is located in north-eastern Scotland and is one of the major firths on the east shore of the Moray Firth. It contains a range of high-quality coastal habitats including extensive intertidal mud-flats and shingle bordered locally by areas of saltmarsh, as well as reedbeds around Dingwall. The rich invertebrate fauna of the intertidal flats, with beds of eelgrass *Zostera* spp., glasswort *Salicornia* spp., and *Enteromorpha* algae, all provide important food sources for large numbers of wintering and migrating waterbirds (swans, geese, ducks and waders). With adjacent estuarine areas elsewhere in the Moray Firth, it is the most northerly major wintering area for wildfowl and waders in Europe. The Firth is also of importance as a feeding area for locally breeding Osprey as well as for breeding terns.

4.1.4 Moray and Nairn Coast SPA

The Moray and Nairn Coast SPA is located on the south coast of the Moray Firth in north-east Scotland. The site comprises the intertidal flats, saltmarsh and sand dunes of Findhorn Bay and Culbin Bar, and the alluvial deposits and associated woodland of the Lower River Spey and Spey Bay. It is of outstanding nature conservation and scientific importance for coastal and riverine habitats and supports a range of wetland birds throughout the year. In summer it supports nesting Osprey, whilst in winter it supports large numbers of Iceland/Greenland Pink-footed Goose, Icelandic Greylag Goose and other waterbirds, especially ducks, sea-ducks and waders. The geese feed away from the SPA on surrounding agricultural land during the day. The sea-ducks feed, loaf and roost over inundated intertidal areas within the site, but also away from the SPA in the open waters of the Moray Firth.

4.1.5 Loch Flemington SPA

Loch Flemington is located 8 km south-west of Nairn in the Highland region of Scotland. It is a small (14 ha), shallow, eutrophic loch formed in a kettlehole situated among a suite of fluvioglacial landforms produced in the last glaciation. The loch has a limited exchange of water with no obvious outlet, and supports a largely undisturbed aquatic plant community associated with eutrophic conditions. The loch supports an important and highly productive breeding population of Slavonian Grebe.

4.1.6 Moray Firth SAC

The Moray Firth SAC supports the only known resident population of bottlenose dolphin in the North Sea and is one of only two UK sites designated for the species as a primary qualifying feature. The north east of Scotland population is estimated to comprise approximately 195 individuals. Between 1990 and 2013, annual estimates of the number of dolphins using the SAC ranged between 43 and 134.

They are present within the Moray Firth year round though abundance and distribution varies between summer and winter with animals appearing more dispersed and ranging further down the east coast in winter. Although dolphins are found throughout the Moray Firth they seem to prefer certain parts of the Inner Firth, the southern Moray Firth coastline and the mouth of the Cromarty Firth. The population also ranges outwith the Moray Firth with small groups regularly occurring off the Aberdeenshire, Fife and East Lothian coasts and occasionally as far as Northumberland.

4.1.7 River Moriston SAC

The River Moriston flows into the northern side of Loch Ness, and supports a functional freshwater pearl mussel (*Margaritifera margaritifera*) population. Pearl mussels are present from downstream of a hydro-electric dam to the confluence with Loch Ness. Due to illegal pearl-fishing the population is not abundant but survey results show that 40% of the population is composed of juveniles. This is the highest percentage

recorded in any Scottish pearl mussel population and indicates that recent successful recruitment has taken place.

Although a qualifying species of the River Moriston SAC, Atlantic salmon is not a primary feature of the site's selection. Juveniles migrate from river to sea in the spring with the peak in the Moray Firth considered to be between April and May. Adults may migrate back to their natal rivers at any time of year. The core period in the Moray Firth is between May and October with spawning occurring in the River Moriston catchment between November-December.

4.1.8 Dornoch Firth and Morrich More SAC

The Dornoch Firth supports a significant proportion of the Inner Moray Firth's harbour seal population and represents almost 2% of the UK population. Harbour seals are typically found hauled out on sand-bars and shores at the mouth of the estuary which are used habitually as favoured locations by the same groups of individuals. Notable haul-out sites include the intertidal sandflats of Dornoch and Whiteness Sands and the intertidal sand bars of the Gizzen Briggs, which consistently support around 600 seals. These areas are also used as breeding sites, including locations which are inundated by the tide, as pups can swim within an hour after birth with pupping typically occurring in early to mid-June/July. Adult seals undergo an annual moult between August and September during which they spend extended periods out of the water.

There has been a substantial reduction in the numbers of harbour seal on the east coast over the past decade or so, including within Dornoch Firth where numbers have declined from around 600 in the mid 1990's to between 111 and 219 since 2010. However, numbers elsewhere in the wider Moray Firth, such as Loch Fleet and Culbin Sands, have increased markedly. At this broader geographic level harbour seal numbers have fluctuated over the medium term showing no discernible trend, although there has been a decline in the short-term.

The development lies approximately 48km from the SAC which is within the range of observed common seal movements between haulout areas and also well within the 'normal' range of foraging trips. SNH also know that common seals tagged at the Dornoch Firth use the Ardersier area. There is a designated haulout site¹ in close proximity to the proposed development site, at Whiteness Sands. The haulout at Ardersier holds 20% of the Moray Firth population of common seals and is seen as the most important haulout for this species not only in the Moray Firth but on the east coast of Scotland. The average moult counts (during August) are around 200 animals and this has been steady since 1992. The location is also used for pupping with a count undertaken in June 2011 having 216 adult harbour seals and 28 mean number of pups (56 pups was higher figure).

Otters are also a primary reason that Dornoch Firth and Morrich More is an SAC. The area consists of an estuarine system with extensive areas of bordering natural habitat including sand dune, woodland and small lochans. The River Evelix and the River Oykel, which both feed into the site, provide further otter habitat. The area supports a good population of otters in what is the only east coast estuarine site selected for the species in Scotland.

