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West of Orkney Windfarm

Offshore Ornithology Additional Information

Appendix 2: HRA Screening Technical Report

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

1.1 Project Summary

1. Offshore Wind Power Limited (OWPL) ('the Applicant') is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located at least 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney (**Figure 1-1**).

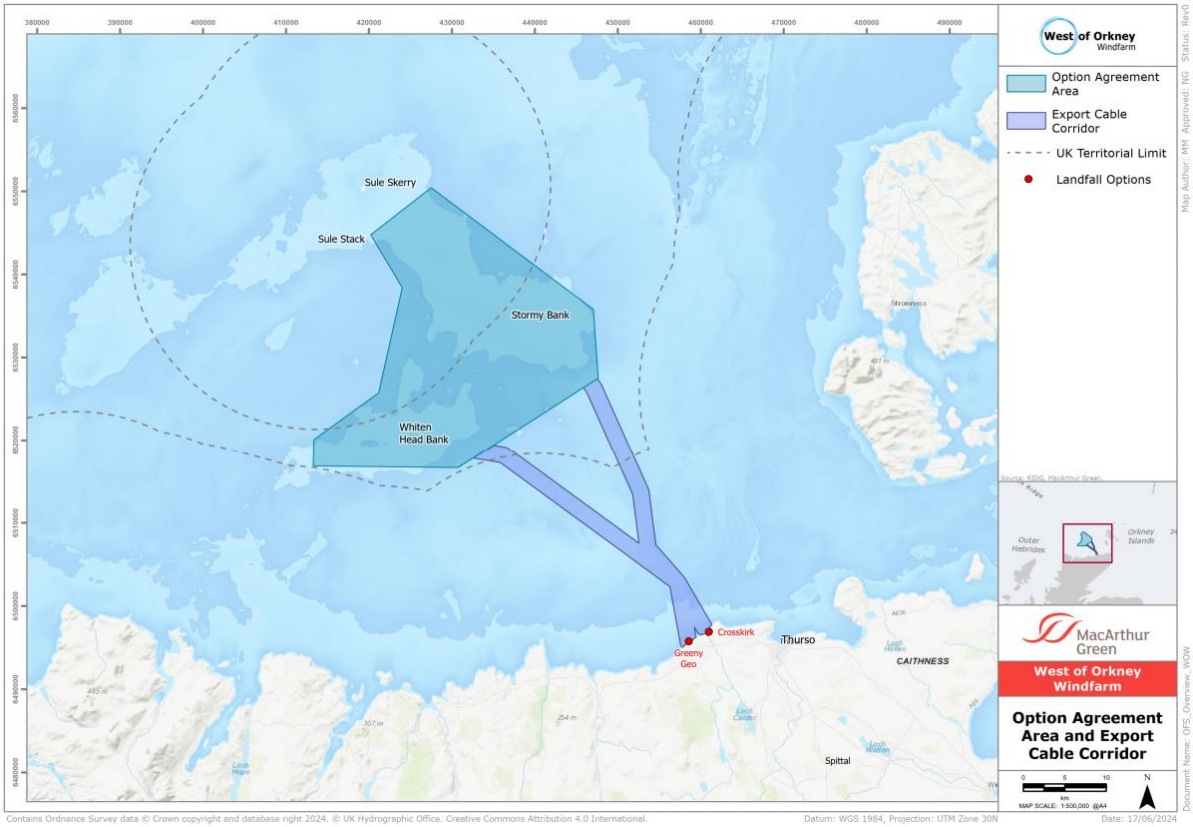

Figure 1-1. Map showing location of the West of Orkney Windfarm Option Agreement Area (OAA) and Export Cable Corridor (ECC) which together, comprise the Offshore Project Area.

2. The Offshore Project will comprise up to 125 wind turbine generators (WTGs) with fixed-bottom foundations and up to five Offshore Substation Platforms (OSPs). The area within which the WTGs, OSPs and associated infrastructure will be located is the Option Agreement Area (OAA). The OAA covers an area of 657 km^2. The export cables will be located within the Export Cable Corridor (ECC), with landfall options at Greeny Geo and/or Crosskirk at Caithness (**Figure 1-1**). The OAA and ECC together comprise the offshore Project area.

3. The Applicant submitted an application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to Scottish Ministers in September 2023 (the 'Offshore Application') for the offshore components of the Project seaward of Mean High Water Springs (MHWS).

4. In accordance with relevant EIA Regulations[1], an Offshore Environmental Impact Assessment (EIA) Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) as part of the Applicant's consent application (the 'Offshore EIA Report'). A Report to Information Appropriate Assessment (RIAA) was also submitted as part of the Offshore Application to provide the Competent Authority (MD-LOT) with the information required to assist them in undertaking an Appropriate Assessment (AA) for the offshore Project as required under the Conservation (Natural Habitats & c.) Regulations 1994 (as amended), the Conservation of Marine Habitats and Species Regulations 2017 and The Conservation of Habitats and Species Regulations 2017 (as amended) (hereafter referred to as the 'Habitats Regulations').

5. Following the review of the Applicant's application, and upon receipt of representations from consultees, MD-LOT issued a request for Additional Information on offshore ornithology. This report is part of the Ornithology Additional Information (OAI).

1.2 Relationship between the original application and the OAI

6. The Ornithology Additional Information (OAI) (see **Introduction to the Additional Ornithology Information** for structure of OAI and list of all reports) includes:

   - an **Addendum to the Offshore EIA Report** in the form of a revised EIA chapter for Offshore and Intertidal Ornithology. All ornithology information in this report should be read in place of information in the original EIA chapter;
   - an **Addendum to the RIAA**. All ornithology information in this report should be read in place of information in the original RIAA (with the exception of information on pre-application consultation);
   - a set of nine technical appendices. This **Appendix 2 - HRA: HRA Screening Technical Report** is one of the nine technical appendices. These reports entirely replace the original Supporting Study 12: Offshore Ornithology Technical Supporting Study.

7. NatureScot's pre- and post-application Project-specific advice and online guidance notes[2] were followed throughout the OAI. To demonstrate this, reference to NatureScot's guidance and advice is made throughout the OAI, either in the text or in separate text boxes.

1.3 Purpose of this Report

8. Stage One Habitats Regulations Appraisal (HRA) screening was undertaken for the original RIAA, to identify the sites for which Likely Significant Effect could not be ruled out and hence an Appropriate Assessment was required. However, NatureScot advised that the HRA

[1] *The relevant EIA Regulations include the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Marine Works (Environmental Impact Assessment) Regulations 2007.*

[2] Guidance Note 1: Guidance to support Offshore Wind Applications: Marine Ornithology - Overview | NatureScot

screening presented in the original RIAA was difficult to follow (NatureScot letter dated 27 March 2024).

NatureScot Advice (27 March 2024):

HRA Screening

In relation to reviewing the list of qualifying features that were assessed in the RIAA to confirm whether any other sites / features require assessment. we advise that at present it is difficult to follow the sites and qualifying features through the various steps of the assessment within the RIAA as there are a number of inconsistencies and at times a lack of information as to why sites (and qualifying features) have been screened out from further assessment. Therefore, for each step of the assessment the sites and qualifying features, including assemblage species, should be provided in tabulated format, with justification provided as to why each site (and qualifying feature) are being screened out from further assessment.

9. Therefore, the process by which Special Protection Areas (SPAs) and Ramsar sites were screened out is presented in detail in this report, with justification for all sites screened out. A full long list of all sites for which Likely Significant Effect (LSE) could not be ruled out, and so have been taken forward for assessment for adverse effect on site integrity, is also provided.

10. This report has the following structure:

- **Section 1** provides an overview of the Project and explains the purpose and structure of the report, the HRA screening process that was used to identify qualifying features of SPAs and Ramsar sites with potential for Likely Significant Effect (LSE) to arise, and terminology used;
- **Section 2** establishes the theoretical connectivity between SPAs and Ramsar sites and the offshore Project, based on surveys of the OAA, seabird foraging ranges and various criteria used to determine connectivity;
- **Section 3** identifies impact pathways for SPAs and Ramsar sites with theoretical connectivity to determine the sites for which LSE could not be ruled out;
- **Section 4** presents the final list of SPAs and Ramsar sites which are considered in the RIAA.

1.4 Terminology

- Option Agreement Area (OAA): this is the area within which WTGs and other offshore Project infrastructure will be installed;
- Export Cable Corridor (ECC) is the area from the OAA to the landfall site in which the export cable will be placed;
- Offshore Project area comprises the OAA and ECC;
- OAA plus 2 km buffer: This includes a 2 km wide 'zone of influence' around the OAA, allowing for changes in bird behaviour (e.g. disturbance/displacement) in the vicinity of the OAA;
- OAA plus 4 km buffer: the OAA plus 4 km buffer was the area used for characterising baseline seabird numbers and distribution for the Project (see **Appendix 1 - EIA and HRA: Baseline Site Characterisation Technical Report**). Numbers of birds recorded in the OAA plus 4 km buffer during 27 digital aerial surveys (DAS) was used to identify species that could be screened out due to being absent from the area or only present in trivial numbers;
- Trivial numbers: any species that had fewer than a total of 10 records within the OAA plus 4 km buffer, across all 27 surveys, was considered to be present in trivial numbers;
- WTG: Wind Turbine Generator.

2 ESTABLISHING THEORETICAL CONNECTIVITY

11. For an SPA and Ramsar site to be potentially affected by construction, operation and maintenance, and/or decommissioning of the Project, there needs to be potential 'connectivity' between the Project and the site. Connectivity is defined by NatureScot as being when there are "*processes or pathways by which the proposal may influence the site's interests directly or indirectly*"[3].

12. Birds that are qualifying features of SPAs are protected both within and outside of the SPA boundary. Consequently, theoretical connectivity between SPAs and the Project exists if:

- The SPA boundary overlaps with the offshore Project area, i.e. the OAA and/or ECC;
- Qualifying features of the SPA use the OAA, ECC and/or surrounding zone of influence, e.g. for foraging;
- Qualifying features of the SPA fly through the offshore Project area on migration; or
- Marine SPA qualifying features could be impacted by Project vessels during construction and/or operation and maintenance.

13. The first step of the HRA screening process is to identify a long list of SPAs and Ramsar sites with relevant ornithological qualifying features which may have theoretical connectivity to the offshore Project in at least one of the ways outlined above. Relevant ornithological qualifying features include:

- Breeding seabirds and breeding red-throated divers;
- Non-breeding seabirds (as wintering features of marine SPAs as well as breeding features of seabird colony SPAs in the non-breeding season);
- Inshore wintering waterfowl as features of marine SPAs; and
- Migratory terrestrial birds (including non-breeding water birds).

14. SPAs and Ramsar sites were included on the long list if any of the above relevant qualifying features were either features of an SPA in their own right and/or were a named component of an assemblage feature, e.g. a seabird breeding assemblage.

15. A long list of SPAs and Ramsar sites with theoretical connectivity with the Offshore Project was drawn up from the UK SPA network of 286 sites[4], following the processes described below for each type of SPA:

- Terrestrial SPAs and Ramsar sites for breeding seabirds and red-throated divers, which cover the terrestrial area on which seabirds nest and extensions into the marine environment to support maintenance behaviours, such as preening and loafing;

[3] https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra#:~:text=Regulations%20(CAR)%20licences-,NatureScot's%20role%20in%20HRA,must%20consult%20SNH%20(NatureScot).

[4] https://jncc.gov.uk/our-work/special-protection-areas/.

- Marine SPAs which have inshore wintering waterfowl, wintering gulls, breeding seabirds, red-throated divers as qualifying features; and
- Terrestrial SPAs and Ramsar sites with migratory qualifying features (including non-breeding waterbirds).

16. The assessment of theoretical connectivity presented below is structured in a similar way to NatureScot's online guidance:

- Guidance Note 3: Guidance to support Offshore Wind applications: Marine Ornithology - Identifying theoretical connectivity with Special Protection Areas using breeding season foraging ranges[5]; and
- Guidance Note 4: Guidance to Support Offshore Wind Applications: Marine Ornithology - Determining Connectivity of Marine Birds with Marine Special Protection Areas and Breeding Seabirds from Colony SPAs in the Non-breeding Season[6].

17. This guidance was supplemented by consultation meetings and written advice from NatureScot. Specific details of NatureScot advice are provided in the relevant sections below.

2.1 Establishing connectivity with SPAs that have breeding seabird and red-throated diver qualifying features

2.1.1 Species present in the Offshore Project Area

18. The first step to establishing theoretical connectivity was to identify which species were present in the Project OAA plus 4 km buffer. As described above, this area was used to characterise baseline seabird distribution and abundance for the Project (see **Appendix 1 - EIA and HRA: Baseline Site Characterisation Technical Report**). Monthly digital aerial surveys of the OAA plus 4 km buffer, over a 27 month period (July 2020 to September 2022) recorded the numbers of individuals of different species present in surveyed areas. The total raw counts are presented in **Table 2-1** and **Table 2-2**. The **Appendix 1 - HRA and EIA: Baseline Site Characterisation Technical Report** gives more information on the raw numbers of birds recorded and extrapolated abundance and density estimates by individual survey, calendar month, season and year.

19. Some species were recorded rarely within the OAA plus 4 km buffer. For this screening process, any species that had fewer than a total of 10 records within the OAA plus 4 km buffer, across all 27 surveys, was considered to have a trivial abundance (**Table 2-2**). LSE was ruled out for any SPAs with these species as qualifying features as it can be reasonably concluded that the Project will not undermine the conservation objectives of any SPA, due to these species occurring so rarely within the OAA plus 4 km buffer.

[5] *Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds - Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges | NatureScot.*

[6] *Guidance Note 4: Guidance to Support Offshore Wind Applications: Ornithology - Determining Connectivity of Marine Birds with Marine Special Protection Areas and Breeding Seabirds from Colony SPAs in the Non-Breeding Season | NatureScot.*

20. The species present in the OAA plus 4 km buffer in trivial numbers were little auk, Arctic skua, European shag, great northern diver, red-throated diver, sooty shearwater, common tern, black guillemot, lesser black-backed gull, little gull, common gull, Cory's shearwater, black-headed gull and great shearwater (**Table 2-2**). Note, SPAs with these, and other species as qualifying features could still have theoretical connectivity under a different pathway, as considered below.

21. Leach's petrel are a qualifying feature of the Sule Skerry and Sule Stack SPA, the boundary of which overlaps with the OAA plus 4 km buffer. Leach's petrels would therefore be expected to be using the OAA plus 4 km but no Leach's petrels were recorded on any of the 27 DAS. Whilst this may be due to difficulties of detecting this species by DAS, i.e. Leach's petrels may have been present but undetected, this species is still screened out as there is currently no other means of determining whether this species was present in the offshore Project area. The citation population for this SPA is five pairs and, during Seabirds Count, at least one adult was recorded in flight (Burnell *et al*. 2023). However, this species has undergone an estimated 80% decline since the Seabird 2000 census and the absence of records of Leach's petrels in the OAA plus 4 km may be due to a true absence rather than them being present and undetected.

22. Twelve species were recorded in non-trivial abundance in the OAA plus 4 km buffer (**Table 2-1**). Raw counts from a survey were categorised as being from the breeding season or non-breeding season according to the breeding season definitions provided in NatureScot Guidance Note 9[7]. Most species were present in both the breeding and non-breeding season. Of the twelve species present in non-trivial numbers, three species were not observed in the OAA plus 4 km buffer in the non-breeding season: European storm petrel, Arctic tern and Manx shearwater.

23. Methods for establishing theoretical connectivity for the twelve species present in non-trivial numbers differ for the breeding and non-breeding seasons. Each is considered in turn in the following section.

[7] *Guidance Note 9 - Guidance to support Offshore Wind Applications: Seasonal periods for Birds in the Scottish Marine Environment | NatureScot.*

Table 2-1. Raw counts of seabirds recorded during digital aerial surveys of the Project OAA plus 4 km buffer.

Counts are the sum of all individuals recorded within strip transects, on each of the 27 surveys (July 2020 – September 2022). This table shows species with 10 or more records across all 27 surveys, i.e. species that were present in the OAA plus 4 km buffer in non-trivial abundance. Green cells indicate a survey was during that species' breeding season, orange cells indicate a month which is split between the breeding and non-breeding season, blue cells indicate a survey was during the non-breeding season.

Date of survey	Guillemot	Puffin	Fulmar	Gannet	Kittiwake	Great black-backed gull	Razorbill	Great skua	European storm-petrel	Arctic tern	Herring gull	Manx shearwater
Jul-20	441	322	173	125	37	0	2	3	0	0	0	0
Aug-20	168	284	223	265	39	0	2	38	1	0	0	0
Sep-20	533	26	434	198	2	0	12	0	11	0	0	1
Oct-20	489	16	465	137	186	4	0	1	0	0	0	0
Nov-20	64	1	247	4	30	16	1	1	0	0	4	0
Dec-20	110	0	585	9	16	11	0	0	0	0	0	0
Jan-21	178	1	361	4	15	11	0	0	0	0	2	0
Feb-21	313	1	54	12	33	30	10	0	0	0	1	0
Mar-21	389	0	179	12	205	4	9	0	0	0	1	0
Apr-21	904	174	60	66	81	0	21	9	0	0	0	0
May-21	77	52	32	82	10	0	3	3	0	0	2	0
Jun-21	139	713	0	38	21	2	12	0	0	23	0	2
Jul-21	216	348	44	58	17	0	0	4	0	0	0	0
Aug-21	428	296	214	159	0	0	16	3	36	3	0	1
Sep-21	541	357	134	188	20	0	10	0	5	0	0	0
Oct-21	431	27	300	224	107	0	3	0	0	0	0	1
Nov-21	142	0	262	8	16	31	1	0	0	0	1	0
Dec-21	209	2	301	3	7	60	3	0	0	0	0	0
Feb-22	37	0	203	11	16	14	0	0	0	0	0	0
Feb-22	69	0	268	12	65	22	5	0	0	0	2	0
Mar-22	42	0	364	31	231	5	18	0	0	0	1	0
Apr-22	228	175	87	125	26	0	0	1	0	0	0	0
May-22	335	762	37	59	17	0	1	2	0	1	0	0
Jun-22	290	789	27	67	11	0	0	6	0	0	0	0
Jul-22	968	705	69	64	237	0	23	3	0	6	0	3
Aug-22	721	681	82	44	7	0	5	2	0	11	0	2
Sep-22	565	86	280	109	6	0	44	1	0	0	0	2
TOTAL	**9,027**	**5,818**	**5,485**	**2,114**	**1,458**	**210**	**203**	**77**	**53**	**44**	**14**	**12**

Table 2-2. Raw counts of marine birds recorded during digital aerial surveys of the Project OAA plus 4 km buffer.

Counts are the sum of all individuals recorded within strip transects, on each of the 27 surveys (July 2020 – September 2022). This table shows species with fewer than 10 records across all 27 surveys, i.e. species that were present in the OAA plus 4 km buffer in trivial abundance.

Date of survey	Little auk	Arctic skua	European Shag	Great northern diver	Red-throated diver	Sooty shearwater	Common tern	Black guillemot	Lesser black-backed gull	Little gull	Common gull	Cory's shearwater	Black-headed gull	Great shearwater
Jul-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug-20	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Sep-20	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Oct-20	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Nov-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jan-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb-21	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr-21	0	0	3	0	0	0	0	0	0	0	1	0	0	0
May-21	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Jun-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul-21	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Aug-21	0	0	0	0	0	2	0	0	2	0	0	1	0	0
Sep-21	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Oct-21	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Nov-21	5	0	0	0	1	0	0	0	0	0	0	0	0	0
Dec-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb-22	2	0	1	0	0	0	0	0	0	0	0	0	0	0
Feb-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr-22	0	0	0	0	0	0	0	0	0	0	0	0	1	0
May-22	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Jun-22	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Jul-22	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Aug-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sep-22	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	**8**	**5**	**4**	**3**	**3**	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**

2.1.2 Establishing theoretical connectivity for breeding seabird qualifying features of SPAs in the breeding season

24. During the breeding season, breeding seabirds will be tied to a nest site and so will undertake centrally-placed foraging, i.e. they will undertake foraging trips from the seabird colony SPA into the marine environment and will return to their nest in the SPA. NatureScot advises using seabird foraging ranges as part of the screening for LSE, by assuming theoretical connectivity between seabird colony SPAs within foraging range of an OWF during the breeding season (NatureScot Guidance Note 3[8]).

NatureScot Guidance Note 3 (2023):

NatureScot advise that Woodward et al. (2019) is used as the evidence base for determining connectivity to a proposed offshore wind development.
We advise mean max + 1SD should be used to screen in connectivity to SPAs with the following exceptions:

1. For gannet we recommend using mean max +1SD for all colonies without site specific maximum values. However, for the SPA colonies where site specific evidence exceeds this value (509.4km), namely Forth Islands (Bass Rock), Grassholm and St Kilda, then the site specific maximum should also be used.

2. For species with insufficient data to calculate mean max +1SD then the closest metric is to be used in the following order of preference: Mean Max (MM), Max, Mean.

25. Theoretical connectivity in the breeding season, between the Project and SPAs with breeding seabird qualifying features, was therefore established following NatureScot guidance. Theoretical connectivity with breeding seabird qualifying features in the non-breeding season is considered separately (see **Section 2.1.3**). NatureScot Guidance Note 3 advises using mean maximum foraging range plus 1 standard deviation (SD) from Woodward *et al.* (2019) with some exceptions, as noted above.

26. **Table 2-3** provides the foraging ranges used for each of the 12 species to determine theoretical connectivity. All values are taken from NatureScot's recommended foraging ranges in Guidance Note 3.

27. Note, for certain species and SPA combinations, a different foraging range is used, as advised by NatureScot in Guidance Note 3 and as presented in **Table 2-3**. For guillemot and razorbill, a different foraging range is advised for Northern Isles SPAs, which is defined as all SPAs

[8] *Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds - Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges | NatureScot.*

north of the Pentland Firth, including Sule Skerry and Sule Stack SPA but excluding North Rona and Sula Sgeir SPA.

Table 2-3. Breeding season foraging range metrics used to determine theoretical connectivity for screening SPA qualifying features in/out of the HRA. MM = mean of the maximum foraging range. Max = maximum foraging range. SD = standard deviation.

Species	NatureScot recommended Foraging Range (km)	Metric
European storm petrel	336.0	Max/MM
Northern fulmar	1200.2	MM+SD
Manx shearwater	2365.5	MM+SD
Northern gannet	509.4	MM+SD
Northern gannet (Forth Islands SPA)	590.0	Max
Northern gannet (Grassholm SPA)	516.7	Max
Northern gannet (St Kilda SPA)	709.0	Max
Black-legged kittiwake	300.6	MM+SD
Great black-backed gull	73.0	Max/MM
Herring gull	85.6	MM+SD
Arctic tern	40.5	MM+SD
Great skua	931.2	MM+SD
Common guillemot (excluding data from Fair Isle)	95.2	MM+SD
Common guillemot (all Northern Isles SPAs)	153.7	MM+SD
Razorbill	122.2	MM+SD
Razorbill (all Northern Isles SPAs)	164.6	MM+SD
Atlantic Puffin	265.4	MM+SD
Red-throated diver	9.0	Max/MM

28. Theoretical connectivity of all UK SPAs with at least one of the 12 species of breeding seabird qualifying features, or named components of breeding seabird assemblage features, was determined, based on the values presented in **Table 2-3.** Both seabird colony SPAs and marine SPAs with breeding seabird qualifying features or named components of seabird assemblages were considered for theoretical connectivity. In most cases (except for the Irish Sea Front SPA), these marine SPAs have a functionally linked seabird colony, e.g. Seas off St Kilda SPA supports breeding seabirds from the St Kilda SPA. Impacts are assessed against the colony features rather than the marine SPA features. However, for HRA screening, if either the colony or marine SPA were within foraging range of a 2 km buffer around the OAA or

ECC, the SPA was screened in. The long list of all SPAs with breeding seabird features was downloaded from the JNCC website[9] (reference date for database: 2023-10-31).

29. Distance from an SPA to the Offshore Project Area was given as the shortest straight-line distance from the boundary of the SPA to the boundary of the OAA or the ECC. No consideration was made for some seabird species not usually flying over land. Using straight line distances will be somewhat precautionary, compared to use of 'by sea' distances, with some SPAs being screened in that would not be within foraging range of the Project if 'by sea' distances had been used.

30. The apportioning stage of the impact assessment process presented in the Ornithology Additional Information (**Appendix 5 - HRA: Apportioning Technical Report**) uses a distance of OAA plus 2 km buffer to apportion Project impacts to individual SPAs. This was used to ensure the zone of influence of the Project, i.e. areas beyond the OAA boundary in which birds could still be affected by the development, was captured in the apportioning process. To capture the zone of influence in the process of establishing theoretical connectivity for HRA screening, any SPAs that were 2 km beyond a species' foraging range were also screened in. In other words, the same approach was used for both screening and apportioning.

31. Theoretical connectivity between SPAs and the OAA or ECC was established using a straight-line distance between the boundary of the SPA and the OAA or ECC boundary with no buffer around the OAA or ECC. For each species, all SPAs with that species as a qualifying feature (including a named component of an assemblage) were screened in if straight line distance was less than that species' foraging range (**Table 2-3**). Additionally, any SPA that was outside of a species' foraging range by <2 km was also screened in, to account for the zone of influence (i.e. 2 km buffer around the OAA and ECC). Whilst general SNCB advice is to use the distance between geometric centres of the development area and SPA, NatureScot provided specific advice to the Project that the shortest distance between boundaries of each SPA and OAA plus 2 km buffer should be used for screening and apportioning (consultation meeting, 14 May 2024 and consultation meeting, 21 May 2024). This was advised by NatureScot due to the very close proximity of Sule Skerry and Sule Stack SPA to the offshore Project area.

32. **Table 2-4** shows whether the OAA or ECC is within foraging range for each SPA qualifying feature or is <2 km beyond the foraging range ('Y'), based on species-specific foraging ranges given in **Table 2-3**. It also indicates whether that species is a breeding season qualifying feature or a named component of a seabird assemblage of that SPA (shown by a green cell in the table). Both of these need to be true (i.e. at least one green cell with a 'Y' in **Table 2-4**) for an SPA to be included in the long list for consideration of LSE.

33. **Figure** 2-1 illustrates the location of some of the SPAs which are closer to the Project.

[9] *UK National Site Network (SAC and SPA): site summary details spreadsheet | JNCC Resource Hub.*

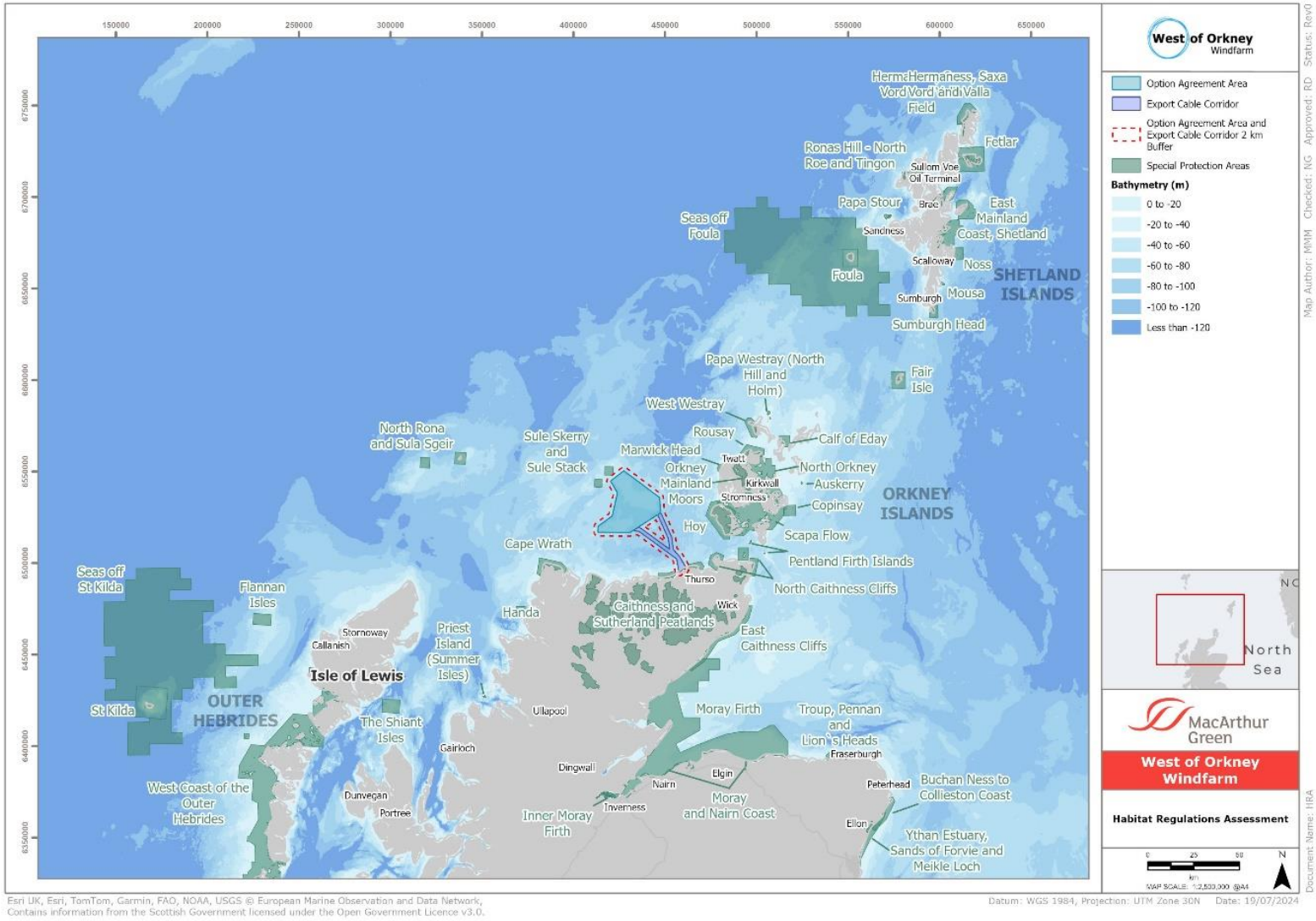

Figure 2-1. Map of northern Scotland showing the offshore Project area (i.e. Option Agreement Area and Export Cable Corridor) including a 2 km buffer. SPAs with breeding seabird qualifying features and marine SPAs are indicated.

34. Of the 60 breeding seabird SPAs considered for connectivity, 14 did not have qualifying features with a foraging range that meant that birds from that SPA might use the offshore Project area or 2 km buffer in the breeding season: Anglesey Terns / Morwenoliaid Ynys Môn, Belfast Lough, Coquet Island, Farne Islands, Grassholm, Isles of Scilly, Morecambe Bay and Duddon Estuary, North Colonsay and Western Cliffs, Northumberland Marine, Outer Ards, Papa Stour, Papa Westray (North Hill and Holm), St Abb's Head to Fast Castle and Strangford Lough. These SPAs were screened out at this stage, although these SPAs could be screened in at a later stage under a different theoretical connectivity pathway, e.g. connectivity in the non-breeding season. This left a total of 46 SPAs with breeding qualifying features for consideration of LSE, due to theoretical connectivity. Some SPAs at a considerable distance from the Project were screened in, e.g. Skomer, Skokholm and the Seas off Pembrokeshire SPA at 780 km from the Project, due to the very large foraging ranges of Manx shearwater.

Table 2-4. Long-list of SPAs with breeding season seabird qualifying features, for species recorded within the Project OAA plus 4 km buffer, in non-trivial numbers.

"Y" = that species is a qualifying feature or named component of a seabird assemblage at that site. Green cells are within foraging range plus 2 km of the OAA or ECC. Distance is the straight line shortest distance from the SPA boundary to the OAA or ECC boundary. Note, for certain species and SPA combinations, a different foraging range is used, as advised by NatureScot (see Table 2-3). Foraging ranges for each species are given next to species name.

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Sule Skerry and Sule Stack	Breeding: European storm-petrel, Leach's storm-petrel, northern gannet, European shag*, common guillemot*, Atlantic puffin	1.7	29.2				Y		Y		Y	Y			
Hoy	Breeding: red-throated diver, northern fulmar*, peregrine falcon, Arctic skua*, great skua, great black-backed gull*, black-legged kittiwake*, common guillemot*, Atlantic puffin*	24.7	21.8		Y		Y		Y	Y			Y	Y	
Cape Wrath	Breeding: northern fulmar*, black-legged kittiwake*, common guillemot*, razorbill*, Atlantic puffin*	25.9	41.8				Y	Y	Y	Y				Y	
North Caithness Cliffs	Breeding: northern fulmar*, peregrine falcon, black-legged kittiwake*,	27.2	1.7				Y	Y	Y	Y				Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
	common guillemot, razorbill*, Atlantic puffin*														
Marwick Head	Breeding: black-legged kittiwake*, common guillemot	35	38.6				Y			Y					
Rousay	Breeding: northern fulmar*, Arctic skua*, black-legged kittiwake*, Arctic tern, common guillemot*	49.3	52.9	Y			Y			Y				Y	
Pentland Firth Islands	Breeding: Arctic tern	50.9	36.5	Y (ECC only)											
Handa	Breeding: northern fulmar*, Arctic skua, great skua*, black-legged kittiwake*, common guillemot, razorbill	56.1	71.3				Y	Y		Y			Y	Y	
West Westray	Breeding: northern fulmar*, Arctic skua*, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*	60.2	64.6	Y			Y	Y		Y				Y	
Copinsay	Breeding: northern fulmar*, great black-backed gull*, black-legged kittiwake*, common guillemot*	67.2	59.7		Y		Y			Y				Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
East Caithness Cliffs	Breeding: northern fulmar*, great cormorant*, European shag, peregrine falcon, herring gull, great black-backed gull*, black-legged kittiwake, common guillemot, razorbill	70.1	40		Y	Y	Y	Y		Y				Y	
Calf of Eday	Breeding: northern fulmar*, great cormorant*, great black-backed gull*, black-legged kittiwake*, common guillemot*	72.3	75.7		Y		Y			Y				Y	
Papa Westray (North Hill and Holm)	Breeding: Arctic skua, Arctic tern	74.0	78.8	Y											
Auskerry	Breeding: European storm-petrel, Arctic tern	77.6	75.1	Y							Y				
North Rona and Sula Sgeir	Breeding: northern fulmar*, European storm-petrel, Leach's storm-petrel, northern gannet, great black-backed gull*, black-legged kittiwake*, common guillemot, razorbill*, Atlantic puffin*	79.7	98.4		Y		Y	Y	Y	Y	Y	Y		Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Priest Island (Summer Isles)	Breeding: European storm-petrel	108.2	120.9								Y				
Seas off Foula	Breeding: northern fulmar, arctic skua, great skua, common guillemot, Atlantic puffin	126.9	136.9				Y		Y				Y	Y	
Fair Isle	Breeding: northern fulmar*, northern gannet*, European shag*, Arctic skua*, great skua*, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*, Atlantic puffin*, Fair Isle wren	140.1	143.2	Y			Y	Y	Y	Y		Y	Y	Y	
Shiant Isles	Breeding: northern fulmar*, European shag, black-legged kittiwake*, common guillemot*, razorbill, Atlantic puffin	141.7	157.4				Y	Y	Y	Y				Y	
Troup, Pennan and Lion's Heads	Breeding: northern fulmar*, herring gull*, black-legged kittiwake, common guillemot, razorbill*	160.1	127.3			Y	Y	Y		Y				Y	
Foula	Breeding: red-throated diver, northern fulmar*, Leach's storm-petrel,	160.9	167.1	Y			Y	Y	Y	Y			Y	Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
	European shag, Arctic skua*, great skua, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*, Atlantic puffin														
Sumburgh Head	Breeding: northern fulmar*, black-legged kittiwake*, Arctic tern, common guillemot*	177.2	181.5	Y			Y			Y				Y	
Flannan Isles	Breeding: northern fulmar*, Leach's storm-petrel, black-legged kittiwake*, common guillemot*, razorbill*, Atlantic puffin*	183.9	202.8				Y	Y	Y	Y	Y			Y	
Mousa	Breeding: European storm-petrel, Arctic tern	193.2	197.8	Y							Y				
Papa Stour	Breeding: Arctic tern, ringed plover	195.9	202	Y											
Seas off St Kilda	Breeding: northern fulmar, European storm-petrel, northern gannet, common guillemot, Atlantic puffin	197.1	215.7				Y		Y		Y	Y		Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Buchan Ness to Collieston Coast	Breeding: northern fulmar*, European shag*, herring gull*, black-legged kittiwake*, common guillemot*	199.4	167.1			Y	Y			Y				Y	
Noss	Breeding: northern fulmar*, northern gannet, great skua, black-legged kittiwake*, common guillemot, Atlantic puffin*	206.3	211.1				Y		Y	Y		Y	Y	Y	
Rum	Breeding: red-throated diver, Manx shearwater, golden eagle, black-legged kittiwake*, common guillemot*	212.2	220.9				Y			Y					Y
Ronas Hill - North Roe and Tingon	Breeding: red-throated diver, great skua	219.2	225.5										Y		
Canna and Sanday	Breeding: European shag*, herring gull*, black-legged kittiwake*, common guillemot*, Atlantic puffin*	221.9	233.4			Y	Y		Y	Y					
Fowlsheugh	Breeding: northern fulmar*, herring gull*, black-legged kittiwake, common guillemot, razorbill*	236.8	204.9			Y	Y	Y		Y				Y	

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Fetlar	Breeding: northern fulmar*, whimbrel, red-necked phalarope, Arctic skua*, great skua, Arctic tern, dunlin	241.6	247.4	Y									Y	Y	
St Kilda	Breeding: Northern fulmar*, Manx shearwater*, European storm-petrel , Leach's storm-petrel , Northern gannet, Great skua , Black-legged kittiwake*, Common guillemot*, Razorbill*, Atlantic puffin	249.8	268.3				Y	Y	Y	Y	Y	Y[a]	Y	Y	Y
Hermaness, Saxa Vord and Valla Field	Breeding: red-throated diver, northern fulmar*, northern gannet, European shag*, great skua, black-legged kittiwake*, common guillemot*, Atlantic puffin	257.7	263.7				Y		Y	Y		Y	Y	Y	
Outer Firth of Forth and St Andrews Bay Complex	Breeding: Manx shearwater, northern gannet, European shag, herring gull, black-legged kittiwake, common tern, arctic tern, common guillemot, puffin, razorbill	266.0	236.6	Y		Y	Y	Y	Y (OAA + 2km)	Y		Y			Y