4.1.9 Culbin Bar SAC

Culbin Bar is 7 km long and supports three habitats for which it is designated for. Perennial vegetation of stony banks for which this is considered to be one of the best areas in the United Kingdom. Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) for which the area is considered to support a significant presence. Embryonic shifting dunes for which the area is considered to support a significant presence. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.

¹ Protection of Seals (Designated Sea Haul-out Sites) (Scotland) Order 2014. MF001 - Ardersier: Intertidal sandbanks west of Whiteness Head and north of Kirkton within the MoD Danger Area.

4.2 Screening Assessment

The screening assessments for likely significant effects of the proposed development on the qualifying features of the sites are shown in Table 4-1 below.

Table 4-1 Screening Assessment for Likely Significant Effects of the Proposed Development

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
Moray Firth proposed SPA (within the site boundary)	<p>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.</p> <p>This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:</p> <p>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;</p>	<p>Common eider (<i>Somateria mollissima</i>)</p> <p>Common goldeneye (<i>Bucephala clangula</i>)</p> <p>Common scoter (<i>Melanitta nigra</i>)</p> <p>Great northern diver (<i>Gavia immer</i>)</p> <p>Greater scaup (<i>Aythya marila</i>)</p> <p>Long-tailed duck (<i>Clangula hyemalis</i>)</p> <p>Red-breasted merganser (<i>Mergus serrator</i>)</p> <p>Red-throated diver (<i>Gavia stellate</i>)</p>	<p>Pathway for LSE identified.</p> <p>Several of the qualifying species could roost on the sand habitat within the site, and all can be found in the adjacent open water of the Moray Firth. They are wintering populations and do not breed on site. They could be impacted directly by habitat loss or deterioration during the construction phase.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source. All species could also be impacted in the longer term through increased human presence, traffic (by road or sea), noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species of the Inner Moray Firth SPA and Moray Firth pSPA which are present during</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	b) To maintain the habitats and food resources of the qualifying features in favourable condition.	<p>Slavonian grebe (<i>Podiceps auritus</i>)</p> <p>Velvet scoter (<i>Melanitta fusca</i>)</p>	<p>the non-breeding period (approximately mid-September to early-April).</p> <p>However, as the proposed works has a very limited zone of influence, and the majority of the qualifying species are found some distance away in their preferred marine foraging habitat, any impact is considered unlikely.</p> <p>No LSE predicted.</p>	
		European shag (<i>Phalacrocorax aristotelis</i>)	<p>Pathway for LSE identified.</p> <p>European shag could make use of both the sand habitat within the site and the open water, or exclusively open water. They are present during the summer months within the pSPA as well as over-wintering. They could be impacted directly by habitat loss or deterioration during the construction phase.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source. All species could also be impacted in the longer term through increased human presence, traffic (by road or sea), noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>Although Shag is present in the Moray Firth all year, numbers in the vicinity of the proposed works are very small, and any impact from the construction works is unlikely.</p> <p>No LSE is predicted.</p>	
Inner Moray Firth SPA (within the site boundary)	<p>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</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> 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 <p>No significant disturbance of the species</p>	Common tern (<i>Sterna hirundo</i>)	<p>Pathway for LSE identified.</p> <p>Common Tern does not breed in the immediate area, and only use the coast for foraging and roosting opportunities. They could be impacted directly by habitat loss or deterioration during the construction phase.</p> <p>The terns could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging or resting grounds. They may also be impacted by pollutants indirectly, if prey species (mainly small fish) are affected.</p> <p>These impacts could result in injury or death of individuals as well as reduced prey availability.</p> <p>Common Tern historically bred along the shingle spit leading to Whiteness Head. There was no sign of any breeding occurring during any of the breeding bird surveys visits (see Technical Appendix 7.5) the level of human activity along the spit (including dog walking and horse riding) is likely to have had a long-term disturbance effect on any tern colony, as is the presence of fox (<i>Vulpes vulpes</i>) which were evident through the observation of scats along the length of the spit.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>The limited scope of the construction work, and the proposed creation of an island upon which terns can roost, and potentially nest, suggests that terns may benefit from the development.</p> <p>No LSE is predicted.</p>	
		Osprey (<i>Pandion haliaetus</i>)	<p>Pathway for LSE identified.</p> <p>Osprey may utilise the channel and the shallow coastal waters to forage during the breeding season and on passage.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging grounds. They may also be impacted by pollutants indirectly, if prey species (mainly fish) are affected.</p> <p>These impacts could result in injury or death of individuals as well as reduced prey availability.</p> <p>However there is no suitable breeding location around the survey area, and they are rarely recorded in the vicinity compared to their preferred foraging grounds along the Moray Coast.</p> <p>No LSE is predicted.</p>	Screened Out
		Bar-tailed godwit (<i>Limosa lapponica</i>)	<p>Pathway for LSE identified.</p> <p>Bar-tailed Godwit overwinter in the SPA but do not breed in the area. They could make use of the sand habitat within the site. They could be impacted directly by habitat loss or deterioration during the construction phase.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source within the intertidal mud habitat. Bar-tailed Godwit could also be impacted in the longer term through increased human presence, traffic, noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species of the Inner Moray Firth SPA and Moray Firth pSPA which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>The largest aggregations of godwit are on Whiteness Sands, to the west of the site, and away from any construction activity. Once operational, the capital dredge material will be stockpiled on the former McDermott Fabrication Yard which will form a protective barrier to Whiteness Sands, negating any visual or noise disturbance to the foraging birds.</p> <p>No LSE identified.</p>	