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Treshnish Isles	Breeding: European storm-petrel	275.6	280								Y				
Mingulay and Berneray	Breeding: northern fulmar*, European shag*, black-legged kittiwake*, common guillemot*, razorbill, Atlantic puffin*	282.5	296.6				Y	Y	Y	Y				Y	
Forth Islands	Breeding: northern gannet, great cormorant*, European shag, lesser black-backed gull, herring gull*, black-legged kittiwake*, Sandwich tern, roseate tern , common tern , Arctic tern , common guillemot*, razorbill*, Atlantic puffin	301.9	273.5	Y		Y	Y	Y	Y	Y (OAA+2km)		Y[b]			
North Colonsay and Western Cliffs	Breding: chough, black-legged kittiwake, common guillemot	309.7	309.0				Y			Y					
St Abb's Head to Fast Castle	Breeding: razorbill, herring gull, European shag, black-legged kittiwake, common guillemot	337.6	309.0			Y	Y	Y		Y					

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Northumberland Marine	Breeding: Atlantic puffin, little tern, Roseate tern, common tern, Arctic tern, Sandwich tern, common guillemot, European shag*, great cormorant*, black-headed gull*, kittiwake*	363.2	334.2	Y			Y		Y						
Farne Islands	Breeding: Roseate tern, common tern, Arctic tern, Sandwich tern, common guillemot, Atlantic puffin*, European shag*, Great cormorant*, black-legged kittiwake*	382.4	352.5	Y			Y		Y	Y					
Ailsa Craig	Breeding: northern gannet, lesser black-backed gull, herring gull*, black-legged kittiwake*, common guillemot*	391.9	378.3			Y	Y			Y		Y			
Coquet Island	Breeding: Roseate tern, Sandwich tern, Arctic tern, common tern, Atlantic puffin*, black-headed gull	415.8	386.4	Y					Y						
Belfast Lough	Breeding: common tern, Arctic tern	458.6	449.0	Y											

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Copeland Islands	Breeding: Manx shearwater, Arctic tern	458.8	447.4	Y											Y
Outer Ards	Breeding: Arctic tern	460.7	449.5	Y											
Strangford Lough	Breeding: common tern, Arctic tern, Sandwich tern	473.1	462.5	Y											
Morecambe Bay and Duddon Estuary	Breeding: herring gull, lesser black-backed gull, little tern, common tern, Sandwich tern	492.8	470.3			Y									
Flamborough and Filey Coast	Breeding: northern gannet, black-legged kittiwake, common guillemot, razorbill, northern fulmar*	556.7	525.6				Y	Y		Y		Y		Y	
Irish Sea Front	Breeding: Manx shearwater	558.6	542.5												Y
Anglesey Terns / Morwenoliaid Ynys Môn	Breeding: roseate tern, common tern, Arctic tern, Sandwich tern	583.1	564.5	Y											
Glannau Aberdaron ac	Breeding: Manx shearwater, red-billed chough	660.3	642.2												Y

SPA Name	Qualifying Interest / Features	Distance to OAA (km)	Distance to ECC (km)	Arctic tern (40.5 km)	Great black-backed gull (73 km)	Herring gull (85.6 km)	Common guillemot (95.2 km) except for Northern Isles SPAs (153.7km)	Razorbill (122.2 km) except for Northern Isles SPAs (164.6km)	Atlantic Puffin (265.4 km)	Black-legged kittiwake (300.6 km)	European storm-petrel (336 km)	Northern gannet (509.4 km)	Great skua (931.2 km)	Northern fulmar (1200.2 km)	Manx shearwater (2365.5 km)
Ynys Enlli/ Aberdaron Coast and Bardsey Island															
Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro	Breeding: Manx shearwater, European storm-petrel, lesser black-backed gull, Atlantic puffin, short-eared owl, red-billed chough, razorbill*, common guillemot*, black-legged kittiwake*	780.4	764				Y	Y	Y	Y	Y				Y
Grassholm	Breeding: northern gannet	785	770									Y[c]			
Isles of Scilly	Breeding: European storm-petrel, lesser black-backed gull, European shag, great black-backed gull	986.0	973.0		Y						Y				

a. Foraging range for gannet at St Kilda SPA is 709 km;

b. Foraging range for gannet at Forth Islands SPA is 590 km;

c. Foraging range for gannet at Grassholm SPA is 516.7 km.

2.1.2.1 *SPAs and Ramsar sites with breeding red-throated diver qualifying features*

35. Red-throated divers were rarely recorded in the OAA plus 4 km buffer, with only three individuals recorded across the whole 27 DAS. There is therefore no theoretical connectivity between the OAA and any SPAs with red-throated diver qualifying features. However, the ECC does make landfall close to an SPA with breeding red-throated diver as a qualifying feature, the Caithness and Sutherland Peatlands SPA and Ramsar site. At its closest point, the SPA boundary is 6.9 km from the edge of the ECC (**Figure 2-2**). NatureScot Guidance Note 3 recommends a foraging range of 9 km to be used for red-throated diver. Therefore, the Caithness and Sutherland Peatlands SPA and Ramsar site was also added to the long-list of SPAs for consideration of LSE.

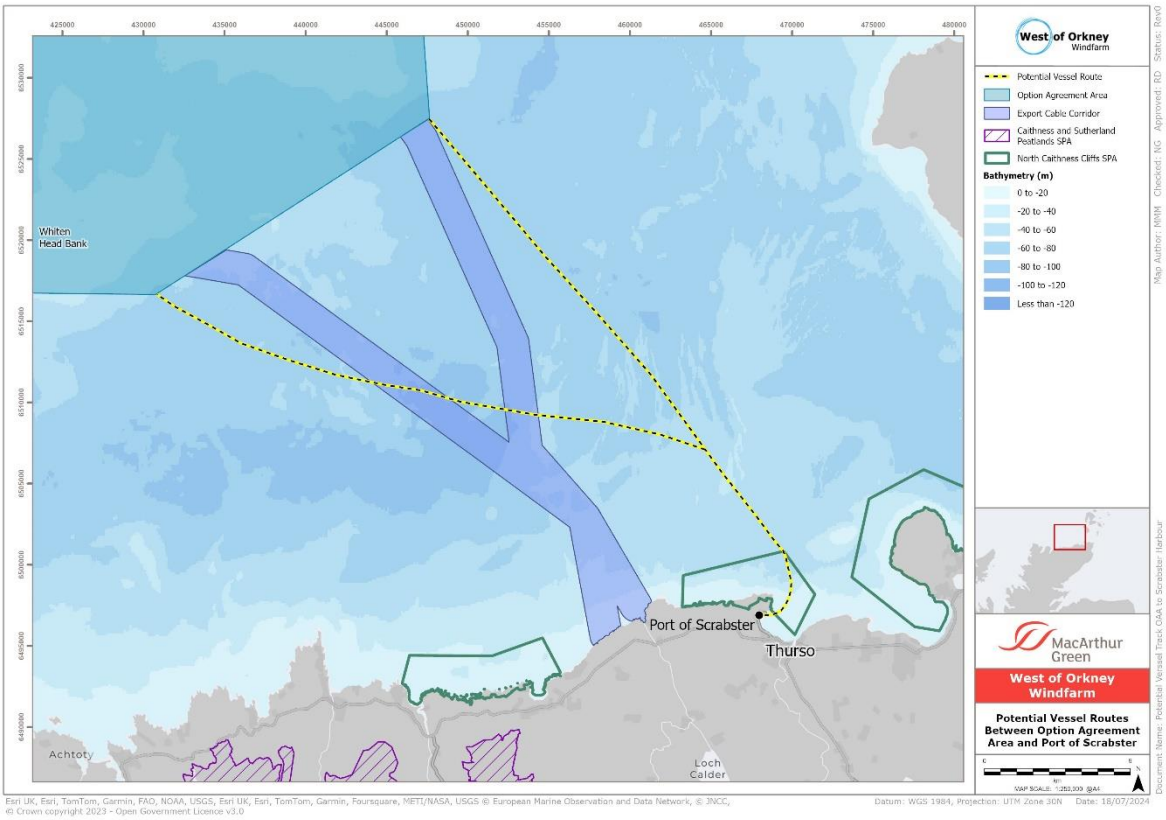

Figure 2-2. Map of the north coast of mainland Scotland, showing the edge of the OAA, the ECC and Scrabster Harbour. The map shows that the ECC makes landfall within 9 km of the Caithness and Sutherland Peatlands SPA and Ramsar site.

2.1.3 Establishing theoretical connectivity for breeding seabird qualifying features of SPAs in the non-breeding season

36. Breeding seabird and red-throated diver qualifying features of SPAs continue to have protection within and outside of an SPA during the non-breeding season. However, they are no longer tied to a nest site, i.e. are no longer a central-placed forager, meaning they may

use a much larger marine area than in the breeding season. NatureScot Guidance Note 4[10], on determining connectivity with SPAs during the non-breeding season, recommends using the BDMPS to identify which SPAs with breeding season features may have theoretical connectivity with the of offshore Project area.

NatureScot Guidance Note 4 (2023):

For breeding seabirds from colony SPAs during the non-breeding season, to determine which colony SPAs have connectivity with a marine energy development site the BDMPS Report (Furness, 2015) should be used.

The exception to this is common guillemot as more recent studies show they largely remain in the broad vicinity of their breeding colonies during the non-breeding season (Buckingham et al. 2022). For this species, we advise the non-breeding season population comprises the breeding population found within the mean max foraging range plus 1 standard deviation of the development + age classes.

37. During the non-breeding season, no Manx shearwater, European storm petrel or Arctic terns were recorded in the OAA plus 4 km buffer (**Table 2-1**). Consequently, it can be reasonably concluded that these SPA qualifying features do not have theoretical connectivity with the offshore Project area in the non-breeding season. The remaining nine species recorded in the OAA plus 4 km buffer during the non-breeding season were: fulmar, gannet, great black-backed gull, great skua, guillemot, herring gull, kittiwake, puffin and razorbill.

38. NatureScot Guidance Note 4[10] advises that guillemot tend to remain close to their breeding colonies in the non-breeding season and so recommends using the same approach as for the breeding season, i.e. to establish theoretical connectivity for all SPAs with breeding guillemot features (either in their own right or as a named component of a seabird assemblage) within mean maximum foraging range plus 1 standard deviation of the OAA or ECC. This means that no additional SPAs with guillemot as a breeding season feature were screened in for theoretical connectivity in the non-breeding season.

39. The Project sits on the boundary of two BDMPS regions for most species, e.g. kittiwake (**Figure 2-3**) . Consequently, in the non-breeding season, seabirds recorded in the offshore Project area could be from SPAs in either the UK North Sea waters BDMPS ('North Sea') region or the UK Western Waters plus Channel BDMPS ('West Coast') region.

[10] *Guidance Note 4: Guidance to Support Offshore Wind Applications: Ornithology - Determining Connectivity of Marine Birds with Marine Special Protection Areas and Breeding Seabirds from Colony SPAs in the Non-Breeding Season | NatureScot.*

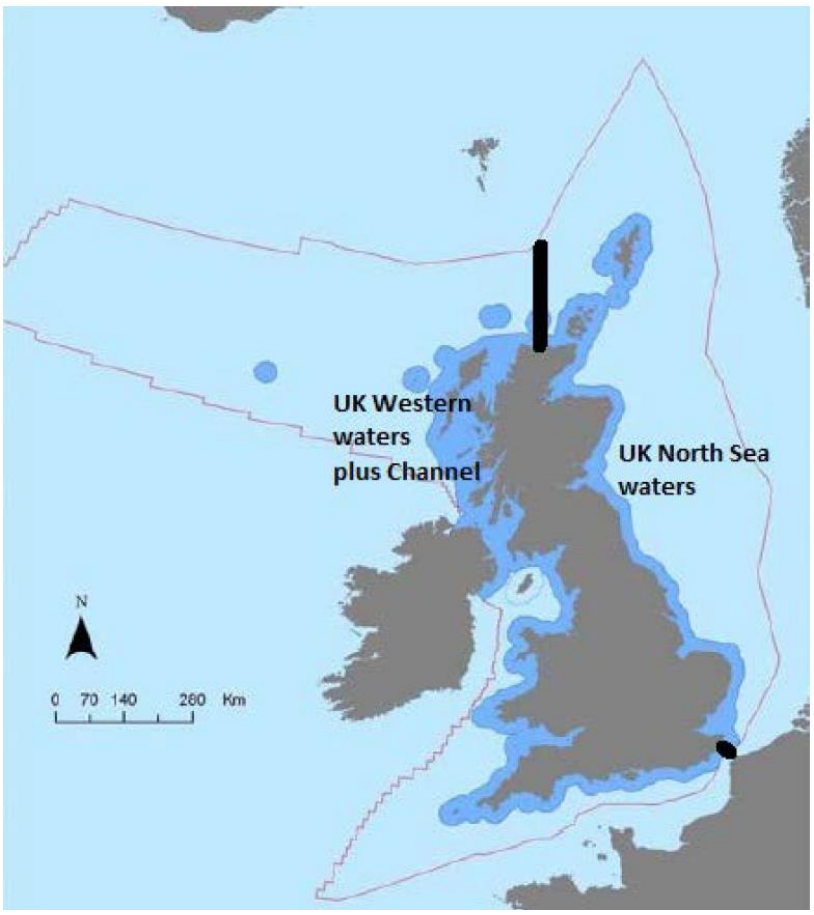

Figure 2-3. Two BDMPS regions for black-legged kittiwake of the UK North Sea Waters and the UK Western Waters plus Channel.

The Project sits close to the northern boundary of these two areas, meaning birds recorded in the offshore Project area could be from either BDMPS region. Map reproduced from Furness (2015), Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS).

40. To assess non-breeding season impacts, a decision is needed on whether to assume birds travel down the east or west coast of Britain, i.e. whether to use the UK North Sea BDMPS population or Western Waters BDMPS population or both for deriving apportioning weightings. NatureScot advised (consultation meeting of 28 May 2024) that for the HRA assessment, it should be assumed that all birds migrate via the UK North Sea. This is a simplistic assumption and, in reality, it is likely that some birds migrate via the west coast of the UK. However, this assumption enables a worst case scenario (WCS) to be assessed for in-combination impacts, due to there being substantially more offshore wind development in the North Sea, compared to off the west coast of Britain.

41. For the eight species that used BDMPS regions for determining non-breeding season connectivity (i.e. excluding guillemot, Arctic tern, Manx shearwater and European storm petrel), SPAs within the UK North Sea BDMPS region were considered for theoretical connectivity. Additionally, SPAs outside of the UK North Sea BDMPS region were assumed to make a small contribution to the populations of birds using the UK North Sea in the non-breeding season (Furness, 2015). These SPAs, on the west coast of Britain, were also screened in as birds from these SPAs could, theoretically, be impacted by the Project in the non-breeding season when they are using the UK North Sea BDMPS region. **Table 2-5** lists all

SPAs which contribute to the UK North Sea BDMPS region which have one of the eight species as either a qualifying feature or a named component of a seabird assemblage.

42. A total of 36 SPAs with breeding seabird qualifying features were included in the long-list of SPAs for their theoretical connectivity with the offshore Project area in the non-breeding season (**Table 2-5**). (Note, many of these were the same SPAs as those with breeding season connectivity).

Table 2-5. SPAs within the North Sea BDMPS region with breeding seabird qualifying features that were recorded in the OAA plus 4 km buffer in the non-breeding season. 'Y' indicates that species is a qualifying feature of that SPA. Theoretical connectivity exists for all these SPAs in the non-breeding season. A different approach was used to identify non-breeding season connectivity for guillemot (see text for details).

SPA Name	Qualifying Interest / Features	Great black-backed gull	Herring gull	Razorbill	Atlantic Puffin	Black-legged kittiwake	Northern gannet	Great skua	Northern fulmar
Buchan Ness to Collieston Coast	Breeding: northern fulmar*, European shag*, herring gull*, black-legged kittiwake*, common guillemot*		Y			Y			Y
Calf of Eday	Breeding: northern fulmar*, great cormorant*, great black-backed gull*, black-legged kittiwake*, common guillemot*	Y				Y			Y
Canna and Sanday	Breeding: European shag*, herring gull*, black-legged kittiwake*, common guillemot*, Atlantic puffin*				Y	Y			
Cape Wrath	Breeding: northern fulmar*, black-legged kittiwake*, common guillemot*, razorbill*, Atlantic puffin*			Y	Y	Y			Y
Copinsay	Breeding: northern fulmar*, great black-backed gull*, black-legged kittiwake*, common guillemot*	Y				Y			Y
Coquet Island	Breeding: Sandwich tern, Roseate tern, Common tern, Arctic tern. Seabird assemblage including Atlantic puffin				Y				
East Caithness Cliffs	Breeding: northern fulmar*, great cormorant*, European shag, peregrine falcon, herring gull, great black-backed gull*, black-legged kittiwake, common guillemot, razorbill	Y	Y	Y		Y			Y
Fair Isle	Breeding: northern fulmar*, northern gannet*, European shag*, Arctic skua*, great skua*, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*, Atlantic puffin*, Fair Isle wren			Y	Y	Y	Y	Y	Y

SPA Name	Qualifying Interest / Features	Great black-backed gull	Herring gull	Razorbill	Atlantic Puffin	Black-legged kittiwake	Northern gannet	Great skua	Northern fulmar
Farne Islands	Breeding: Sandwich tern, Roseate tern, common tern, Arctic tern, common guillemot, puffin*, cormorant*, shag* and kittiwake*.				Y	Y			
Fetlar	Breeding: northern fulmar*, whimbrel, red-necked phalarope, Arctic skua*, great skua, Arctic tern, dunlin							Y	Y
Flamborough and Filey Coast	Breeding: northern gannet, black-legged kittiwake, common guillemot, razorbill, northern fulmar*			Y		Y	Y		Y
Flannan Islands	Breeding: razorbill, Atlantic puffin, fulmar, black legged kittiwake, common guillemot			Y	Y	Y			Y
Forth Islands	Breeding: northern gannet, great cormorant*, European shag, lesser black-backed gull, herring gull*, black-legged kittiwake*, Sandwich tern, roseate tern , common tern , Arctic tern , common guillemot*, razorbill*, Atlantic puffin		Y	Y	Y	Y	Y		
Foula	Breeding: red-throated diver, northern fulmar*, Leach's storm-petrel, European shag, Arctic skua*, great skua, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*, Atlantic puffin			Y	Y	Y		Y	Y
Fowlsheugh	Breeding: northern fulmar*, herring gull*, black-legged kittiwake, common guillemot, razorbill*		Y	Y		Y			Y
Handa	Breeding: northern fulmar*, Arctic skua, great skua*, black-legged kittiwake*, common guillemot, razorbill			Y		Y		Y	Y
Hermaness, Saxa Vord and Valla Field	Breeding: red-throated diver, northern fulmar*, northern gannet, European shag*, great skua, black-legged kittiwake*, common guillemot*, Atlantic puffin				Y	Y	Y	Y	Y
Hoy	Breeding: red-throated diver, northern fulmar*, peregrine falcon, Arctic skua*, great skua, great black-backed gull*, black-legged kittiwake*, common guillemot*, Atlantic puffin*	Y			Y	Y		Y	Y

SPA Name	Qualifying Interest / Features	Great black-backed gull	Herring gull	Razorbill	Atlantic Puffin	Black-legged kittiwake	Northern gannet	Great skua	Northern fulmar
Marwick Head	Breeding: black-legged kittiwake*, common guillemot					Y			
Mingulay and Berneray	Breeding: northern fulmar*, European shag*, black-legged kittiwake*, common guillemot*, razorbill, Atlantic puffin*			Y	Y	Y			Y
North Caithness Cliffs	Breeding: northern fulmar*, peregrine falcon, black-legged kittiwake*, common guillemot, razorbill*, Atlantic puffin*			Y	Y	Y			Y
North Rona and Sula Sgeir	Breeding: northern fulmar*, European storm-petrel, Leach's storm-petrel, northern gannet, great black-backed gull*, black-legged kittiwake*, common guillemot, razorbill*, Atlantic puffin*	Y		Y	Y	Y	Y		Y
Northumberland Marine	Breeding: Atlantic puffin, little tern, Roseate tern, common tern, Arctic tern, Sandwich tern, common guillemot, European shag*, great cormorant*, black-headed gull*, kittiwake*				Y	Y			
Noss	Breeding: northern fulmar*, northern gannet, great skua, black-legged kittiwake*, common guillemot, Atlantic puffin*				Y	Y	Y	Y	Y
Outer Firth of Forth and St Andrews Bay Complex	Breeding: Manx shearwater, northern gannet, European shag, herring gull, black-legged kittiwake, common tern, arctic tern, common guillemot, puffin, razorbill		Y	Y	Y	Y	Y		
Ronas Hill - North Roe and Tingon	Breeding: red-throated diver, great skua							Y	
Rousay	Breeding: northern fulmar*, Arctic skua*, black-legged kittiwake*, Arctic tern, common guillemot*					Y			Y

SPA Name	Qualifying Interest / Features	Great black-backed gull	Herring gull	Razorbill	Atlantic Puffin	Black-legged kittiwake	Northern gannet	Great skua	Northern fulmar
Rum	Breeding: red-throated diver, Manx shearwater, golden eagle, black-legged kittiwake*, common guillemot*					Y			
Seas off Foula	Breeding: northern fulmar, arctic skua, great skua, common guillemot, Atlantic puffin				Y			Y	Y
Shiant Isles	Breeding: northern fulmar*, European shag, black-legged kittiwake*, common guillemot*, razorbill, Atlantic puffin			Y	Y	Y			Y
St Abb's Head to Fast Castle	Breeding: razorbill, herring gull, European shag, black-legged kittiwake, common guillemot		Y	Y		Y			
St Kilda	Breeding: Northern fulmar*, Manx shearwater*, European storm-petrel , Leach's storm-petrel , Northern gannet, Great skua , Black-legged kittiwake*, Common guillemot*, Razorbill*, Atlantic puffin			Y	Y	Y	Y	Y	Y
Sule Skerry and Sule Stack	Breeding: European storm-petrel, Leach's storm-petrel, northern gannet, European shag*, common guillemot*, Atlantic puffin				Y		Y		
Sumburgh Head	Breeding: northern fulmar*, black-legged kittiwake*, Arctic tern, common guillemot*					Y			Y
Troup, Pennan and Lion's Heads	Breeding: northern fulmar*, herring gull*, black-legged kittiwake, common guillemot, razorbill*		Y	Y		Y			Y
West Westray	Breeding: northern fulmar*, Arctic skua*, black-legged kittiwake*, Arctic tern, common guillemot, razorbill*			Y		Y			Y

2.2 Establishing connectivity with marine SPAs

2.2.1 Overview

43. Marine SPAs have been classified in UK waters for inshore wintering waterfowl (divers, seaducks and grebes); foraging areas for breeding terns; foraging areas for breeding red-throated divers; important areas for European shags, foraging aggregations of true seabirds (both breeding and non-breeding) and wintering gulls[11].

44. NatureScot Guidance Note 4[10] advises that, in contrast to the approach to seabirds in the breeding season where theoretical connectivity, based on species-specific foraging ranges, is considered first and then refined to determine LSE (based on development-specific information and impact pathways), for marine SPAs, the impact pathways underpin potential connectivity and LSE. These impact pathways are considered in **Section 3**.

45. NatureScot Guidance Note 4[10] includes guidance on determining connectivity with marine SPAs, relating to the following:

- Inshore wintering waterfowl qualifying features of marine SPAs;
- Wintering gull qualifying features of marine SPAs;
- Immature and juvenile components of breeding seabird qualifying features of marine SPAs; and
- Red-throated diver qualifying features of marine SPAs.

46. These are considered in turn in the following sections.

2.2.2 Connectivity for inshore wintering waterfowl qualifying features of marine SPAs and Ramsar sites

47. Marine SPAs have been classified for inshore wintering waterfowl (divers, seaducks and grebes) to protect the birds when in these sites as well as the foraging habitats that they and their prey species depend upon. NatureScot Guidance Note 4 advises the following on determining connectivity:

[11] *SPAs with marine components | JNCC - Adviser to Government on Nature Conservation*

NatureScot Guidance Note 4 (2023):

Overview of connectivity to marine SPAs
For all inshore wintering waterfowl qualifying features of marine SPAs to determine LSE impact pathways need to be considered within 15 km of the marine SPA.

This should be applied to all elements of proposed developments, including cable routes, wet storage locations, and routes for related vessel traffic (if known) to inform inclusion of marine SPA qualifying features within the long list. This allows for an audit trail for screening LSE, however, it is important that impact pathways that can affect features or habitat within the marine SPA even though they are more than 15 km from the SPA boundary relevant at project level are considered even where these fall outside of the 15 km buffer.

48. **Table 2-6** lists the Scottish marine SPAs and Ramsar sites which have been classified for their aggregations of wintering waterfowl. The list of SPAs was download from the JNCC website[12]. The download version was 20220316.

49. The distance, in km, from the boundary of each marine SPA to the ECC and the OAA boundaries is included in **Table 2-6**. In all cases, both the ECC and OAA are all more than 15 km from the boundary of these SPAs. Therefore, there is no theoretical connectivity between these marine SPAs and Ramsar sites for wintering waterfowl and the offshore Project area.

50. Construction, operation and maintenance and decommissioning, will involve vessel activity beyond the offshore Project area. Vessel routes, as well as lie-up/sheltered areas for vessels, therefore need to be considered when determining potential connectivity for marine SPAs with non-breeding season features. Note, the potential for vessel activity, during construction and operation and maintenance, to have an LSE on breeding season features, such as breeding red-throated diver, is considered elsewhere in this report.

51. During construction, ports with specific capabilities will need to be used for handling components of the OWF infrastructure, e.g. WTGs and foundations. The capabilities required include storage and lay-down, a deep water quayside for large vessels, marshalling and assembly facilities, e.g. heavy lifting facilities. At this stage, ports to be used during construction are not known but potential ports to be used for OWF infrastructure are:

    - Orkney: Scapa Deep Water Quay;
    - Cromarty Firth: Port of Nigg, Port of Cromarty, Port of Ardersier;
    - Port of Leith;
    - Port of Dundee.

[12] Special Protection Areas (SPAs) with marine components (all UK waters) | JNCC Resource Hub.

52. During construction, other ports and harbours will be used by vessels undertaking a range of other operations, including boulder clearance and Unexploded Ordnance (UxO), crew transfer and support vessels. Again, it is not known which ports or harbours will be used by these vessels but Scrabster Harbour and possibly Aberdeen could be used.

53. The location of the Operations and Maintenance base is not yet confirmed but, for the purposes of this assessment, is assumed to in Scrabster.

54. A qualitative assessment was made of indicative vessel routes and lie up/sheltered areas between the offshore Project area and potential ports and harbours that might be used during construction and operation and maintenance. Marine SPAs and Ramsar sites were screened out due to having no theoretical connectivity with indicative vessel routes and lie up/sheltered areas, where the boundary of the marine SPA with wintering waterfowl features was >15 km from all potential routes (**Table 2-6; Figure 2-4**).

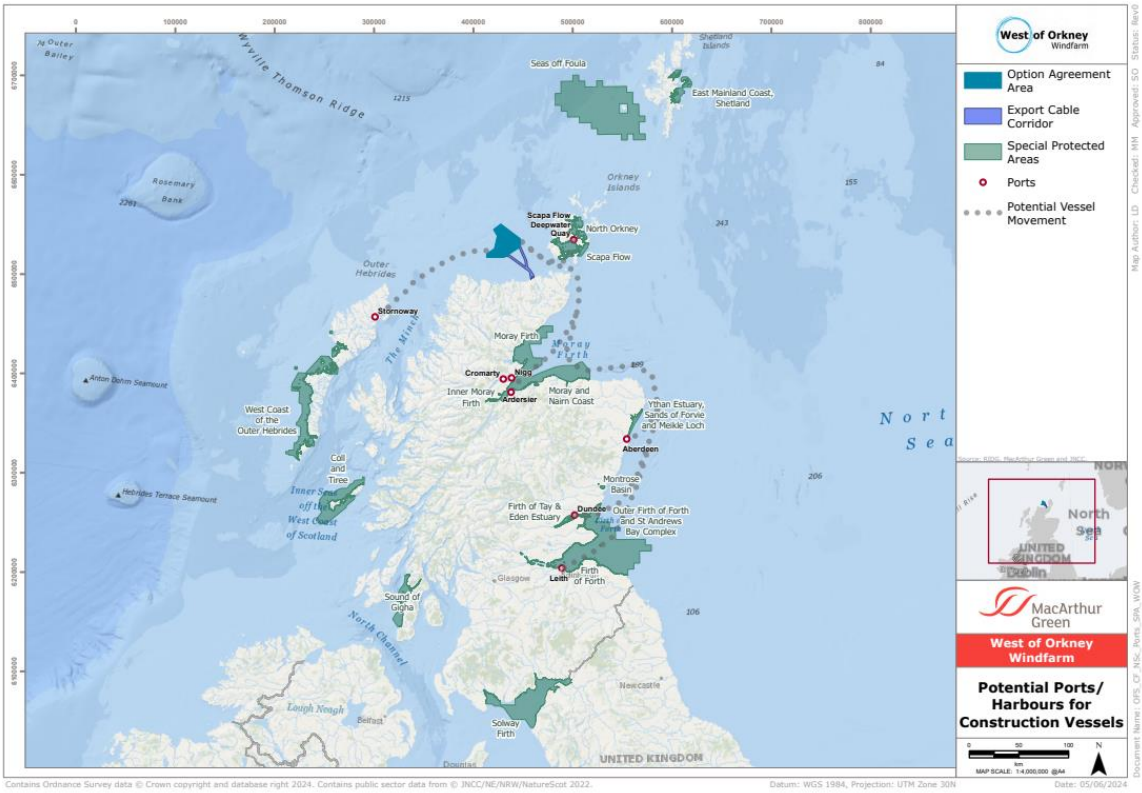

Figure 2-4. Map of Scotland showing the OAA, marine SPAs and Ramsar sites, potential construction ports and indicative vessel routes that could be used by vessels associated with the Project.

55. From **Figure 2-4** it is evident that vessels using certain ports would need to transit through a marine SPA and Ramsar site:

- Ports of Dundee or Leith: Outer Firth of Forth and St Andrews Bay Complex SPA;
- Ports of Nigg, Cromarty or Ardersier: Moray Firth SPA;

- Scapa Deep Water Quay: Scapa Flow SPA.

56. These three marine SPAs were screened in (Table 2-6).

57. In addition, indicative vessel routes show vessels could transit within 15 km of the following marine SPAs and Ramsar sites with wintering waterfowl features: Firth of Forth, Firth of Tay and Eden Estuary, Inner Moray Firth, Montrose Basin and Ythan Estuary, Sands of Forvie and Meikle Loch.

58. The Montrose Basin SPA was screened out, despite the site being potentially <15 km from vessels transiting between ports to the south (Dundee, Leith) and the Project to the north. This SPA is almost completely enclosed by land, and the sea is not visible from the SPA. As qualifying features using the Montrose Basin SPA and Ramsar site would not hear or see vessels on transit between the Project and Leith or Dundee, there is no connectivity between qualifying features of this SPA and this impact pathway. Consequently, this SPA and Ramsar site was screened out.

59. The remaining four marine SPAs and Ramsar sites were added to the long-list of sites to take forward for determining LSE (**Table 2-6**).

Table 2-6. Marine SPAs and Ramsar sites with non-breeding season waterfowl features. The distance from the SPA to the offshore Project area, i.e. the OAA and ECC, is given, showing that all marine SPAs were >15 km and therefore have no theoretical connectivity with the offshore Project area. A qualitative assessment of distance to potential vessel routes and lie up/sheltering areas that might be used during construction and operation and maintenance is also provided, identifying theoretical connectivity for marine SPAs <15 km from potential vessel routes.

Site Name (SPA)	Qualifying Non-breeding Season Features	Distance to the OAA (km)	Distance to ECC (km)	Connectivity with the Offshore Project Area?	Distance to potential vessel routes ≤15 km?
Scapa Flow	Black-throated diver, eider, great northern diver, long-tailed duck, red-breasted merganser, red-throated diver, shag, Slavonian grebe	31.2	30.0	N	Y (if Scapa Deep Water Quay is used during construction)
North Orkney	Great northern diver, red-throated diver, Slavonian grebe, velvet scoter	46.2	46.9	N	N
Moray Firth	Common scoter, eider, goldeneye, great northern diver, long-tailed duck, red-breasted merganser, red-throated diver, scaup, shag, Slavonian grebe, velvet scoter	79.2	48.8	N	Y (if Nigg, Cromarty or Ardersier are used during construction)
Seas off Foula	Fulmar	126.9	136.9	N	N
Moray and Nairn Coast	Greylag goose, pink-footed goose, red-breasted merganser, wigeon, waterfowl assemblage	128.6	103.3	N	N
Inner Moray Firth	Cormorant, goldeneye, goosander, greylag goose, red-breasted merganser, scaup, teal, wigeon, waterfowl assemblage	131.8	111.4	N	Y (if Ardersier Port is used during construction)
West Coast of the Outer Hebrides	Black-throated diver, eider, great northern diver, long-tailed duck	166.9	183.9	N	N
Ythan Estuary, Sands of Forvie and Meikle Loch	Eider, pink-footed goose, waterfowl assemblage	202.3	169.1	N	Y
East Mainland Coast, Shetland	Great northern diver, Slavonian grebe	204	209.2	N	N
Montrose Basin	Eider, greylag goose, pink-footed goose, shelduck, wigeon, waterfowl assemblage	247.1	217.3	N	N
Coll and Tiree	Eider, great northern diver	253	260.3	N	N

Site Name (SPA)	Qualifying Non-breeding Season Features	Distance to the OAA (km)	Distance to ECC (km)	Connectivity with the Offshore Project Area?	Distance to potential vessel routes ≤15 km?
Outer Firth of Forth and St Andrews Bay Complex	Black-headed gull, common gull, common scoter, eider, goldeneye, common guillemot, herring gull, black-legged kittiwake, little gull, long-tailed duck, razorbill, red-breasted merganser, red-throated diver, shag, Slavonian grebe, velvet scoter, seabird assemblage, waterfowl assemblage	266	236.6	N	Y (if Dundee or Leith ports are used during construction)
Firth of Tay and Eden Estuary	Common scoter, cormorant, eider, goldeneye, goosander, greylag goose, long-tailed duck, pink-footed goose, red-breasted merganser, shelduck, velvet scoter, waterfowl assemblage	267.8	241.1	N	Y (if Port of Dundee is used during construction)
Firth of Forth	Common scoter, cormorant, eider, goldeneye, great crested grebe, long-tailed duck, mallard, pink-footed goose, red-breasted merganser, red-throated diver, Sandwich tern (passage), scaup, shelduck, Slavonian grebe, velvet scoter, wigeon, waterfowl assemblage	295.1	266.6	N	Y (if Port of Leith is used during construction)
Sound of Gigha	Eider, great northern diver, red-breasted merganser, Slavonian grebe	328.3	324.2	N	N
Solway Firth	Black-headed gull, common gull, common scoter, cormorant, goldeneye, goosander, herring gull, pink-footed goose	419.5	396.7	N	N

NatureScot letter to the Project (27 March 2024):

HRA Screening
In relation to reviewing the list of qualifying features that were assessed in the RIAA to confirm whether any other sites / features require assessment. As above we would also advise concluding yes LSE for Scapa Flow SPA, North Orkney SPA and West Mainland Moors SPA in relation to vessel disturbance.

60. Following NatureScot advice, North Orkney SPA was considered for potential vessel impacts on wintering divers, seaduck and grebe and breeding red-throated divers. However, there are no plans for Project vessels to routinely use any ports that would mean vessels will pass through or near to the North Orkney SPA. Consequently, this site was screened out due to no theoretical connectivity with the Project. Orkney Mainland Moors SPA is considered separately under **Section 2.2.5**.

61. Additionally, vessels transiting between Scrabster Harbour (the assumed location of the Operations and Maintenance base) and the offshore Project area during construction and/or operation would transit through the marine extension of the North Caithness Cliffs SPA. Therefore, connectivity for this SPA and impact pathway was established.

2.2.3 Connectivity for wintering gull qualifying features of marine SPAs

62. Marine SPAs have been classified in Scottish waters to help protect wintering gulls. NatureScot Guidance Note 4[10] provides the following advice:

NatureScot Guidance Note 4 (2023):

Marine SPAs with wintering gulls as qualifying features are designated primarily due to their importance as a roosting site. During the winter months gulls use roosts with a similar centrally-placed foraging behaviour to breeding seabirds. As well as assessments on impact pathways within the marine SPA, connectivity to functionally linked foraging habitats on land (including adjacent shorelines and inland sites) and sea outwith the SPA should also be considered. Wintering gulls will also use the marine SPA itself for foraging.

In the absence of specific gull wintering foraging ranges, we currently recommend that connectivity for wintering gulls using the marine SPAs is determined using the recommended breeding foraging range distance, as per Woodward et al. (2019).

63. The species of gull that were recorded in the offshore Project area in non-trivial abundance were: kittiwake, herring gull and great black-backed gull. Marine SPAs with wintering gull qualifying features are the Outer Firth of Forth and St Andrews Bay Complex SPA (for herring

gull and kittiwake) and the Solway Firth SPA (for herring gull). Great black-backed gull is not listed as a non-breeding season qualifying feature of any SPAs.