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
		Greylag goose (<i>Anser anser</i>)	<p>Pathway for LSE identified.</p> <p>Greylag Goose may be present in the open water within the Inner Moray Firth during the winter months (September – April). The distance between the site and suitable agricultural foraging grounds is approximately 10km, but it is unlikely that the site or surrounding area will be used for roosting as roost sites are typically on inland freshwater bodies, and Greylag geese are not known to frequent the area around Whiteness Sands.</p> <p>The geese could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development. These pollutants could impact birds in the open water or potentially at roost sites if they are carried there through dispersal.</p> <p>These impacts could result in injury or death of individuals, but given the scope of works and the typical location of congregating geese, any impact is considered unlikely.</p> <p>No LSE is predicted.</p>	Screened Out
		Red-breasted merganser	<p>Pathway for LSE identified.</p> <p>There is potential for red-breasted merganser to utilise the open water habitat within the site for foraging whilst they are present over-winter. Red-breasted merganser could be impacted directly by habitat loss and deterioration.</p> <p>Red-breasted merganser could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development and through</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their various food sources. They could also be impacted in the longer term through human presence, traffic, noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging. Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species of the Inner Moray Firth SPA and Moray Firth pSPA which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>Red-breasted merganser used to breed on the spit at Whiteness Head, but due to human disturbance and predation by fox, have not done so for many years. The main accumulation of merganser is in the Moray Firth away from the construction activity, although some birds do forage in the main channel occasionally, and roost on the sandflats at the end of the spit.</p> <p>Despite the potential for birds to be present during the construction works, any impact on red-breasted merganser is not thought to amount to a significant effect, and so no LSE has been identified.</p>	
		Redshank (<i>Tringa totanus</i>)	Pathway for LSE identified.	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>Redshank may use the surrounding sand habitats and rocky shores for foraging and roosting over-winter. Redshank could be impacted directly by habitat loss and deterioration.</p> <p>Redshank could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source within the intertidal mud habitat. Redshank could also be impacted in the longer term through increased human presence, traffic, noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging and roosting birds and reduced availability of suitable foraging and roosting habitat.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species of the Inner Moray Firth SPA and Moray Firth pSPA which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>The largest aggregations of all waders, including redshank, are on Whiteness Sands, to the west of the site, and away from any construction activity. Once operational, the capital dredge material will be stockpiled on the former McDermott Fabrication Yard which</p>	

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>will form a protective barrier to Whiteness Sands, negating any visual or noise disturbance to the foraging birds.</p> <p>No LSE identified.</p>	
		Scaup	<p>Pathway for LSE identified.</p> <p>Scaup may be present in the open water within the Inner Moray Firth during the winter months (September – April).</p> <p>Scaup could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development. These pollutants could impact birds in the open water or potentially at roost sites if they are carried there through dispersal.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species of the Inner Moray Firth SPA and Moray Firth pSPA which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>The great rafts of overwintering Scaup are found in the Cromarty Firth, or in the Inner Moray Firth between Castle Stuart and the Kessock Bridge in Inverness, and are very rarely seen around Whiteness.</p> <p>This localised population and the timing of the construction work means that any impact from the construction, or operation of the port is highly unlikely.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			No LSE identified.	
		Waterfowl assemblage Qualifying species additionally include: curlew (<i>Numenius arquata</i>), goosander (<i>Mergus merganser</i>), goldeneye (<i>Bucephala clangula</i>), teal (<i>Anas crecca</i>), wigeon (<i>Anas Penelope</i>), cormorant (<i>Phalacrocorax carbo</i>).	<p>Pathway for LSE identified.</p> <p>All species could make use of the sand habitat within the site and make use of the open water. These species could be impacted directly by habitat loss and deterioration.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source within the intertidal mud habitat. All species could also be impacted in the longer term through increased human presence, traffic (by road or sea), noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p> <p>The species in this assemblage are predominantly found foraging on Whiteness Sands, to the west of the site, and away from any construction (and operational) activity, or in the Moray Firth.</p> <p>No LSE is predicted.</p>	Screened Out
Moray Firth SAC (within site boundary)	To avoid deterioration of the habitats of bottlenose dolphin or significant disturbance to this species, thus ensuring that the	Bottlenose dolphin (<i>Tursiops truncatus</i>)	<p>LSE pathway identified.</p> <p>During the construction phase of the proposed development, bottlenose dolphin may be impacted by underwater noise as a</p>	Screened In

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<p>integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status; and</p> <p>To ensure that the following are established then maintained in the long term:</p> <ul style="list-style-type: none"> • 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 • No significant disturbance of the species 		<p>result of piling, vessel movements and dredging. The possible effects of underwater noise on bottlenose dolphin include temporary or permanent threshold shifts in hearing, disturbance (masking and/or habitat avoidance) and in extreme cases intense noises can lead to injury or death of individuals.</p> <p>During the construction and operation phases pollutants released into the water (as a result of dredged sediments, spilled material from vessels and spillage from onshore storage of fuel and chemicals) could have temporary impacts on bottlenose dolphin either directly, or indirectly, if prey items are affected. Toxic pollutants could result in habitat avoidance, injury or death of individuals and/or reduced prey availability leading to loss of condition.</p> <p>An increased number of vessels travelling through the SAC, both during construction and once the site is in operation, could increase the risk of collision, resulting in death or injury to individuals.</p> <p>An increase in the number of vessels could also lead to an increase in continuous low level underwater noise throughout the operational life of the proposed development. This is unlikely to result in physical trauma but could lead to habitat displacement if individuals avoid areas with higher noise levels. An increase in continuous low level noise could also affect bottlenose dolphin indirectly if their prey are affected.</p> <p>LSE identified.</p>	