64. **Table 2-7** lists the two SPAs with wintering gull features and shows that there is no theoretical connectivity for herring gull due to the SPAs being too distant from the offshore Project area. There is theoretical connectivity for kittiwake from the Outer Firth of Forth and St Andrews Bay Complex. However, NatureScot gave the following advice during a consultation meeting on 7 May 2024:

NatureScot Consultation Meeting (7 May 2024):

Kittiwake do not need to be considered with respect to wintering gull roosts, and instead connectivity should be considered via the 15 km buffer approach.

65. Consequently, the Outer Firth of Forth and St Andrews Bay Complex SPA can also be screened out for this impact pathway as this SPA is >15 km from the offshore Project area. (Note, that this SPA was screened in for other impact pathways, such as for connectivity with migratory species features – see **Section 2.3**).

Table 2-7. List of marine SPAs with wintering gull qualifying features, with theoretical connectivity established by foraging ranges.

Marine SPA	Wintering gull qualifying feature	Distance from OAA (km)	Foraging range (km)	Theoretical connectivity
Outer Firth of Forth and St Andrews Bay Complex	Herring gull	266.0	85.6	N
	Kittiwake	266.0	300.6	N
Solway Firth	Herring gull	419.5	85.6	N

66. No additional SPAs were added to the long-list of SPAs for consideration of LSE, due to no connectivity between the offshore Project area and wintering gull roost features of marine SPAs.

2.2.4 Connectivity for breeding seabird qualifying features of marine SPAs

67. NatureScot Guidance Note 4[10] recognises that seabird populations using the marine SPAs during the breeding season likely include breeders from multiple colonies within foraging range, as well as non-breeders and juveniles. The following advice is provided:

> *NatureScot Guidance Note 4 (2023):*
>
> *For breeding seabirds within marine SPAs, the population level consequences will be addressed through consideration of connectivity from functionally linked seabird colony SPAs i.e. using the recommended 'at sea' foraging ranges, as defined by Woodward et al. 2019 (see Guidance note 3: Marine Birds - Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges).*
>
> *Information on extent of potential connectivity for non-breeders, sabbatical and juveniles during the breeding season is currently not available. Non-breeders, sabbaticals and juvenile connectivity should therefore be assessed as for breeding adult seabird qualifying features.*
>
> *The exception for breeding seabird connectivity is Manx shearwater within the Outer Firth of Forth and St Andrews Bay Complex SPA, which may be a mixture of breeding birds from several colonies, sabbaticals, pre-breeding birds and possibly failed breeders. Further research is required to assess which colonies the Manx shearwaters using the Outer Firth of Forth and St Andrews Bay Complex SPA originate from.*

68. To determine theoretical connectivity for non-breeders, sabbatical and juveniles during the breeding season, all marine SPAs that are designated for protecting important foraging areas for breeding adult seabird qualifying features are listed in **Table 2-8**.

69. The functionally-linked seabird colony SPA for each of these marine SPAs is also provided in **Table 2-8**. Any impacts on the breeding seabird features of these marine SPAs will be assessed through an assessment of impacts on the functionally-linked colony SPA.

70. Northumberland Marine SPA is an English marine SPA, supporting a wide range of marine habitats[13]. During the breeding season, this site is functionally linked to seabird breeding colonies: Farne Islands SPA, Coquet Island SPA, Lindisfarne SPA and Northumbria Coast SPA. There was no theoretical connectivity between these SPAs and the offshore Project area during the breeding season as the offshore Project area is too far to be within foraging of any of these SPAs (**Table 2-4**). Therefore, there is no theoretical connectivity between the offshore Project area and Northumberland Marine SPA in the breeding season. However, there is theoretical connectivity between the seabird colony SPAs (Farne Islands, Coquet Island, Northumbria Coast) and the offshore Project area in the non-breeding season as these colony SPAs are within the UK North Sea BDMPS region (**Table 2-5**). Consequently,

[13] Marine site detail (naturalengland.org.uk)

theoretical connectivity was also established between Northumberland Marine SPA and the offshore Project area for the non-breeding season.

Table 2-8. List of marine SPAs with connectivity in the breeding season and associated breeding colony SPAs. Distance to the Project OAA and ECC is given and the qualifying features of each SPA within foraging range are listed.

Marine SPA for breeding adult seabirds	Distance from Project OAA (km)	Distance from Project ECC (km)	All breeding qualifying features	Qualifying feature foraging range (km)	Functionally-linked seabird colony SPA	Qualifying features within foraging range
Seas off Foula	126.9	137.1	Northern fulmar	1200.2	Foula	Y
			Arctic skua	2.7		N
			Great skua	931.2		Y
			Common guillemot	153.7		Y
			Atlantic puffin	265.4		Y
Seas off St Kilda	197.1	215.8	Northern fulmar	1200.2	St Kilda	Y
			European storm-petrel	336		Y
			northern gannet	709.0		Y
			common guillemot	95.2		N
			Atlantic puffin	265.4		Y
Outer Firth of Forth and St Andrews Bay Complex	266.4	236.9	Manx shearwater	[2365.5]*	No named functionally-linked seabird colony SPA for Manx shearwater	Y
			Northern gannet	709.0	Forth Islands; St Abb's Head to Fast Castle	Y
			European shag	23.7		N
			Herring gull	85.6		N
			Black-legged kittiwake	300.6		Y
			Common tern	26.9		N

Marine SPA for breeding adult seabirds	Distance from Project OAA (km)	Distance from Project ECC (km)	All breeding qualifying features	Qualifying feature foraging range (km)	Functionally-linked seabird colony SPA	Qualifying features within foraging range
			Arctic tern	40.5		N
			Common guillemot	95.2		N
			Atlantic puffin	265.4		Y
Northumberland Marine	363.8	334.8	Arctic tern, guillemot, puffin	Non-breeding season connectivity	Farne Islands, Coquet Islands, Northumbria Coast	N (but within non-breeding season BDMPS region)
Irish Sea Front	558.6	543.0	Manx shearwater	2365.5	No named functionally-linked seabird colony SPA for Manx shearwater	Y

***** see text box above for information on Manx shearwater, in NatureScot Guidance Note 4.

71. Since all these SPAs are already on the long-list of SPAs with theoretical connectivity (**Table 2-4, Table 2-5**), no further additions to the long list of sites for consideration for LSE are required.

2.2.5 Connectivity for red-throated diver qualifying features of marine SPAs in the breeding season

72. For breeding red-throated divers, marine SPAs have been designated to protect foraging areas for breeding individuals. NatureScot has provided the following guidance and consultation advice on this:

NatureScot Guidance Note 4 (2023):

For breeding red-throated diver… the marine SPA population is estimated as the numbers of breeding pairs within a 10 km range of the marine SPA and may include red throated divers from breeding SPAs on land, as well as from non-SPA sites.

For breeding red-throated divers within marine SPAs, population level consequences will be addressed through consideration of connectivity from functionally-linked breeding sites within 10km (refer to the relevant marine SPA CMA documents for the list of relevant SPA(s)), noting that any SSSIs and non-designated breeding sites should be listed too. As with all other marine SPA features, additional consideration may be required for red-throated diver using the marine SPA, where there are impact pathways affecting the ability of the site to maintain the current extent, quality and distribution of supporting habitats within the site as well as ensuring a sufficient food supply within the site.

NatureScot advice (13 December 2023):

From our review of the RIAA we note that disturbance from vessel movement has not been adequately considered. This impact pathway will cover construction and operation / maintenance activities and, while we understand that agreements have not yet been reached with individual Ports, we are concerned that North Orkney and Scapa Flow marine SPAs have been prematurely screened out – this concern was also raised during pre-application.

NatureScot advice (27 March 2024):

We would also advise concluding yes LSE for Scapa Flow SPA, North Orkney SPA and Orkney Mainland Moors SPA in relation to vessel disturbance.

73. Note, NatureScot advises different distances should be applied when considering whether theoretical connectivity exists for terrestrial and marine SPAs with red-throated diver qualifying features. Any terrestrial SPAs within 9 km of a possible activity that could impact the Conservation Objectives of the site has theoretical connectivity. This distance is based on the maximum foraging range for breeding red-throated divers (NatureScot Guidance Note 3, Table 1). Any marine SPAs within 15 km of a possible activity that could impact the Conservation Objectives of the site has theoretical connectivity (NatureScot Guidance Note 4, Section 4 and Section 7). This recommended distance applies to both breeding and non-breeding red-throated diver features of marine SPAs.

2.2.5.1 *Project vessel traffic*

74. There are six marine SPAs with breeding red-throated diver as a qualifying feature, as listed in **Table 2-9** (information obtained from JNCC's list of SPAs with marine components[14], reference date 2022-03-15). In all cases, the OAA and ECC is more than 15 km from the boundary of these SPAs. However, construction and operation and maintenance will involve vessel activity beyond the offshore Project area. Vessel routes and lie up/sheltering areas therefore need to be considered when determining potential connectivity for marine SPAs and terrestrial SPAs with breeding red-throated diver qualifying features. At this stage, ports and harbours to be used by the Project are not known but potential ports that could be used during construction and operation are:

- Scrabster;
- Orkney: Scapa Deep Water Quay;
- Cromarty Firth: Nigg, Cromarty, Ardersier;
- Aberdeen;
- Stornoway;
- Leith;
- Dundee.

75. The exact route that vessels will take during construction and operation and maintenance is not known at this stage. However, if an SPA is far from any plausible vessel traffic routes, it can be screened out. **Table 2-9** lists the six marine SPAs with breeding red-throated diver features. The distances from the boundary of these SPAs to the offshore Project area (i.e. OAA and ECC) are presented. Additionally, a judgement is made as to whether any vessel traffic routes could go within 15 km of any of these SPA boundaries.

Table 2-9. List of marine SPAs with breeding red-throated diver as a qualifying feature and distance from the OAA.

Marine SPA	Distance to OAA (km)	Distance to ECC (km)	Distance to indicative vessel routes ≤15 km?	Theoretical connectivity?	Functionally linked SPA breeding populations
Bluemull and Colgrave Sounds	242.9	249.4	N	N	Otterswick and Graveland
East Mainland Coast, Shetland	204.0	209.7	N	N	Otterswick and Graveland
North Orkney	46.2	46.9	N	N	Orkney Mainland Moors
Rum[1]	212.3	221.1	N	N	Rum

[14] Special Protection Areas (SPAs) with marine components (all UK waters) | JNCC Resource Hub.

Marine SPA	Distance to OAA (km)	Distance to ECC (km)	Distance to indicative vessel routes ≤15 km?	Theoretical connectivity?	Functionally linked SPA breeding populations
Scapa Flow	31.2	30.0	Y[2]	Y	Hoy
					Orkney Mainland Moors
West Coast of the Outer Hebrides	166.9	183.9	N	N	Mointeach Scadabhaigh

1. Rum is a marine extension to a terrestrial SPA rather than being a true marine SPA but is included here to ensure all SPAs with marine components and breeding red-throated diver qualifying features, according to the JNCC list, are screened in

2. if Scapa Deep Water Quay is used for construction.

76. No marine SPAs with breeding red-throated diver features are within 15 km of the OAA or ECC. Vessels will transit through the Scapa Flow SPA if Scapa Deep Water Quay is used and so theoretical connectivity exists for this SPA. This marine SPA is used by breeding red-throated divers from both Hoy SPA and Orkney Mainland Moors SPA. If vessel activity impacted the ability of divers to successfully foraging in Scapa Flow SPA, through disturbance and displacement, this could have a knock-on effect on the functionally-linked Hoy SPA and Orkney Mainland Moors SPA. Consequently, theoretical connectivity was established for both Hoy SPA and Orkney Mainland Moors SPA.

2.2.5.2 *Terrestrial SPAs and Ramsar sites with breeding red-throated diver SPAs*

77. Red-throated divers forage in the marine environment during the breeding season. Consequently, there could be potential for operations associated with construction and operation of the Project in the marine environment to impact red-throated diver qualifying features of terrestrial SPAs and Ramsar sites. **Table 2-10** below lists all SPAs with breeding red-throated diver qualifying features and distance to the OAA and ECC, as well as to indicative vessel transit routes. NatureScot advises that a foraging range of 9 km should be used for breeding red-throated divers (NatureScot Guidance Note 3; and see **Table 2-3**). Therefore, any SPA within 9 km of the Offshore Project Area and/or indicative vessel transit routes were screened in.

Table 2-10. SPAs and Ramsar sites with breeding red-throated diver qualifying features. Distance to the Offshore Project Area is shown. SPAs within foraging range (9 km) of the Offshore Project Area or indicative vessel routes were screened in.

SPA and Ramsar sites	Distance to OAA (km)	Distance to ECC (km)	Distance to indicative vessel routes <9 km?	Screen in?
Caithness and Sutherland Peatlands	22.87	6.92	N	Y
Foula	161.16	167.52	N	N
Hermaness, Saxa Vord and Valla Field	258.08	264.25	N	N

SPA and Ramsar sites	Distance to OAA (km)	Distance to ECC (km)	Distance to indicative vessel routes <9 km?	Screen in?
Hoy	24.73	21.86	Possibly	Y
Lewis Peatlands	104.61	123.17	N	N
Mointeach Scadabhaigh	205.49	221.69	N	N
Orkney Mainland Moors	40.98	40.04	Possibly	Y
Otterswick and Graveland	234.46	240.55	N	N
Ronas Hill - North Roe and Tingon	219.55	225.98	N	N
Rum	212.31	221.09	N	N

78. Caithness and Sutherland Peatlands SPA and Ramsar site is within 9 km of the ECC, predominantly in the area where the export cables make landfall. Therefore, theoretical connectivity was established for this SPA.

79. Transit routes that will be used by Project vessels are not known at this stage. If Scapa Deep Water Quay is used by the Project, vessels will most likely transit southwards out of Scapa Flow, following existing vessel routes and navigation channels. However, if vessels were to leave Scapa Flow in a westerly direction, close to Stromness, vessels could possibly transit within 9 km of the Hoy SPA and Orkney Mainland Moors SPA. Theoretical connectivity also exists for these two SPAs as they are functionally linked to Scapa Flow SPA.

2.3 Connectivity for SPAs and Ramsar sites with migratory bird features, excluding seabirds

81. NatureScot Guidance Note 4[10] advises that the proximity to migratory flyways should be considered qualitatively in relation to the offshore wind development. NatureScot has provided the following advice in relation to this:

NatureScot Guidance Note 4 (2023):

There is an ongoing Marine Scotland project to include an updated review of flyways and provision of a migratory collision risk modelling tool. Prior to this being published the review by WWT & MacArthur Green (2014) should be used.

NatureScot advice (27 March 2024):

Migratory species – an updated review of migratory routes and vulnerabilities across the UK has been published by Marine Directorate and The Crown Estate. This updated review should be used.

82. Theoretical connectivity was considered for SPAs and Ramsar sites with migratory bird qualifying features, including non-breeding waterbirds but excluding seabirds which are considered elsewhere. Migratory species that could pass through or close to the OAA were identified using the updated review of flyways and migratory routes (Woodward *et al*. 2023).

83. Using the maps of potential migratory routes in Woodward *et al*. (2023), any species (excluding seabirds) with a route that included the area of sea between the Orkney Islands and Cape Wrath were assumed to potentially pass through the OAA during migration.

84. 11 species that are considered in Woodward *et al*. (2023) were identified as having no theoretical connectivity with the OAA as their migratory routes did not pass through the area from Orkney to Cape Wrath:

- Dark-bellied Brent Goose (Western Siberia/Western Europe) *Branta bernicla bernicla;*
- 'European' (or 'Greater') White-fronted Goose (NW Siberia & NE/NW Europe) *Anser albifrons albifrons;*
- Bewick's Swan Cygnus columbianus bewickii;
- Nightjar Caprimulgus europaeus;
- Great Crested Grebe *Podiceps cristatus;*
- Stone-curlew Burhinus oedicnemus;
- Avocet Recurvirostra avosetta;
- Bittern Botaurus stellaris;
- Honey-buzzard Pernis apivorus;

- Marsh Harrier Circus aeruginosus; and
- Montagu's Harrier *Circus pygargus.*

85. The remaining 57 migratory species included in Woodward *et al.* (2023) that are qualifying features of SPAs and Ramsar sites in the UK were identified as having theoretical connectivity with the OAA (**Table 2-11**).

Table 2-11. List of migratory terrestrial and waterfowl species with migratory routes that have theoretical connectivity with the OAA. All UK SPAs and Ramsar sites with these species as qualifying features are also listed.

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
'East Atlantic' Light-bellied Brent Goose (North Greenland/Svalbard) *Branta bernicla hrota*	Lindisfarne
'Nearctic' Light–bellied Brent Goose (Canada and Greenland/Ireland) *Branta bernicla hrota*	Lough Foyle, Strangford Lough, Killough Bay, Carlingford Lough, Larne Lough, Outer Ards, Gruinart Flats, Islay, Morecambe Bay and Duddon Estuary
'Svalbard' Barnacle Goose (Svalbard/South-west Scotland) *Branta leucopsis*	Loch of Strathbeg, Solway Firth, Coll, Gruinart Flats, Islay, Treshnish Isles, Monach Islands
'Greenland' Barnacle Goose (East Greenland/Scotland & Ireland) *Branta leucopsis*	North Sutherland Coastal Islands, Switha, Monach Islands, Coll, Bridgend Flats, Islay, Laggan, Islay, North Uist Machair and Islands, Shiant Isles, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)
'Icelandic' Greylag Goose (Iceland/UK & Ireland) *Anser anser*	Caithness Lochs, Dornoch Firth and Loch Fleet, Loch Eye, Cromarty Firth, Moray and Nairn Coast, Inner Moray Firth, Loch Spynie, Loch of Strathbeg, Muir of Dinnet, Loch of Skene, Loch of Lintrathen, Loch of Kinnordy, Montrose Basin, Firth of Tay and Eden Estuary, South Tayside Goose Roosts, Lindisfarne, Din Moss - Hoselaw Loch, Holburn Lake and Moss, Loch Ken and River Dee Marshes, Lough Foyle, Lough Neagh and Lough Beg, Strangford Lough
Taiga Bean Goose *Anser fabalis*	Slamannan Plateau
Pink-footed Goose (East Greenland and Iceland/UK) *Anser brachyrhynchus*	Moray and Nairn Coast, Loch of Strathbeg, Ythan Estuary, Sands of Forvie and Meikle Loch, Loch of Kinnordy, Montrose Basin, Firth of Tay and Eden Estuary, South Tayside Goose Roosts, Cameron Reservoir, Loch Leven, Firth of Forth, Fala Flow, Westwater, Gladhouse Reservoir, Greenlaw Moor, Din Moss - Hoselaw Loch, Castle Loch, Lochmaben, Solway Firth, Ribble and Alt Estuaries, Martin Mere, The Wash, North Norfolk Coast, , Morecambe Bay and Duddon Estuary
'Greenland' White-fronted Goose (Greenland/Ireland & UK) *Anser albifrons flavirostris*	Caithness Lochs, Coll, Loch Lomond, Kintyre Goose Roosts, Laggan, Islay, Eilean na Muice Duibhe (Duich Moss), Loch Ken and River Dee Marshes, Loch of Inch and Torrs Warren, Dyfi Estuary / Aber Dyfi, Gruinart Flats, Islay, Rinns of Islay, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)
Whooper Swan *Cygnus cygnus*	Caithness Lochs, Loch Eye, Cromarty Firth, Lochs of Spiggie and Brow, Loch of Strathbeg, Loch Leven, Black Cart, Lindisfarne, Solway Firth, Lough Foyle, Lough Neagh and Lough Beg, Upper Lough Erne, Ribble and Alt Estuaries, Martin Mere, Ouse Washes, Broadland, Morecambe Bay and Duddon Estuary, Rinns of Islay, River Spey - Insh Marshes