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<p>To avoid deterioration of the qualifying habitat 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</p> <p>To ensure for the qualifying habitat that the following are maintained in the long term:</p> <ul style="list-style-type: none"> • Extent of the habitat on site • Distribution of the habitat within site • 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 • No significant disturbance of typical species of the habitat 	Subtidal sandbanks	<p>Pathway for LSE identified.</p> <p>Subtidal sandbanks will not be directly affected by the development.</p> <p>It is possible that pollutants released during the construction and operation phase of the proposed development could reach the habitats within the designated site through dispersion. With mitigation this would be negligible.</p> <p>No LSE identified.</p>	Screened Out
River Moriston SAC (55km south-west)	To avoid deterioration of the habitats of the qualifying species or	Atlantic Salmon (<i>Salmo salar</i>)	<p>Pathway for LSE identified.</p> <p>Atlantic salmon returning to the River Moriston from the sea will have to pass through the Moray Firth. As Atlantic salmon enter the</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<p>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</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> Population of the species, including range of genetic types for salmon, as 		<p>Firth they tend to follow the coast line and could be present within the water near the development. However it is likely that numbers of fish migrating/emigrating past the development site will do so in areas of deeper water i.e. along the contours of the navigation channel, and where tidal flows, local currents and sediment movement, will be unaffected by the development.</p> <p>Disturbance-related impacts during construction are likely from activities such as piling, dredging and disposal, increased vessel movements, water pollution, and increased plant machinery/site staff activity. This has the potential to result in the displacement of fauna from using habitats.</p> <p>These impacts could result in disturbance, injury or in extreme circumstances death to individuals.</p>	
	<ul style="list-style-type: none"> 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; species; No significant disturbance of the species; Distribution and viability of freshwater pearl mussel host species; 	Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	<p>Pathway for LSE identified.</p> <p>Freshwater pearl mussel could be impacted directly in the short term if pollutants are released into the water during either the construction or operational phase of the development.</p> <p>These impacts could result in disturbance, injury or in extreme circumstances death to individuals. However, given that there are c.55km between the site and the River Moriston any pollutants dispersing to the site would be dilute and have insignificant effects on Freshwater pearl mussel.</p> <p>Therefore, no LSE is identified.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<ul style="list-style-type: none"> Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species. 			
Dornoch Firth and Morrich More SAC (24km north)	<p>To avoid deterioration of the qualifying habitat 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</p> <p>To ensure for the qualifying habitat that the following are maintained in the long term:</p> <ul style="list-style-type: none"> Extent of the habitat on site; Distribution of the habitat within site; 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 	<ul style="list-style-type: none"> Coastal dune heathland Atlantic salt meadows Dunes with juniper thickets Lime-deficient dune heathland with crowberry Shifting dunes Estuaries Dune grassland Humid dune slacks Intertidal mudflats and sandflats Reefs Glasswort and other annuals colonising mud and sand Subtidal sandbanks Maintained Shifting dunes with marram 	<p>Pathway for LSE identified.</p> <p>Due to the distance between the proposed development site and Dornoch Firth and Morrich More SAC (c.24km) any materials reaching the designated site would be dilute and the effects on the habitats would be negligible.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<ul style="list-style-type: none"> No significant disturbance of typical species of the habitat. 			
	<p>To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> Population of the species a viable component of the site Distribution of the species within site Distribution and extent of habitats supporting the species Structure, function and supporting processes of habitats supporting the species No significant disturbance of the species 	<p>Otter (<i>Lutra lutra</i>)</p>	<p>LSE pathway identified.</p> <p>Otters are mobile animals and can range over 50km (Chanin, 2003). It is feasible that otters within the SAC could utilise the habitats within and adjacent to the proposed development for foraging, commuting and resting.</p> <p>During the construction phase of the proposed development otters could be impacted temporarily by noise from impact piling, dredging and vessel and onshore vehicle movements. This could result in displacement and a temporary reduction in the availability of habitat outside of the SAC.</p> <p>During the construction and operation phases pollutants released into the water or on land (as a result of sediments released during dredging, spilled material from vessels and spillage from onshore storage of fuel and chemicals) could have temporary impacts on otter either directly, or indirectly, if prey items are affected. Toxic pollutants could result in avoidance of supporting habitat outwith the SAC, injury or death of individuals and/or reduced prey availability outside of the SAC, leading to loss of condition.</p> <p>Increased traffic on land and in the water once the port is in operation could also lead to displacement from habitat outwith the SAC in the longer term due to visual and noise disturbance.</p> <p>Increased onshore traffic during both the construction and operational phases of the development could result in an increased risk of vehicle collision to individuals foraging and commuting</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>outside of the SAC in both the short and long term resulting in death or injury of individuals.</p> <p>No impacts on the structure, function or supporting processes of habitats within the SAC are predicted due to the distance between the proposed development and the designated site.</p>	
		Harbour seal (<i>Phoca vitulina</i>)	<p>Pathway for LSE identified.</p> <p>Harbour seal is a mobile species which will travel in order to find prey and move between haul out sites. Seals from the Dornoch Firth and Morrich More SAC could be present within the water near the proposed development and at the designated haulout site at Whiteness sands.</p> <p>During the construction phase of the proposed development otters could be impacted temporarily by noise from impact piling, dredging and vessel and onshore vehicle movements. This could result in displacement and a temporary reduction in the availability of habitat outside of the SAC.</p> <p>Harbour seal could be impacted directly in the short term if any pollutants are released into the water. They could be impacted indirectly if pollutants affect their food source (mainly small fish). Any pollutants dispersing to the site would be dilute and have insignificant effects on the seals and their prey.</p> <p>These impacts could result in disturbance, injury or in extreme circumstances death to individuals. According to SNH (2018) harbour seals are found throughout the wider Moray Firth and may range widely in search of prey (up to 50km). However they have high fidelity to their favoured haul out sites and they tend to</p>	Screened In

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			remain close to the sites. There is a designated haulout site in close proximity to the proposed development site, at Whiteness Sands. The haulout at Ardersier holds 20% of the Moray Firth population of common seals and is seen as the most important haulout for this species.	
Cromarty Firth SPA (9km north)	<p>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</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> • Population of the species as a viable component of the site • Distribution of the species within site • Distribution and extent of habitats supporting the species • Structure, function and supporting processes of habitats supporting the species • No significant disturbance of the species 	Common tern Osprey	<p>Pathway for LSE identified.</p> <p>Common tern and Osprey breed within the SPA, and use the coast for foraging and roosting opportunities.</p> <p>Common Tern does not breed in the immediate area, and only use the coast for foraging and roosting opportunities. They could be impacted directly by habitat loss or deterioration during the construction phase.</p> <p>The terns could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging or resting grounds. They may also be impacted by pollutants indirectly, if prey species (mainly small fish) are affected.</p> <p>These impacts could result in injury or death of individuals as well as reduced prey availability.</p> <p>Common Tern historically bred along the shingle spit leading to Whiteness Head. There was no sign of any breeding occurring during any of the breeding bird surveys visits (see Technical Appendix 7.5) the level of human activity along the spit (including dog walking and horse riding) is likely to have had a long-term disturbance effect on any tern colony, as is the presence of fox</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>which were evident through the observation of scats along the length of the spit.</p> <p>The limited scope of the construction work, and the proposed creation of an island upon which terns can roost, and potentially nest, suggests that terns may benefit from the development.</p> <p>Osprey may utilise the channel and the shallow coastal waters to forage during the breeding season and on passage.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging grounds. They may also be impacted by pollutants indirectly, if prey species (mainly fish) are affected.</p> <p>These impacts could result in injury or death of individuals as well as reduced prey availability.</p> <p>However there is no suitable breeding location around the survey area, and they are rarely recorded in the vicinity compared to their preferred foraging grounds along the Moray Coast.</p> <p>No LSE is predicted.</p>	
		<p>Bar-tailed godwit</p> <p>Whooper swan</p> <p>Greylag goose</p> <p>Waterfowl</p>	<p>Pathway for LSE identified.</p> <p>Bar-tailed godwit, whooper swan and greylag goose overwinter within the SPA but do not breed. Godwit predominantly feed on Whiteness Sands, to the west of the site. Whooper swan and</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>greylag goose are rarely recorded in the vicinity, although both may forage on Whiteness Sands, or use the lagoon in the west of the site occasionally on passage or during the winter.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source within the intertidal mud habitat. Bar-tailed Godwit could also be impacted in the longer term through increased human presence, traffic, noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>The largest aggregations of godwit are on Whiteness Sands, to the west of the site, and away from any construction activity. Once operational, the capital dredge material will be stockpiled on the former McDermott Fabrication Yard which will form a protective barrier to Whiteness Sands, negating any visual or noise disturbance to the foraging birds.</p>	

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			No LSE identified.	
Moray and Nairn Coast SPA (9km east)	<p>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</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> Population of the species as a viable component of the site Distribution of the species within site Distribution and extent of habitats supporting the species Structure, function and supporting processes of habitats supporting the species No significant disturbance of the species 	Osprey	<p>Pathway for LSE identified.</p> <p>Osprey may utilise the channel and the shallow coastal waters to forage during the breeding season and on passage.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging grounds. They may also be impacted by pollutants indirectly, if prey species (mainly fish) are affected.</p> <p>These impacts could result in injury or death of individuals as well as reduced prey availability.</p> <p>However there is no suitable breeding location around the survey area, and they are rarely recorded in the vicinity.</p> <p>No LSE is predicted.</p>	Screened Out
		<p>Bar-tailed godwit</p> <p>Greylag goose</p> <p>Pink-footed goose</p> <p>Redshank</p> <p>Waterfowl</p>	<p>Pathway for LSE identified.</p> <p>Bar-tailed godwit, waterfowl and geese overwinter within the Moray Firth but do not breed. Godwit predominantly feed on Whiteness Sands, to the west of the site. Geese are rarely recorded in the vicinity, although may forage on Whiteness Sands, or use the lagoon or adjacent fields occasionally on passage or during the winter. The waterfowl assemblage is predominantly found on the Moray Firth. Bird accumulations around Whiteness Head are not as rich as those within the Moray and Nairn Coast designation which includes Findhorn Bay, Lossie Estuary and Spey Bay.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
			<p>They could be impacted directly in the short term if pollutants are released in to the water during the construction or operational phase of the development, and through increased noise and lighting during construction leading to disturbance or displacement from their preferred foraging or roosting grounds. They could be impacted indirectly during construction if pollutants affect their food source within the intertidal mud habitat. Bar-tailed Godwit could also be impacted in the longer term through increased human presence, traffic, noise and lighting once the development is in operation.</p> <p>These impacts could result in disturbance, injury or death to foraging birds and reduced availability of suitable foraging habitat.</p> <p>Any work required on the spit or mud- and sand-flats should be undertaken through the summer months to minimise any disturbance or displacement to qualifying species which are present during the non-breeding period (approximately mid-September to early-April).</p> <p>The largest aggregations of waders are on Whiteness Sands, to the west of the site, and away from any construction activity. Once operational, the capital dredge material will be stockpiled on the former McDermott Fabrication Yard which will form a protective barrier to Whiteness Sands, negating any visual or noise disturbance to the foraging birds.</p> <p>No LSE identified.</p>	
Loch Flemington (6km south)	To avoid deterioration of the habitats of the qualifying species	Slavonian grebe	Pathway for LSE identified.	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<p>(listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> • Population of the species as a viable component of the site • Distribution of the species within site • Distribution and extent of habitats supporting the species • Structure, function and supporting processes of habitats supporting the species • No significant disturbance of the species 		<p>Slavonian grebe breeds at Loch Flemington. They are likely to mainly remain at the loch but may forage in the open waters by the proposed development.</p> <p>They could be impacted directly in the short term if pollutants are released in to the water during the construction phase of the development or once the development is operational leading to disturbance or displacement from their preferred foraging grounds. They may also be impacted by pollutants indirectly, if prey species (mainly fish) are affected.</p> <p>The structure and function of their habitat at Loch Flemington will not be affected by the development and there will be no significant disturbance to the species, which is occasionally recorded offshore from Whiteness in winter.</p> <p>No LSE identified.</p>	
Culbin Bar SAC (9km east)	To avoid deterioration of the qualifying habitats (listed below) 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	Perennial vegetation of stony banks Atlantic salt meadows Embryonic shifting dunes	<p>Pathway for LSE identified.</p> <p>Due to the distance between the proposed development site and Culbin Bar SAC (c.24km) any materials reaching the designated site would be dilute and the effects on the habitats would be negligible.</p>	Screened Out