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
Shelduck *Tadorna tadorna*	Montrose Basin, Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Solway Firth, Lough Foyle, Lough Neagh and Lough Beg, Strangford Lough, Ribble and Alt Estuaries, Humber Estuary, The Dee Estuary, Mersey Estuary, The Wash, Severn Estuary, Burry Inlet, Stour and Orwell Estuaries, Hamford Water, Medway Estuary and Marshes, Poole Harbour, Chichester and Langstone Harbours, Morecambe Bay and Duddon Estuary
Shoveler *Spatula clypeata*	Loch Leven, Solway Firth, Lough Neagh and Lough Beg, Strangford Lough, Teesmouth and Cleveland Coast, Rutland Water, Nene Washes, Upper Nene Valley Gravel Pits, Ouse Washes, Broadland, Burry Inlet, Minsmere-Walberswick, Lee Valley, Chew Valley Lake, Abberton Reservoir, South West London Waterbodies, Medway Estuary and Marshes, Stodmarsh, Chichester and Langstone Harbours, Dungeness, Romney Marsh and Rye Bay, Lower Derwent Valley
Gadwall *Mareca strepera*	Loch Leven, Lough Neagh and Lough Beg, Strangford Lough, Teesmouth and Cleveland Coast, The Wash, Rutland Water, Nene Washes, Upper Nene Valley Gravel Pits, Ouse Washes, Broadland, Severn Estuary, Minsmere-Walberswick, Lee Valley, Stour and Orwell Estuaries, Abberton Reservoir, South West London Waterbodies, The Swale, Avon Valley, Stodmarsh, Dungeness, Romney Marsh and Rye Bay, Hornsea Mere
Wigeon *Mareca penelope*	Caithness and Sutherland Peatlands, Dornoch Firth and Loch Fleet, Cromarty Firth, Moray and Nairn Coast, Inner Moray Firth, River Spey - Insh Marshes, Montrose Basin, Firth of Forth, Lindisfarne, Lough Foyle, Lough Neagh and Lough Beg, Strangford Lough, Teesmouth and Cleveland Coast, Ribble and Alt Estuaries, Lower Derwent Valley, Martin Mere, Humber Estuary, Mersey Estuary, The Wash, Rutland Water, Upper Nene Valley Gravel Pits, Ouse Washes, Broadland, Burry Inlet, Stour and Orwell Estuaries, Abberton Reservoir, Medway Estuary and Marshes, Stodmarsh, Chichester and Langstone Harbours, Dungeness, Romney Marsh and Rye Bay, Chesil Beach and The Fleet, , South Tayside Goose Roosts, Morecambe Bay and Duddon Estuary, North Norfolk Coast, Nene Washes
Mallard *Anas platyrhynchos*	Firth of Forth, Lough Foyle, Lough Neagh and Lough Beg, Strangford Lough, Humber Estuary, Upper Nene Valley Gravel Pits, Medway Estuary and Marshes, Stodmarsh, Ouse Washes, Morecambe Bay and Duddon Estuary
Pintail *Anas acuta*	Cromarty Firth, Solway Firth, Strangford Lough, Ribble and Alt Estuaries, Martin Mere, The Dee Estuary, Mersey Estuary, The Wash, Ouse Washes, Burry Inlet, Stour and Orwell Estuaries, Medway Estuary and Marshes, Chichester and Langstone Harbours, Nene Washes, Morecambe Bay and Duddon Estuary
Teal *Anas crecca*	Dornoch Firth and Loch Fleet, Inner Moray Firth, Loch of Strathbeg, Loch Leven, Solway Firth, Lough Foyle, Lough Neagh and Lough Beg, Strangford Lough, Ribble and Alt Estuaries, Lower Derwent Valley, Humber Estuary, The Dee Estuary, Mersey Estuary, Rutland Water, Ouse Washes, Burry Inlet, Minsmere-

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	Walberswick, Abberton Reservoir, Hamford Water, Somerset Levels and Moors, Medway Estuary and Marshes, The Swale, Poole Harbour, Chichester and Langstone Harbours, Nene Washes, Solent and Southampton Water, Morecambe Bay and Duddon Estuary
Pochard *Aythya ferina*	Loch Leven, Lough Neagh and Lough Beg, Humber Estuary, Upper Nene Valley Gravel Pits, Ouse Washes, Abberton Reservoir, Colne Estuary (Mid-Essex Coast Phase 2), Blackwater Estuary (Mid-Essex Coast Phase 4), Medway Estuary and Marshes, Stodmarsh, Poole Harbour, Dungeness, Romney Marsh and Rye Bay
Tufted Duck *Aythya fuligula*	Loch Leven, Lough Neagh and Lough Beg, Rutland Water, Upper Nene Valley Gravel Pits, Ouse Washes, Abberton Reservoir, Stodmarsh
Scaup *Aythya marila*	Moray Firth, Dornoch Firth and Loch Fleet, Cromarty Firth, Inner Moray Firth, Firth of Forth, Solway Firth, Lough Neagh and Lough Beg, Ribble and Alt Estuaries, Humber Estuary, Stour and Orwell Estuaries
Eider *Somateria mollissima mollissima*	Moray Firth, Ythan Estuary, Sands of Forvie and Meikle Loch, Montrose Basin, Coll and Tiree, Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Lough Foyle, Strangford Lough, Scapa Flow, Sound of Gigha, West Coast of the Outer Hebrides, Outer Firth of Forth and St Andrews Bay Complex, Morecambe Bay and Duddon Estuary, Liverpool Bay / Bae Lerpwl, Rathlin Island
Velvet Scoter *Melanitta fusca*	Moray Firth, Firth of Tay and Eden Estuary, Firth of Forth, North Orkney, Outer Firth of Forth and St Andrews Bay Complex, Liverpool Bay / Bae Lerpwl
Common Scoter *Melanitta nigra*	Caithness and Sutherland Peatlands, Moray Firth, West Inverness-shire Lochs, Firth of Tay and Eden Estuary, Firth of Forth, Rinns of Islay, Lindisfarne, Solway Firth, Ribble and Alt Estuaries, The Wash, Bae Caerfyrddin / Carmarthen Bay, Greater Wash, Liverpool Bay / Bae Lerpwl, Outer Firth of Forth and St Andrews Bay Complex
Long-tailed Duck *Clangula hyemalis*	Moray Firth, Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Scapa Flow, West Coast of the Outer Hebrides, Outer Firth of Forth and St Andrews Bay Complex
Goldeneye *Bucephala clangula*	Moray Firth, Inner Moray Firth, Loch of Strathbeg, Loch of Skene, Firth of Tay and Eden Estuary, Loch Leven, Firth of Forth, Solway Firth, Lough Neagh and Lough Beg, Strangford Lough, Humber Estuary, The Wash, Rutland Water, Stour and Orwell Estuaries, Abberton Reservoir, Poole Harbour, Outer Firth of Forth and St Andrews Bay Complex, Morecambe Bay and Duddon Estuary
Goosander *Mergus merganser*	Inner Moray Firth, Loch of Skene, Firth of Tay and Eden Estuary, Solway Firth, Rutland Water
Red-breasted Merganser *Mergus serrator*	Moray Firth, Cromarty Firth, Moray and Nairn Coast, Inner Moray Firth, Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Lough Foyle, Strangford Lough, Traeth Lafan/ Lavan Sands, Conway Bay, Portsmouth

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	Harbour, Poole Harbour, Chichester and Langstone Harbours, Scapa Flow, Sound of Gigha, West Coast of the Outer Hebrides, Outer Firth of Forth and St Andrews Bay Complex, Morecambe Bay and Duddon Estuary, Liverpool Bay / Bae Lerpwl
Corncrake *Crex crex*	Ness and Barvas, Lewis, North Uist Machair and Islands, Aird and Borve, Benbecula, South Uist Machair and Lochs, Kilpheder and Smerclate, South Uist, Eoligarry, Barra, Coll (corncrake), Tiree (corncrake), Oronsay and South Colonsay, Rinns of Islay
Spotted Crake *Porzana porzana*	River Spey - Insh Marshes
Slavonian Grebe *Podiceps auritus*	Moray Firth, Loch Flemington, Loch Ashie, North Inverness Lochs, Loch Ruthven, Loch Vaa, Loch Knockie and Nearby Lochs, Firth of Forth, Lough Foyle, Exe Estuary, Falmouth Bay to St Austell Bay, North Orkney, Scapa Flow, East Mainland Coast, Shetland, Sound of Gigha, West Coast of the Outer Hebrides, Outer Firth of Forth and St Andrews Bay Complex
Oystercatcher *Haematopus ostralegus*	Dornoch Firth and Loch Fleet, Cromarty Firth, Moray and Nairn Coast, Inner Moray Firth, North Uist Machair and Islands, Montrose Basin, Firth of Tay and Eden Estuary, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast), Firth of Forth, Solway Firth, Lough Foyle, Strangford Lough, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary, Traeth Lafan/ Lavan Sands, Conway Bay, The Wash, Burry Inlet, Foulness (Mid-Essex Coast Phase 5), Medway Estuary and Marshes, The Swale, Exe Estuary, Morecambe Bay and Duddon Estuary, South Uist Machair and Lochs
Lapwing *Vanellus vanellus*	Ythan Estuary, Sands of Forvie and Meikle Loch, Firth of Forth, Solway Firth, Lough Foyle, Strangford Lough, Teesmouth and Cleveland Coast, Ribble and Alt Estuaries, Humber Estuary, Mersey Estuary, Upper Nene Valley Gravel Pits, Breydon Water, Stour and Orwell Estuaries, Somerset Levels and Moors, Medway Estuary and Marshes, Stodmarsh, Dungeness, Romney Marsh and Rye Bay, Morecambe Bay and Duddon Estuary
Golden Plover *Pluvialis apricaria*	Caithness and Sutherland Peatlands, Lewis Peatlands, Firth of Forth, Muirkirk and North Lowther Uplands, Lindisfarne, Solway Firth, Lough Foyle, North Pennine Moors, Strangford Lough, North York Moors, Pettigoe Plateau, South Pennine Moors Phase 2, Ribble and Alt Estuaries, Lower Derwent Valley, Peak District Moors (South Pennine Moors Phase 1), Humber Estuary, Mersey Estuary, Upper Nene Valley Gravel Pits, Breydon Water, Stour and Orwell Estuaries, Somerset Levels and Moors, Dungeness, Romney Marsh and Rye Bay, Thanet Coast and Sandwich Bay, Morecambe Bay and Duddon Estuary, Outer Ards
Grey Plover *Pluvialis squatarola*	Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Solway Firth, Lough Foyle, Strangford Lough, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary,

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	Mersey Estuary, Gibraltar Point, The Wash, Burry Inlet, Stour and Orwell Estuaries, Hamford Water, Dengie (Mid-Essex Coast Phase 1), Foulness (Mid-Essex Coast Phase 5), Benfleet and Southend Marshes, Thames Estuary and Marshes, Medway Estuary and Marshes, The Swale, Exe Estuary, Chichester and Langstone Harbours, Blackwater Estuary (Mid-Essex Coast Phase 4), Morecambe Bay and Duddon Estuary
Ringed Plover *Charadrius hiaticula*	North Uist Machair and Islands, Papa Stour, South Uist Machair and Lochs, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast), Firth of Forth, Lindisfarne, Strangford Lough, Humber Estuary, Stour and Orwell Estuaries, Colne Estuary (Mid-Essex Coast Phase 2), Hamford Water, Blackwater Estuary (Mid-Essex Coast Phase 4), Benfleet and Southend Marshes, Medway Estuary and Marshes, The Swale, Chichester and Langstone Harbours, Mersey Estuary, Ribble and Alt Estuaries, Solent and Southampton Water, Thames Estuary and Marshes, Morecambe Bay and Duddon Estuary, Solway Firth, Outer Ards, Foulness (Mid-Essex Coast Phase 5)
Dotterel *Charadrius morinellus*	Beinn Dearg, Ben Wyvis, Cairngorms, Creag Meagaidh, Drumochter Hills, Lochnagar, Caenlochan, Ben Alder
Whimbrel *Numenius phaeopus*	Dungeness, Romney Marsh and Rye Bay, Humber Estuary, Ribble and Alt Estuaries, Fetlar
Curlew *Numenius arquata*	Dornoch Firth and Loch Fleet, Cromarty Firth, Inner Moray Firth, Firth of Forth, Solway Firth, Lough Foyle, Strangford Lough, Ribble and Alt Estuaries, Humber Estuary, The Dee Estuary, Mersey Estuary, Traeth Lafan/ Lavan Sands, Conway Bay, The Wash, Burry Inlet, Stour and Orwell Estuaries, Medway Estuary and Marshes, The Swale, Poole Harbour, Chichester and Langstone Harbours, Morecambe Bay and Duddon Estuary
Bar-tailed Godwit *Limosa lapponica*	East Sanday Coast, Dornoch Firth and Loch Fleet, Cromarty Firth, Moray and Nairn Coast, Firth of Tay and Eden Estuary, Firth of Forth, Lindisfarne, Solway Firth, Lough Foyle, Strangford Lough, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary, Gibraltar Point, The Wash, Foulness (Mid-Essex Coast Phase 5), Chichester and Langstone Harbours, Morecambe Bay and Duddon Estuary, Belfast Lough, Solent and Southampton Water
Black-tailed Godwit *Limosa limosa (limosa / islandica)*	Inner Moray Firth, Firth of Tay and Eden Estuary, Strangford Lough, Ribble and Alt Estuaries, Humber Estuary, The Dee Estuary, Mersey Estuary, The Wash, Nene Washes, Stour and Orwell Estuaries, Hamford Water, Thames Estuary and Marshes, Medway Estuary and Marshes, Exe Estuary, Portsmouth Harbour, Poole Harbour, Blackwater Estuary (Mid-Essex Coast Phase 4), Ouse Washes, Stour and Orwell Estuaries, Morecambe Bay and Duddon Estuary, Belfast Lough
Turnstone *Arenaria interpres*	Burry Inlet, Chichester and Langstone Harbours, East Sanday Coast, Firth of Forth, Humber Estuary, Medway Estuary and Marshes, Morecambe Bay and Duddon Estuary, North Uist Machair and Islands,

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	Northumbria Coast, Outer Ards, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast), Solway Firth, Stour and Orwell Estuaries, Thanet Coast and Sandwich Bay, The Wash, Strangford Lough
Knot *Calidris canutus*	Cromarty Firth, Montrose Basin, Firth of Forth, Solway Firth, Lough Foyle, Strangford Lough, Teesmouth and Cleveland Coast, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary, The Wash, Burry Inlet, Stour and Orwell Estuaries, Dengie (Mid-Essex Coast Phase 1), Foulness (Mid-Essex Coast Phase 5), Benfleet and Southend Marshes, Thames Estuary and Marshes, Medway Estuary and Marshes, North Norfolk Coast, Morecambe Bay and Duddon Estuary
Ruff *Philomachus pugnax*	Teesmouth and Cleveland Coast, Lower Derwent Valley, Ouse Washes, Broadland, Dungeness, Romney Marsh and Rye Bay, Alde-Ore Estuary, Breydon Water, Humber Estuary, Pagham Harbour, Ribble and Alt Estuaries, Morecambe Bay and Duddon Estuary
Sanderling *Calidris alba*	South Uist Machair and Lochs, Firth of Tay and Eden Estuary, Lindisfarne, Solway Firth, Teesmouth and Cleveland Coast, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, Gibraltar Point, The Wash, Chichester and Langstone Harbours, Dungeness, Romney Marsh and Rye Bay, Morecambe Bay and Duddon Estuary
Dunlin *Calidris alpina*	Caithness and Sutherland Peatlands, Dornoch Firth and Loch Fleet, Lewis Peatlands, Cromarty Firth, Moray and Nairn Coast, North Uist Machair and Islands, South Uist Machair and Lochs, Montrose Basin, Firth of Tay and Eden Estuary, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast), Firth of Forth, Lindisfarne, Solway Firth, Lough Foyle, Strangford Lough, Ribble and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary, Mersey Estuary, The Wash, Severn Estuary, Burry Inlet, Stour and Orwell Estuaries, Benfleet and Southend Marshes, Thames Estuary and Marshes, Medway Estuary and Marshes, The Swale, Exe Estuary, Portsmouth Harbour, Poole Harbour, Chichester and Langstone Harbours, Blackwater Estuary (Mid-Essex Coast Phase 4), Morecambe Bay and Duddon Estuary, Fetlar
Purple Sandpiper *Calidris maritima*	East Sanday Coast, North Uist Machair and Islands, Northumbria Coast
Snipe *Gallinago gallinago*	Stodmarsh
Red-necked Phalarope *Phalaropus lobatus*	Fetlar
Redshank *Tringa totanus*	Dornoch Firth and Loch Fleet, Cromarty Firth, Moray and Nairn Coast, Inner Moray Firth, North Uist Machair and Islands, Ythan Estuary, Sands of Forvie and Meikle Loch, South Uist Machair and Lochs, Montrose Basin, Firth of Tay and Eden Estuary, Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast), Firth of Forth, Inner Clyde Estuary, Lindisfarne, Solway Firth, Lough Foyle, Strangford Lough, Ribble