Site Name and Distance to Proposed Development	Conservation Objectives	Qualifying Features	Likely Significant Effect (LSE)	Screening Assessment
	<p>To ensure for the qualifying habitats that the following are maintained in the long term:</p> <ul style="list-style-type: none"> • Extent of the habitat on site • Distribution of the habitat within site • 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 • No significant disturbance of typical species of the habitat 			

4.3 Screening Conclusion

The outcome of screening for Appropriate Assessment is to reach one of the following determinations:

- a) A stage 2 AA of the proposed development is required if it is concluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.
- b) A stage 2 AA of the proposed development is not required if it can be concluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will not have a significant effect on a European site.

Following an examination, analysis and evaluation of the relevant information including, in particular, the nature of the proposed development and the likelihood of significant effects on any European site, and applying the precautionary principle, it is the professional opinion of the authors that, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will not have a significant effect on the following European sites:

- Moray Firth pSPA
- Inner Moray Firth SPA
- Cromarty Firth SPA
- Moray and Nairn Coast SPA
- Loch Flemington SPA
- River Moriston SAC
- Culbin Bar SAC

At present there is not sufficient information to rule out likely (or possible) significant impacts to one or more of the qualifying features of the following designated sites:

- Moray Firth SAC
- Dornoch Firth and Morrich More SAC

A Stage 2 Appropriate Assessment for the proposed project will therefore be required for these sites to ascertain whether or not the proposed development will adversely affect the integrity of the above sites' qualifying features.

5 APPROPRIATE ASSESSMENT FOR THE MORAY FIRTH SAC

5.1 Bottlenose Dolphin

Bottlenose dolphins live predominantly in inshore coastal water within 10km of land but may range further. They usually live in small groups of up to 20 individuals and can live up to 20-50 years. Calves can be born any time of year but typically between March and September. They eat a wide range of fish species including cod, saithe, whiting, salmon and haddock (Santos et al., 2001) as well as squid, crabs and shrimp. They occur in the Moray Firth SAC all year round.

The Moray Firth supports the only known resident population of bottlenose dolphin in the North Sea and is one of only two UK sites designated for the species as a primary qualifying feature. The north east of Scotland population is estimated to comprise approximately 195 individuals. Between 1990 and 2013, annual estimates of the number of dolphins using the SAC ranged between 43 and 134. The main sensitivities for harbour porpoise as identified in the site designation consultation document (SNH, 2018) are as follows:

- Removal of non-target and target species (i.e. entanglement of bottlenose dolphin in fishing gear and removal of their prey species);
- Contaminants (e.g. through effects on water quality and bioaccumulation of contaminants that in turn affect the survival and productivity rates of bottlenose dolphin);
- Underwater noise from vessels (recreational and commercial);
- Underwater noise from development activity (e.g. piling, blasting, dredging, seismic survey and general engine noise); and
- Death or injury by collision (predominantly in relation to collision with various types of fast moving vessels from commercial shipping to personal leisure craft and potentially from tidal turbines).

Due to recognised declines and threats to the species all bottlenose dolphins are European Protected Species (EPS), protected under the Conservation (Natural Habitats, &c.) Regulations 1994.

5.2 Assessment of Potential Impacts on Conservation Objectives

Conservation Objective 1 - To maintain site integrity and ensure the site continues to make a contribution to bottlenose dolphin remaining at favourable conservation status in UK waters.

The proposed works will occur within The Moray Firth SAC boundary.

With regards to the main sensitivities for harbour porpoise within the designated site identified in SNH (2018) the proposed development is contaminants, underwater noise and death or injury as a result of collision are considered in full under Conservation Objective 2 but are not predicted to affect the integrity of the site or its contribution to maintaining the favourable conservation status of harbour porpoise in UK waters.

Conservation Objective 2: To ensure for the qualifying species that the following is maintained in the long term; population of the species as a viable component of the site.

There is the potential for harbour porpoise to be disturbed, injured or, in extreme circumstances, killed as a result of underwater noise generated during piling and dredging, increased vessel movements both during the construction and operational phases of the proposed development and in the case of a pollution event.

The majority of the potential impacts are of a temporary nature and would not affect population numbers in the long term. The only long-term potential impact identified is displacement from the foraging habitat within the proposed development area and the surrounding waters due to noise disturbance. It is possible that any

bottlenose dolphin utilising this habitat would become habituated to the increased vessel movements in time. If this is not the case it is considered that there is sufficient alternative foraging habitat for bottlenose dolphin such that there would be no loss in individual condition, breeding success or long term population viability as a result of displacement.

Conservation Objective 3: To ensure for the qualifying species that the following is maintained in the long term; distribution of the species within the site.

The only long-term potential impact identified is displacement from the foraging habitat within the proposed development area and the surrounding waters due to noise disturbance. It is possible that any bottlenose dolphin utilising this habitat would become habituated to the increased vessel movements in time. The distribution of species within the site is therefore not predicted to change as a result of the development.

Conservation Objective 4: To ensure for the qualifying species that the following is maintained in the long term; distribution and extent of habitats supporting the species.

No changes to the distribution or extent of habitats supporting bottlenose dolphin within or outwith the SAC are predicted as a result of the proposed development.

Conservation Objective 5: To ensure for the qualifying species that the following is maintained in the long term; structure, function and supporting processes of habitats supporting the species.

No impacts to the structure, function and processes of habitats supporting bottlenose dolphin are predicted within the designated site.

During construction and operation of the proposed development there is the potential for chemical pollutants to be released into the water. This could have temporary impacts on the function and supporting processes of bottlenose dolphin foraging habitat, which could lead to reduced prey availability in the short term. It is predicted that the risk of such an event occurring is minimal if the mitigation and relevant Guidance for Pollution Prevention (GPP), detailed in section 8 of this report, are adhered to.

No significant long term alterations to the structure, function or supporting processes for bottlenose dolphin habitat outside of the designated site are therefore predicted.

Conservation Objective 6: To ensure for the qualifying species that the following is maintained in the long term; no significant disturbance of the species.

Activities such as dredging, impact piling and increased vessel movements may result in short term disturbance during the construction phase of the project. Due to the temporary nature these activities are not predicted to result in significant disturbance in the long term.

Longer term disturbance may occur due to increased vessel movements once the proposed development is in operation. However, there is already a variety of marine traffic associated with the existing harbour. It is not currently known what the predicted vessel movements would be once the proposed development is operational, but it is likely that, if any bottlenose dolphin are currently utilising the habitats, they will be at least partly habituated to the presence of vessels. It is also considered that there is ample alternative foraging habitat available around the Moray coastline to support bottlenose dolphin. No significant long term disturbance is therefore anticipated as a result of increased vessel movements in the area.

5.3 Appropriate Assessment Conclusion

If the mitigation presented in Chapter 12 of the EIAR and in section 7 of this report are adhered to then no significant effects on the integrity of The Moray Firth SAC are predicted in relation to the conservation objectives for bottlenose dolphin.

6 APPROPRIATE ASSESSMENT FOR THE DORNOCH FIRTH AND MORRICH MORE SAC

6.1 Harbour Seal

The harbour or common seal (*Phoca vitulina*) occurs in the North Atlantic and North Pacific. There are about 83,000 harbour seals in Europe. About 35% of this population is found in UK waters, and 83% of these in Scottish waters. Harbour seals prefer more sheltered waters and have a more restricted range than grey seals. Harbour seals are found throughout the wider Moray Firth and may range widely in search of prey (up to 50km).

Harbour seals are typically found hauled out on sand-bars and shores at the mouth of the estuary which are used habitually as favoured locations by the same groups of individuals. Notable haul-out sites include the intertidal sandflats of Dornoch and Whiteness Sands and the intertidal sand bars of the Gizzen Briggs which consistently support around 600 seals. These areas are also used as breeding sites, including locations which are inundated by the tide as pups can swim within an hour after birth with pupping typically occurring in early to mid-June/July. Adult seals undergo an annual moult between August and September during which they spend extended period out of the water.

Harbour seals are present within the Dornoch Firth year round. The harbour seal breeding season is from June, July and August inclusive.

The main sensitivities for harbour porpoise as identified in the site designation consultation document (SNH, 2018) are as follows:

- Underwater noise from vessels (recreational and commercial);
- development activity (e.g. piling, blasting, dredging, seismic survey and general engine noise);
- recreational disturbance – particularly at haul out sites;
- potential persecution from fisheries;
- marine pollution;
- capture in fishing nets; and potentially tidal turbines.

Harbour seal is a UKBAP species.

6.2 Assessment of Potential Impacts on Conservation Objectives

Conservation Objective 1: To ensure for the qualifying species that the following is maintained in the long term; population of the species as a viable component of the site.

The proposed works are approximately 24km outside Dornoch Firth and Morrich More SAC boundary. The majority of the potential impacts listed in Table 4.2 are therefore not expected to impact on harbour seal nor the habitat supporting them within the designated site.

With regards to the main sensitivities for harbour seal within the designated site identified in SNH (no date), the proposed development is not predicted to result in alterations to fishing activity in the site or surrounding area and therefore will not affect the removal of harbour seal or their prey as target or non-target species. Contaminants, underwater noise and death or injury as a result of collision are considered in full under Conservation Objective 2 but are not predicated to affect the integrity of the site or its contribution to maintaining the favourable conservation status of harbour seal in UK waters.

Conservation Objective 2: To ensure for the qualifying species that the following is maintained in the long term; distribution of the species within the site.

No impacts are predicted on harbour seal within the Dornoch Firth and Morrich More SAC as a result of the proposed development due to the distance between the two sites. No alterations to the long term distribution of the species within the site are therefore anticipated.

Conservation Objective 3: To ensure for the qualifying species that the following is maintained in the long term; distribution and extent of habitats supporting the species.

No changes to the distribution or extent of habitats supporting harbour seal within or outwith the SAC are predicted as a result of the proposed development.

Conservation Objective 4: To ensure for the qualifying species that the following is maintained in the long term; structure, function and supporting processes of habitats supporting the species.

No impacts to the structure, function and processes of habitats supporting harbour seal are predicted within the Dornoch Firth and Morrich More SAC.

During construction and operation of the proposed development there is the potential for chemical pollutants to be released into the water. This could have temporary impacts on the function and supporting processes of a harbour seal foraging habitat outwith the SAC which could lead to reduced prey availability in the short term. It is predicted that the risk of such an event occurring will be minimal if the mitigation and relevant Guidance for Pollution Prevention (GPP), detailed in section 8 of this report, is adhered to.

No significant long term alterations to the structure, function or supporting processes for harbour seal habitat outside the designated site are therefore predicted.

Conservation Objective 5: To ensure for the qualifying species that the following is maintained in the long term; no significant disturbance of the species.

There is the potential for harbour seal utilising the habitats within and adjacent to the proposed development site to experience disturbance during both the construction and operational phases. The disturbance arising from onshore blasting, impact piling, dredging and vessel and onshore vehicle movements during construction will be temporary and therefore will not result in long term disturbance. Disturbance during construction will also be minimised by adherence to the mitigation outlined in Chapter 12 of the EIAR.

There is also the potential for disturbance to harbour seal in the longer term as a result of increased traffic on land and in the water once the port is in operation. The proposed works are approximately 24km outside Dornoch Firth and Morrich More SAC boundary. The majority of the potential impacts listed in Table 4.2 are therefore not expected to impact on harbour seal nor the habitat supporting them within the designated site.