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	and Alt Estuaries, Mersey Narrows and North Wirral Foreshore, Humber Estuary, The Dee Estuary, Mersey Estuary, Traeth Lafan/ Lavan Sands, Conway Bay, The Wash, Severn Estuary, Burry Inlet, Stour and Orwell Estuaries, Hamford Water, Foulness (Mid-Essex Coast Phase 5), Thames Estuary and Marshes, Medway Estuary and Marshes, The Swale, Poole Harbour, Chichester and Langstone Harbours, Alde-Ore Estuary, Colne Estuary (Mid-Essex Coast Phase 2), Teesmouth and Cleveland Coast, Morecambe Bay and Duddon Estuary, Belfast Lough
Wood Sandpiper *Tringa glareola*	Caithness and Sutherland Peatlands, River Spey - Insh Marshes, Achanalt Marshes
Greenshank *Tringa nebularia*	Caithness and Sutherland Peatlands, Lewis Peatlands, Lough Foyle, Strangford Lough, Medway Estuary and Marshes, Poole Harbour, Morecambe Bay and Duddon Estuary, Humber Estuary
Red-throated Diver *Gavia stellata*	Bluemull and Colgrave Sounds, Caithness and Sutherland Peatlands, East Mainland Coast, Shetland, Firth of Forth, Foula, Greater Wash, Hermaness, Saxa Vord and Valla Field, Hoy, Lewis Peatlands, Liverpool Bay / Bae Lerpwl, Medway Estuary and Marshes, Mointeach Scadabhaigh, Moray Firth, North Orkney, Northern Cardigan Bay / Gogledd Bae Ceredigion, Orkney Mainland Moors, Otterswick and Graveland, Outer Firth of Forth and St Andrews Bay Complex, Outer Thames Estuary, Ronas Hill - North Roe and Tingon, Rum, Scapa Flow, Solway Firth, West Coast of the Outer Hebrides, Lough Foyle
Black-throated Diver *Gavia arctica*	Assynt Lochs, Caithness and Sutherland Peatlands, Falmouth Bay to St Austell Bay, Inverpolly, Loch Urigill and nearby Lochs, Knapdale Lochs, Lairg and Strath Brora Lochs, Lewis Peatlands, Loch Maree, Loch Shiel, Mointeach Scadabhaigh, Rannoch Lochs, Scapa Flow, West Coast of the Outer Hebrides, West Inverness-shire Lochs, Wester Ross Lochs, Liverpool Bay / Bae Lerpwl
Great Northern Diver *Gavia immer*	Coll and Tiree, East Mainland Coast, Shetland, Falmouth Bay to St Austell Bay, Moray Firth, North Orkney, Scapa Flow, Sound of Gigha, West Coast of the Outer Hebrides
Osprey *Pandion haliaetus*	Cairngorms, River Spey - Insh Marshes, Glen Tanar, Forest of Clunie, Abernethy Forest, Cromarty Firth, Dornoch Firth and Loch Fleet, Inner Moray Firth, Moray and Nairn Coast
Hen Harrier *Circus cyaneus*	Caithness and Sutherland Peatlands, Orkney Mainland Moors, Strath Carnaig and Strath Fleet Moors, Glen Tanar, Forest of Clunie, Renfrewshire Heights, Rinns of Islay, Arran Moors, Muirkirk and North Lowther Uplands, Langholm - Newcastleton Hills, Glen App and Galloway Moors, Antrim Hills, Loch of Inch and Torrs Warren, North Pennine Moors, Slieve Beagh - Mullaghfad - Lisnaskea, Bowland Fells, Humber Estuary, Migneint-Arenig-Dduallt, Berwyn, Ouse Washes, Broadland, Dengie (Mid-Essex Coast Phase 1), Foulness (Mid-Essex Coast Phase 5), Thames Estuary and Marshes, Medway Estuary and Marshes, Stodmarsh, Dungeness, Romney Marsh and Rye Bay, Blackwater Estuary (Mid-Essex Coast Phase 4), Colne Estuary

Migratory species with theoretical connectivity	SPAs and Ramsar sites where species is a qualifying feature or named component of assemblage
	(Mid-Essex Coast Phase 2), Dorset Heathlands, Minsmere-Walberswick, New Forest, Salisbury Plain, River Spey - Insh Marshes
Short-eared Owl *Asio flammeus*	Caithness and Sutherland Peatlands, Orkney Mainland Moors, Forest of Clunie, Muirkirk and North Lowther Uplands, South Pennine Moors Phase 2, Peak District Moors (South Pennine Moors Phase 1), Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro
Merlin *Falco columbarius*	Caithness and Sutherland Peatlands, Lewis Peatlands, Cairngorms, Drumochter Hills, Forest of Clunie, Muirkirk and North Lowther Uplands, Antrim Hills, North Pennine Moors, North York Moors, Bowland Fells, South Pennine Moors Phase 2, Peak District Moors (South Pennine Moors Phase 1), Migneint-Arenig-Dduallt, Berwyn, Medway Estuary and Marshes, Dorset Heathlands, Elenydd - Mallaen

2.4 Long-list of SPAs and Ramsar sites with theoretical connectivity with the Offshore Project Area

86. Based on the screening processes outlined in the previous sections, relating to different types of SPAs and qualifying features, the long-list presented in **Table 2-12** lists all the SPAs and Ramsar sites identified as having theoretical connectivity with the offshore Project area and associated vessel routes. For clarity, this table does not include SPAs with theoretical connectivity due to migratory birds (excluding seabirds) as this would make this table very long. The long list of migratory birds (excluding seabirds) can be found in **Table 2-11**. However, a complete list of all SPAs screened in for assessment in the RIAA is provided in Annex A.

87. All of these SPAs and Ramsar sites with theoretical connectivity were taken forward for determination of LSE.

Table 2-12. Long-list of all SPA and Ramsar Sites with breeding seabird features, which were considered for LSE due to theoretical connectivity with the offshore Project area and/or vessels transiting to/from the offshore Project. The pathway by which a site was screened in is indicated by a 'Y'.

SPA Name	Breeding seabird feature in breeding season	Breeding seabird feature in non-breeding season	Wintering waterfowl marine SPA	Functionally linked colonies to marine SPAs with breeding seabird features	Breeding season RTD features of terrestrial and marine SPAs
Ailsa Craig	Y				
Auskerry	Y				
Buchan Ness to Collieston Coast	Y	Y			
Caithness and Sutherland Peatlands					Y
Calf of Eday	Y	Y			
Canna and Sanday	Y	Y			
Cape Wrath	Y	Y			
Copeland Islands	Y				
Copinsay	Y	Y			
Coquet Island		Y			
East Caithness Cliffs	Y	Y			
Fair Isle	Y	Y			
Farne Islands		Y			
Fetlar	Y	Y			
Firth of Forth			Y		
Firth of Tay and Eden Estuary			Y		

SPA Name	Breeding seabird feature in breeding season	Breeding seabird feature in non-breeding season	Wintering waterfowl marine SPA	Functionally linked colonies to marine SPAs with breeding seabird features	Breeding season RTD features of terrestrial and marine SPAs
Flamborough and Filey Coast	Y	Y			
Flannan Isles	Y	Y			
Forth Islands	Y	Y			
Foula	Y	Y			
Fowlsheugh	Y	Y			
Glannau Aberdaron ac Ynys Enlli/ Aberdaron Coast and Bardsey Island	Y				
Handa	Y	Y			
Hermaness, Saxa Vord and Valla Field	Y	Y			
Hoy	Y	Y			Y
Inner Moray Firth			Y		Y
Irish Sea Front	Y			Y	
Marwick Head	Y	Y			
Mingulay and Berneray	Y	Y			
Moray Firth			Y		
Mousa	Y				
North Caithness Cliffs	Y	Y			
North Rona and Sula Sgeir	Y	Y			
Northumberland Marine		Y			

SPA Name	Breeding seabird feature in breeding season	Breeding seabird feature in non-breeding season	Wintering waterfowl marine SPA	Functionally linked colonies to marine SPAs with breeding seabird features	Breeding season RTD features of terrestrial and marine SPAs
Noss	Y	Y			
Orkney Mainland Moors					Y
Outer Firth of Forth and St Andrews Bay Complex	Y	Y	Y	Y	
Pentland Firth Islands	Y				
Priest Island (Summer Isles)	Y				
Ronas Hill - North Roe and Tingon	Y	Y			
Rousay	Y	Y			
Rum	Y	Y			
Scapa Flow			Y		Y
Seas off Foula	Y	Y		Y	
Seas off St Kilda	Y	Y		Y	
Shiant Isles	Y	Y			
Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro	Y				
St Abb's Head to Fast Castle		Y			
St Kilda	Y	Y			
Sule Skerry and Sule Stack	Y	Y			
Sumburgh Head	Y	Y			
Treshnish Isles	Y				

SPA Name	Breeding seabird feature in breeding season	Breeding seabird feature in non-breeding season	Wintering waterfowl marine SPA	Functionally linked colonies to marine SPAs with breeding seabird features	Breeding season RTD features of terrestrial and marine SPAs
Troup, Pennan and Lion's Heads	**Y**	**Y**			
West Westray	**Y**	**Y**			
Ythan Estuary, Sands of Forvie and Meikle Loch			**Y**		

3 DETERMINING LIKELY SIGNIFICANT EFFECT

3.1 Likely Significant Effect

88. For all sites identified as having theoretical connectivity with the offshore Project, the second step of the screening exercise is to determine whether there may be a potential pathway for LSE, and hence a requirement for an appropriate assessment.

89. NatureScot guidance on the HRA process[15] states that, at the screening stage, "If there is no connection, or it is obvious that the proposal will not undermine the conservation objectives despite a connection, conclude no likely significant effect." If detailed information is required to assess whether there is an LSE, it is assumed that it is not 'obvious' that there is no LSE. This is consistent with Tyldesley and Associates (2015) HRA guidance which states that, "The test of significance is where a plan or project could undermine the site's conservation objectives".

90. Tyldesley and Associates (2015) also states that the term '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."

91. The determination of LSE for each SPA is therefore based on the above guidance, and also takes into consideration comments received during the Application stage from NatureScot.

92. NatureScot has provided comment on the terminology used to determine LSE in the Project application:

NatureScot Advice (27 March 2024):

The wording around whether there is LSE is confusing – at present the wording used is 'can conclude no potential LSE', simply 'is there LSE' would be much clearer and avoid any potential confusion.

93. The likely significant test used for the Project application followed the Waddenzee case [Case C-127/02], where it was 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*" (see Tyldesley and Associates, 2015). Thus, a LSE is excluded only on the basis of objective information. Any wording hereafter is based on the approach of objectively excluding an LSE from occurring on any SPA that was screened out of the assessment, i.e. 'LSE was ruled out'. Where it was not possible to rule out an LSE, t was concluded that, 'there is an LSE'.

[15] https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra#Introduction+to+Habitats+Regulations+Appraisal+(HRA).

3.2 Impact pathways for LSE

94. The assessment of LSE combines information on effect pathways and characteristics of qualifying interests as part of a high-level appraisal to determine whether or not there is potential for any of the conservation objectives relating to the qualifying interests of a European site (SPA/Ramsar site) to be undermined on the basis of the potential effects. Where there is no potential for the conservation objective to be undermined, it is concluded that there is no LSE, i.e. LSE was ruled out, and that site is screened out from needing an appropriate assessment.

95. NatureScot Guidance Note 3 advises that "Once the initial list of SPA qualifying features with theoretical connectivity is produced, it can be refined further… Species impact pathways, and sensitivity to an impact will also inform decisions on LSE."

96. Determining LSE is therefore informed by species' impact pathways, results of site characterisation surveys and species sensitivity to impacts. These pathways may occur during the construction, operation and maintenance, and decommissioning stages of the offshore Project.

97. NatureScot Guidance Note 6[16] provides advice on the impact pathways by which marine bird species can be impacted by offshore wind developments, to be considered as part of an HRA.

98. NatureScot Guidance Note 4 advises on impact pathways to consider for marine SPAs.

NatureScot Guidance Note 6:

The two key impact pathways identified for offshore wind energy are collision risk, when marine birds fly and collide with the rotating turbine blades, leading to direct mortality; and distributional responses such as displacement and barrier effects, which is the effective loss of habitat/barriers to movement resulting in energetic stress to marine birds - which can have consequences on fitness including survival rates and productivity. These impacts can occur at any time of the year. There are a number of other impacts that may also arise from an offshore wind farm development and associated works, including changes to prey distribution, pollution and disturbance due to installation of export cables.

[16] https://www.nature.scot/doc/guidance-note-6-guidance-support-offshore-wind-applications-marine-ornithology-impact-pathways.

NatureScot Guidance Note 4:

For all marine SPA qualifying features, we advise that the following points are considered with regard to impact pathways and determining LSE:

Will the development cause any injury or mortality to the qualifying features either within or outwith the marine SPA?

Will disturbance/displacement result in a redistribution of birds within the marine SPA? It is important to consider all aspects of the development including associated works and activities, e.g. wet storage locations, cable routes or vessel movements associated with construction, operation including maintenance and repair or decommissioning works.

Will the development provide a barrier in terms of access to birds flying to or from the marine SPA (e.g. commuting to roosts off-site, breeding locations)? Flight direction data or tracking studies may be helpful in determining if there are any important commuting routes.

Are there any direct impacts on prey or supporting habitat within the marine SPA? For example, a cabling route within or directly adjacent to a marine SPA or barriers to fish movement that may impact on prey populations and habitats within the SPA.

Are there any indirect impacts on supporting habitats and supporting processes e.g. water flow or quality that may alter the foraging resource? Consideration is required for when there is an impact pathway which affects the ability of the marine SPA to maintain the current extent, quality and distribution of supporting habitats, as well as ensuring a sufficient food supply within the site.

99. Based on the above guidance, the identified impact pathways that could be screened out are listed in **Table 3-1**. Impact pathways that could not be screened out for qualifying features with theoretical connectivity to the offshore Project, and hence the SPAs and Ramsar sites that are screened into the RIAA, are presented in **Table 3-2**. This includes attraction to lighting impacts and construction vessel activity, as discussed below.

3.2.1 Impact Pathways Screened Out

100. The potential impact pathways on ghost fishing and accidental pollution have been screened out for further assessment (**Table 3-1**).

Table 3-1. Impact pathways screened out of determination of LSE.

Potential Pathway	Qualifying Features	Justification
Operation and Maintenance		
Ghost fishing	Breeding and migrating diving seabirds including gannet, guillemot, razorbill, and puffin.	The assessment is for fixed foundations only (due to floating WTGs no longer being within the Project Design Envelope for the current application) and therefore there will be no cables/moorings in the water column.

Potential Pathway	Qualifying Features	Justification
Construction, Operation and Maintenance, Decommissioning		
Accidental pollution	Seabirds, particularly auks and divers.	Accidental pollution, e.g. oil spills, are screened out as an impact pathway due to being controlled through other legislation

3.2.2 Impact Pathways considered for LSE

101. The impact pathways that could not be screened out for qualifying features with theoretical connectivity to the offshore Project, and hence the SPAs and Ramsar sites are screened into the RIAA, are presented in **Table 3-2**. These pathways may occur during the pre-construction, construction, operation and maintenance, and decommissioning stages of the offshore Project. An explanation for why each impact pathway was screened in or out for each type of SPA is provided below.

Table 3-2. Impact pathways screened into the RIAA for the Offshore Project. Where an impact pathway has been identified for a particular SPA qualifying feature type, this is given as a 'Y'. Where no impact pathway is identified, this is a 'N'.

Impact pathway	Potential pathways due to Project	Type of SPA qualifying feature					
		Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Breeding seabirds using marine SPAs	Breeding red-throated divers (terrestrial and marine SPAs)	Migratory species (excluding seabirds)
Construction (including pre-construction) and decommissioning							
1. Disturbance and/or displacement	Visual, noise or vibration disturbance due to construction within Offshore Project Area including the offshore export cable corridor and vessel movements to and from port.	Y	Y	Y	Y	Y	N
2. Direct and indirect impacts on prey or supporting habitat	Disturbance and/or displacement of prey due to visual, noise or vibration disturbance. Loss of habitat for prey due to temporary or permanent infrastructure. Sedimentation impacts on ability of birds to forage, or on prey species.	Y	Y	Y	Y	Y	N
3. Lighting impacts from construction vessels and project infrastructure	Displacement, attraction or disorientation.	Y	Y	N	Y	N	N

Impact pathway Operation	Potential pathways due to Project	Type of SPA qualifying feature Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Breeding seabirds using marine SPAs	Breeding red-throated divers (terrestrial and marine SPAs)	Migratory species (excluding seabirds)
4. Collision risk	Injury and mortality	Y	Y	N	Y	N	Y
5. Disturbance and/or displacement (including barrier effects)	Visual or noise disturbance around WTGs, other infrastructure or vessels resulting in direct habitat loss. Prevention or re-routing of foraging or commuting movements due to presence of turbines.	Y	Y	Y	Y	Y	N
6. Direct and indirect impacts on prey or supporting habitat	Noise or electro-magnetic field impacts on prey species. Creation of hard substrates for prey species. Changes in water flow or suspended sediment levels due to permanent infrastructure	Y	Y	Y	Y	Y	N
7. Lighting impacts from Project infrastructure and vessels	Displacement, attraction or disorientation.	Y	Y	N	Y	N	N

3.2.3 Construction Impact Pathways

102. Construction impact pathways will be temporary in nature, with a maximum duration of the construction period.

3.2.3.1 Disturbance and Displacement

103. Disturbance and displacement caused by construction vessels and Project infrastructure will be temporary and localised to the area of construction activity. Construction activity includes installation of infrastructure within the OAA as well as activities associated with installation of the export cables in the ECC. As construction proceeds and more of the Project is built, the potential for displacement could increase, particularly as WTGs start turning.

104. Disturbance and displacement of seabirds and wintering waterfowl could occur during construction. Some species of seaduck and red-throated divers are particularly sensitive to the presence of shipping and OWF infrastructure. Auks, kittiwakes and gannets are also known to be susceptible to displacement (Furness *et al.* 2013; Bradbury *et al.* 2014; Joint Interim Displacement Advice Note, 2022[17]; NatureScot Guidance Note 8) and temporary displacement could occur during construction, both within the OAA and the ECC as well as along construction vessel transit routes and lie up/sheltering areas. Gulls and terns are assumed to not be displaced (Furness *et al*. 2013; Bradbury *et al*. 2014; NatureScot Guidance Note 7). Consequently, all SPAs with breeding seabird qualifying features were assessed for disturbance/displacement impact pathways during construction.

105. Migratory species (excluding seabirds) are assumed to not be affected by disturbance or displacement as they are briefly passing through the area and are not stopping to use the site. Most of the migratory species are unable to land on the sea, e.g. waders, raptors or even if they can land, they cannot forage far offshore, e.g. geese, ducks (excluding seaducks). Disturbance and displacement impacts on other migratory species that could use the offshore Project area, such as seaducks and divers, are also assessed via wintering waterfowl marine SPAs for which disturbance and displacement is screened in as an impact pathway for which LSE was concluded (see **Table 3-2**).

106. LSE is therefore concluded for all SPA qualifying feature types, with the exception of migratory species (excluding seabirds, divers and seaduck) (as per **Table 3-2**).

3.2.3.2 Direct and Indirect Impacts on Prey and Supporting Habitats

107. Construction activity could have temporary effects on prey and supporting habitats, e.g. through underwater noise from piling and suspended sediments in the water column directly impacting prey abundance or availability or water turbidity and noise reducing bird foraging opportunities. This has the potential to affect any species potentially foraging in the offshore Project area. Migratory species (excluding seabirds, divers and seaduck) are not capable of foraging in the offshore marine environment and therefore would not be affected by any changes to prey abundance or availability.

[17] *Joint SNCB Interim Displacement Advice Note | JNCC Resource Hub.*

108. LSE is therefore concluded for all SPA qualifying feature types, with the exception of migratory species (excluding seabirds, divers and seaduck) as per **Table 3-2**.