No significant disturbance to harbour seal in the long term is therefore predicted as a result of the proposed development.

6.3 Appropriate Assessment Conclusion

If the mitigation presented in Chapter 12 of the EIAR and in section 7 of this report are adhered to then no significant effects on the integrity of Dornoch Firth and Morrich More SAC are predicted in relation to the conservation objectives for harbour seal.

7 MITIGATION

The following mitigation will be employed to avoid and minimise the risk of a pollution event occurring both during the construction and operational phases of the proposed development:

- A Construction Environmental Management Document (CEMD) detailing pollution prevention measures will be agreed with the regulatory authority prior to works commencing (Technical Appendix 3.3);
- The following good practice guidelines will be adhered to and incorporated into the CEMD:
 - GGP5: Works and maintenance in or near water;
 - PPG 6: Working at construction and demolition sites;
 - PPG 7: Safe Storage – The safe operation of refuelling facilities;
 - GPP21: Pollution and incident response planning; and
 - PPG22: Incident response – dealing with spills.
- An Ecological Clerk of Works (ECow) will be employed throughout the construction phase to audit adherence to the mitigation outlined in the CEMD.

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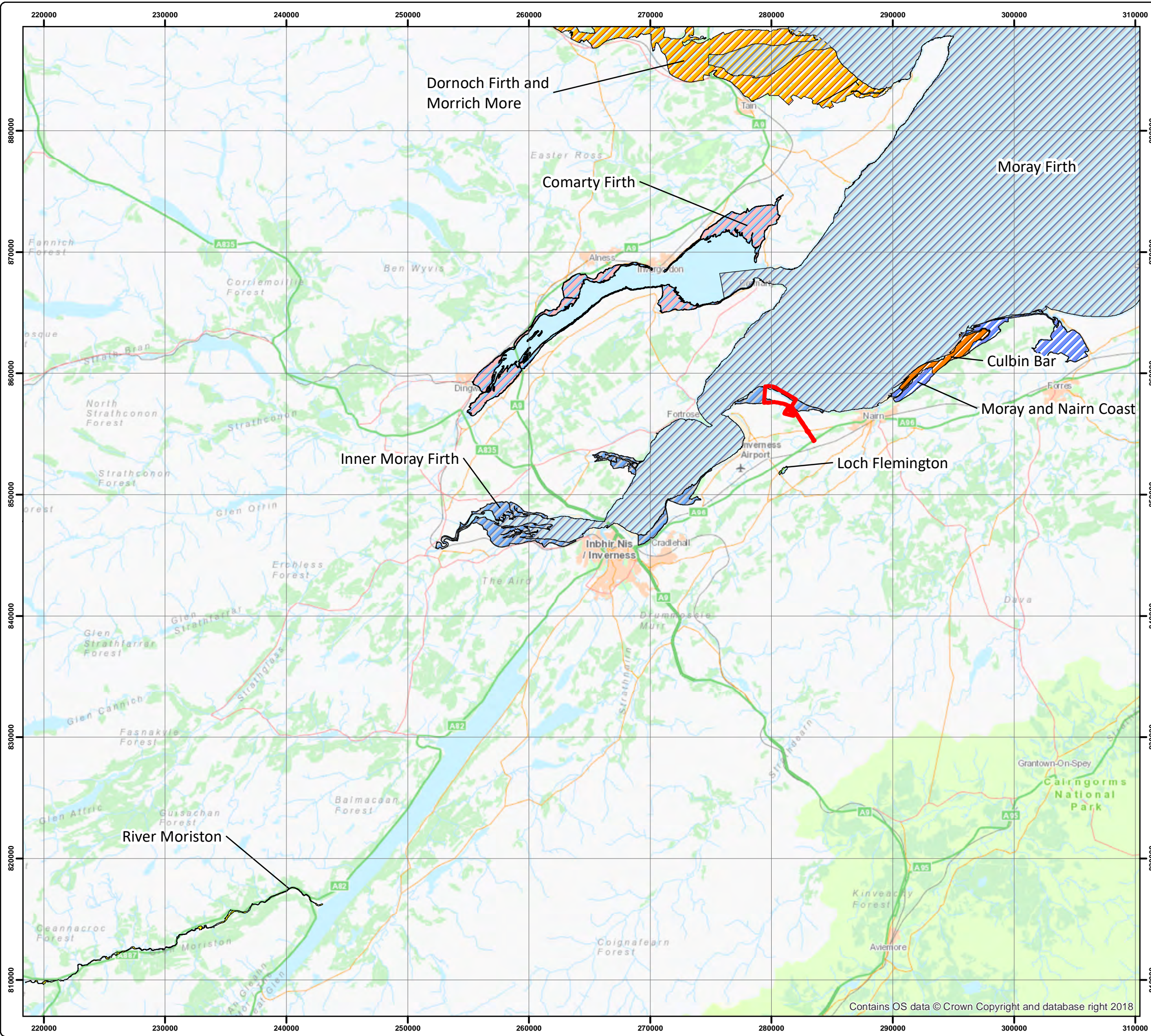
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APPENDICES


A DESIGNATED SITES LOCATIONS





Legend


 Site Boundary

Special Areas of Conservation (SAC)


 Culbin Bar


 Dornoch Firth and Morrich More


 Moray Firth


 River Moriston

Special Protection Areas (SPA)

 Cromarty Firth

 Inner Moray Firth

 Loch Flemington

 Moray and Nairn Coast

Do not scale this map

Client

Ardersier Port Ltd

Project

Ardersier Port Redevelopment

Title

Designated Sites

Status

FINAL

Drawing No.

670191-011

Revision

Scale

1:300,000

A3

Date

20 Sept 2018

Drawn


SMC

Checked

MN

Approved

KMD



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