3.2.3.3 Negative impacts from lighting on vessels and Project infrastructure

109. The following consultation advice on lighting impacts was given by NatureScot:

NatureScot Advice (27 March 2024):

It is noted from the RIAA (Section 6.7.4) that Manx shearwater, European storm petrel and Leach's storm petrel have been screened out from negative impacts from artificial lighting based on Furness (2018). This should be re-considered in light of recent published work and a new project relating to petrels and shearwaters:

- *Petrel and Shearwater Sensitivities to Offshore Wind farms – Evidence Review https://www.gov.scot/publications/review-inform-assessment-risk-collision-displacementpetrels-shearwaters-offshore-wind-developments-scotland/*
- *OWSMRF project KG4 - JNCC report 719 Towards better estimates of Manx shearwater and European storm-petrel population abundance and trends, demographic rates and at-sea distribution and behaviour*
- *ProcBe – Procellariiform Behaviours and Demographics https://jncc.gov.uk/aboutjncc/jncc-blog/archive/the-procbe-procellariiform-behaviour-and-demographics-project*

110. Lighting of construction sites, vessels and Project infrastructure at night may potentially be a source of attraction (phototaxis), disorientation or displacement for some species of seabird (Deakin *et al.,* 2022). Species at risk of negative impacts of lighting are European storm-petrel, Leach's petrel, Manx shearwater, as well as puffin fledglings (Furness, 2018; Deakin *et al*. 2022). Deakin *et al.* (2022) noted that there is evidence from Canada of attraction of offshore infrastructure (drilling platforms), though there is limited evidence from similar structures in the UK. They present no empirical information on attraction to the lighting of offshore infrastructure at OWFs. Deakin *et al*. (2018) surmise that the main impact on shearwaters and petrels attracted to offshore wind farms is birds circling turbines and therefore greatly increasing their collision risk. This assumes that these species will be attracted to the lighting at offshore wind farms and that when attracted at night birds will fly at collision risk height. However, Furness (2018) considered the type and intensity of lighting installed at offshore wind farms, compared with the evidence of attraction to other coastal and offshore lit structures and concluded that, "*the evidence indicates that obstruction or navigation lights on turbines will have no significant effects on marine birds or on migrant terrestrial birds passing nearby*".

111. No theoretical connectivity was found for Leach's petrels as the species was not recorded within the OAA plus 4 km buffer on any of the 27 digital aerial surveys, therefore SPAs with Leach's petrels were not screened in for this impact pathway. SPAs with Manx shearwater, European storm petrel and puffin qualifying features were screened in for negative impacts from lighting used during construction (**Table 3-2**).

112. Puffin fledglings are known to be attracted to light when they first leave the burrow and take their first flight to the sea. However, unlike the Procellariformes, once fledged, puffins do not show any attraction to or avoidance of artificial lighting. Therefore, there is an impact pathway for puffin fledglings to be negatively impacted by artificial lighting for SPAs very close to the offshore Project area. Puffins fledging at SPAs at a greater distance from the offshore Project area will not be attracted to the offshore Project area. Therefore, all SPAs with puffin qualifying features were screened out for this impact pathway, with the exception of Sule Skerry and Sule Stack SPA. This SPA is only 1.7 km from the boundary of the OAA and so puffin fledglings from this SPA could be attracted to artificial lighting in the offshore Project area, during both construction and operation.

113. Wintering waterfowl and red-throated divers, other seabirds and migratory birds are assumed to not be attracted to lighting due to them not being nocturnally active or burrow nesters and so this impact pathway is screened out for SPAs with these qualifying features (**Table 3-2**).

3.2.4 Operation and Maintenance Impact Pathways

3.2.4.1 Collision Risk

114. Some species are at higher risk than other species, due to the height at which they fly and their flight behaviour. Some species regularly fly low over the sea and are assumed to not be at risk of collision. This includes auks, divers and wintering waterfowl. Gulls, terns, gannets and migratory waterbirds, however, are assumed to be at risk of collision due to their flight heights and flight behaviour (JNCC, Natural England, Natural Resources Wales, NatureScot, 2024[18], NatureScot Guidance Note #7[19]).

115. LSE is therefore concluded for gannet, gull and tern features and for migratory birds (excluding seabirds). Wintering waterfowl and red-throated divers are assumed to not be at risk of collision and so this impact pathway is screened out for these qualifying features (as per **Table 3-2**).

3.2.4.2 Disturbance/ Displacement (including barrier effects)

116. The presence of WTGs and other offshore infrastructure has the potential to cause a redistribution of birds including displacement and barrier effects, if birds change their behaviour to actively avoid infrastructure. This effect could be temporary (if habituation occurs) or permanent. Birds could also be disturbed/displaced by operation and maintenance vessels transiting between the OAA and the operation and maintenance base.

117. Divers and gannet are known to show a strong avoidance/displacement from operational offshore wind farms. Seaducks and auks also show some displacement (NatureScot

[18] *Joint advice note from the Statutory Nature Conservation Bodies (SNCBs) regarding bird collision risk modelling for offshore wind developments (jncc.gov.uk)*

[19] *Guidance Note 7: Guidance to support Offshore Wind Applications: Marine Ornithology - Advice for assessing collision risk of marine birds | NatureScot*

Guidance Note #8[20], Joint SNCB Interim Displacement Advice Note[21]. LSE is therefore concluded for SPAs with diver, seaduck, kittiwake, gannet and auk qualifying features.

118. Migratory birds (excluding seabirds) are assumed to not be displaced as these birds are briefly passing near or through the offshore Project area and are not stopping to use the area for foraging or other behaviours. Theoretically, there is potential for the presence of the Project, once operational, to cause migrating birds to deviate from their intended migration pathway to avoid flying through the wind farm, i.e. barrier effects. At its widest point, the Project is 26 km wide. This would mean the maximum perpendicular deviation a migrating bird would need to take to avoid flying through the Project would be 13 km. This deviation would need to be taken at most twice a year, once on autumn migration and once on spring migration. Given the long distances migratory species are travelling during migration (see e.g., Wernham et al. 2002), this deviation represents a very small change to their migration pathway. It is therefore very unlikely that barrier effects would introduce any material increase in energetic demands, e.g. through longer migration routes. Therefore, this impact pathway is screened out for these qualifying features (as per **Table 3-2**).

3.2.4.3 Summary of seabird species at risk of collision and displacement impact pathways

119. NatureScot, in their Guidance Note 6[22], advise that collision risk and distributional responses (i.e. displacement and barrier effects) are the primary impact pathways for marine birds. Error! Reference source not found. summarises which of the twelve species, which occurred i n the OAA plus 4 km buffer in non-trivial numbers, are assumed to be at risk of collision and which at risk of displacement.

Table 3-3. Collision and displacement impact pathways for the 12 species which occurred in the OAA plus 4 km buffer in non-trivial numbers.

Species	Collision	Displacement
Arctic tern	✓	✓
European storm-petrel	✓	
Fulmar		✓
Gannet	✓	✓
Great black-backed gull	✓	
Great skua	✓	
Guillemot		✓
Herring gull	✓	
Kittiwake	✓	✓
Manx shearwater	✓	

[20] *Guidance Note 8: Guidance to support Offshore Wind Applications: Marine Ornithology Advice for assessing the distributional responses, displacement and barrier effects of Marine birds | NatureScot*

[21] *Joint SNCB Interim Displacement Advice Note (jncc.gov.uk)*

[22] *Guidance Note 6: Guidance to support Offshore Wind Applications - Marine Ornithology Impact Pathways for Offshore Wind Developments | NatureScot.*

Species	Collision	Displacement
Puffin		✓
Razorbill		✓

3.2.4.4 *Direct and Indirect Impacts on Prey and Supporting Processes*

120. Presence of WTGs and other infrastructure, particularly subsea infrastructure, has the potential to alter prey communities and availability, e.g. changes to fish communities following introduction of hard structures. This has the potential to affect all species that are potentially foraging in the OAA and ECC.

121. LSE is therefore concluded for all seabird and red-throated diver qualifying features and wintering waterfowl. However, migratory birds (excluding seabirds) are assumed to not be foraging as they migrate past the Project and so this impact pathway is screened out for these qualifying features (as per **Table 3-2**).

3.2.4.5 *Negative impacts from lighting on vessels and Project infrastructure*

122. During Project construction and operation and maintenance, navigational lighting on WTGs and other Project infrastructure as well as lighting on any vessels remaining in the offshore Project area overnight, has the potential to negatively impact petrels, shearwaters and puffin fledglings (Deakin *et al.* 2022; Furness, 2018). Lighting could potentially be a source of attraction (phototaxis), disorientation or displacement for birds.

123. No theoretical connectivity exists for SPAs with Leach's petrel SPAs, as this species was not recorded within the OAA plus 4 km buffer. However, SPAS with European storm petrel, Manx shearwater and puffin qualifying features were screened in for this impact pathway.

124. Wintering waterfowl and red-throated divers, other seabirds and migratory birds are assumed to not be attracted to lighting due to them not being nocturnally active or burrow nesters and so this impact pathway is screened out for SPAs with these qualifying features (**Table 3-2**).

4 SPAS AND RAMSAR SITES CONSIDERED IN THE RIAA.

125. **Table 4-1** of **Annex A** lists all the SPAs and Ramsar sites that have been taken forward for assessment within the **Addendum to the RIAA**. An SPA or Ramsar site was screened into the **Addendum to the RIAA** if at least one qualifying feature for which there was theoretical connectivity also had a potential impact pathway, i.e. LSE could not be ruled out, during any one of the construction, operation and maintenance and decommissioning stages.

126. It should be noted that based on the identified impact pathways during construction and operation, no SPAs on the long-list of theoretical connectivity could be screened out as LSE could not be ruled out for at least one qualifying feature of all SPAs on the long list.

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ANNEX A. LONG LIST OF SPECIAL PROTECTION AREA AND RAMSAR SITES TAKEN INTO THE RIAA

Table 4-1. Long list of SPAs and Ramsar sites with both theoretical connectivity and for which LSE could not be ruled out, which were screened into the Addendum to the RIAA for further assessment. Distance was straight line distance from SPA boundary to the OAA or ECC boundary. Named components of assemblage features are indicated by '*'. The basis by which theoretical connectivity was established between the Project and an SPA is indicated by a 'Y'. Potential LSE = 'Y' means LSE could not be ruled out

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Sule Skerry and Sule Stack	SPA	1.7	29.2	Breeding: European storm-petrel, Leach's storm-petrel, Northern gannet, European shag*, Common guillemot*, Atlantic puffin	Y	Y	Y						Y	Y	Y
Caithness and Sutherland Peatlands	SPA and Ramsar	22.9	6.9	Breeding: Red-throated diver, Black-throated diver, Eurasian wigeon, Common scoter, Hen harrier, Golden eagle, Merlin, European golden plover, Common greenshank, Wood sandpiper, Short-eared owl, Dunlin	N						Y	Y	Y	Y	Y
North Sutherland Coastal Islands	SPA	24.5	27.6	Wintering: Barnacle goose	N							Y	Y	Y	Y
Hoy	SPA	24.7	21.8	Breeding: Red-throated diver, Northern fulmar*, Peregrine falcon, Arctic skua*, Great skua, Great black-backed gull*, Black-legged kittiwake*, Common guillemot*, Atlantic puffin*	Y	Y	Y				Y	Y	Y	Y	Y
Cape Wrath	SPA	25.9	41.8	Breeding: Northern fulmar*, Black-legged kittiwake*, Common guillemot*, Razorbill*, Atlantic puffin*	Y	Y	Y						Y	Y	Y
North Caithness Cliffs	SPA	27.2	1.7	Breeding: Northern fulmar*, Peregrine falcon, Black-legged kittiwake*, Common guillemot, Razorbill*, Atlantic puffin*	Y	Y	Y						Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Scapa Flow	SPA	31.2	30	Breeding: Red-throated diver. Wintering: Great northern diver, Red-throated diver, Black-throated diver, Slavonian grebe, European shag, Common eider, Long-tailed duck, Red-breasted merganser	N			Y			Y	Y	Y	Y	Y
Marwick Head	SPA	35	38.6	Breeding: Black-legged kittiwake*, Common guillemot	Y	Y	Y						Y	Y	Y
Caithness Lochs	SPA and Ramsar	40.1	7.3	Wintering: Whooper swan, Greylag goose, Greenland white-fronted goose	N							Y	Y	Y	Y
Orkney Mainland Moors	SPA	40.9	40	Breeding: Red-throated diver, Hen harrier, Short-eared owl	N						Y	Y	Y	Y	Y
				Wintering: Hen harrier											
North Orkney	SPA	46.2	46.9	Wintering: Great northern diver, Slavonian grebe, Velvet scoter	N							Y	Y	Y	Y
Switha	SPA	46.8	36.7	Wintering: Barnacle goose	N							Y	Y	Y	Y
Rousay	SPA	49.3	52.9	Breeding: Northern fulmar*, Arctic skua*, Black-legged kittiwake*, Arctic tern, Common guillemot*	Y	Y	Y						Y	Y	Y
Pentland Firth Islands	SPA	50.9	36.5	Breeding: Arctic tern	Y	Y							Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Handa	SPA	56.1	71.3	Breeding: Northern fulmar*, Arctic skua, Great skua*, Black-legged kittiwake*, Common guillemot, Razorbill	Y	Y	Y						Y	Y	Y
West Westray	SPA	60.2	64.6	Breeding: Northern fulmar*, Arctic skua*, Black-legged kittiwake*, Arctic tern, Common guillemot, Razorbill*	Y	Y	Y						Y	Y	Y
Copinsay	SPA	67.2	59.7	Breeding: Northern fulmar*, Great black-backed gull*, Black-legged kittiwake*, Common guillemot*	Y	Y	Y						Y	Y	Y
East Caithness Cliffs	SPA	70.1	40	Breeding: Northern fulmar*, Great cormorant*, European shag, Peregrine falcon, Herring gull, Great black-backed gull*, Black-legged kittiwake, Common guillemot, Razorbill	Y	Y	Y					Y	Y	Y	Y
Calf of Eday	SPA	72.3	75.7	Breeding: Northern fulmar*, Great cormorant*, Great black-backed gull*, Black-legged kittiwake*, Common guillemot*	Y	Y	Y						Y	Y	Y
Auskerry	SPA	77.6	75.1	Breeding: European storm-petrel, Arctic tern	Y	Y							Y	Y	Y
Moray Firth	SPA	79.2	48.8	Wintering: Red-throated diver, Great northern diver, Slavonian grebe, European shag, Greater scaup, Common eider, Long-tailed duck, Common scoter, Velvet scoter, Common goldeneye, Red-breasted merganser	N			Y				Y	Y	Y	Y
				Breeding: European shag											

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
North Rona and Sula Sgeir	SPA	79.7	98.4	Breeding: Northern fulmar*, European storm-petrel, Leach's storm-petrel, Northern gannet, Great black-backed gull*, Black-legged kittiwake*, Common guillemot, Razorbill*, Atlantic puffin*	Y	Y	Y						Y	Y	Y
Strath Carnaig and Strath Fleet Moors	SPA	80.9	67.3	Breeding: Hen harrier	N							Y	Y	Y	Y
East Sanday Coast	SPA and Ramsar	81.5	84.3	Wintering: Purple sandpiper, Bar-tailed godwit, Ruddy turnstone	N							Y	Y	Y	Y
Dornoch Firth and Loch Fleet	SPA and Ramsar	90	72.4	Wintering: Greylag goose, Eurasian wigeon, Eurasian teal*, Greater scaup*, Eurasian oystercatcher*, Bar-tailed godwit, Eurasian curlew*, Common redshank*, Dunlin*	N							Y	Y	Y	Y
				Breeding: Osprey*											
Lewis Peatlands	SPA and Ramsar	104.6	123.1	Breeding: Red-throated diver, Black-throated diver, Golden eagle, Merlin, European golden plover, Common greenshank, Dunlin	N							Y	Y	Y	Y
Beinn Dearg	SPA	105.5	106.2	Breeding: Eurasian dotterel	N							Y	Y	Y	Y
Ness and Barvas, Lewis	SPA	105.6	124.5	Breeding: Corncrake	N							Y	Y	Y	Y
Priest Island (Summer Isles)	SPA	108.2	120.9	Breeding: European storm-petrel	Y	Y							Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Loch Eye	SPA and Ramsar	110.7	89.5	Wintering: Whooper swan, Greylag goose	N							Y	Y	Y	Y
Cromarty Firth	SPA and Ramsar	116.1	95.7	Wintering: Whooper swan, Greylag goose, Eurasian wigeon*, Northern pintail*, Greater scaup*, Red-breasted merganser*, Eurasian oystercatcher*, Bar-tailed godwit, Eurasian curlew*, Common redshank*, Red knot*, Dunlin*	N							Y	Y	Y	Y
				Breeding: Osprey, Common tern											
Ben Wyvis	SPA	118.8	108.4	Breeding: Eurasian dotterel	N							Y	Y	Y	Y
Seas off Foula	SPA	126.9	136.9	Breeding: Northern fulmar, Arctic skua, Great skua, Common guillemot, Atlantic puffin	Y	Y	Y			Y			Y	Y	Y
				Wintering: Northern fulmar, Great skua, Common guillemot											
Moray and Nairn Coast	SPA and Ramsar	128.6	103.3	Wintering: Pink-footed goose, Greylag goose, Eurasian wigeon*, Red-breasted merganser*, Eurasian oystercatcher*, Bar-tailed godwit, Common redshank , Dunlin*	N			Y				Y	Y	Y	Y
				Breeding: Osprey											
Inner Moray Firth	SPA and Ramsar	131.8	111.4	Wintering: Great cormorant*, Greylag goose, Eurasian wigeon*, Eurasian teal*, Greater scaup*, Common goldeneye*, Red-breasted merganser,	N			Y				Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Goosander*, Eurasian oystercatcher*, Black-tailed godwit, Eurasian curlew*, Common redshank											
				Breeding: Osprey, Common tern											
Loch Spynie	SPA and Ramsar	133.4	104.1	Wintering: Greylag goose	N							Y	Y	Y	Y
Loch Flemington	SPA	138.5	117.6	Breeding: Slavonian grebe	N							Y	Y	Y	Y
Fair Isle	SPA	140.1	143.2	Breeding: Northern fulmar*, Northern gannet*, European shag*, Arctic skua*, Great skua*, Black-legged kittiwake*, Arctic tern, Common guillemot, Razorbill*, Atlantic puffin*, Fair Isle wren	Y	Y	Y						Y	Y	Y
Shiant Isles	SPA	141.7	157.4	Breeding: Northern fulmar*, European shag, Black-legged kittiwake*, Common guillemot*, Razorbill, Atlantic puffin	Y	Y	Y					Y	Y	Y	Y
				Wintering: Barnacle goose											
Loch Ashie	SPA	154.8	137.4	Passage: Slavonian grebe	N							Y	Y	Y	Y
North Inverness Lochs	SPA	157.7	144	Breeding: Slavonian grebe	N							Y	Y	Y	Y
Troup, Pennan and Lion's Heads	SPA	160.1	127.3	Breeding: Northern fulmar*, Herring gull*, Black-legged kittiwake, Common guillemot, Razorbill*	Y	Y	Y						Y	Y	Y
Foula	SPA	160.9	167.1	Breeding: Red-throated diver, Northern fulmar*, Leach's storm-petrel, European shag, Arctic skua*,	Y	Y	Y					Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Great skua, Black-legged kittiwake*, Arctic tern, Common guillemot, Razorbill*, Atlantic puffin											
Loch Ruthven	SPA and Ramsar	162.2	144.5	Breeding: Slavonian grebe	N							Y	Y	Y	Y
West Coast of the Outer Hebrides	SPA	166.9	183.9	Wintering: Black-throated diver, Great northern diver, Slavonian grebe, Common eider, Long-tailed duck, Red-breasted merganser	N							Y	Y	Y	Y
				Breeding: Red-throated diver											
West Inverness-shire Lochs	SPA	171.4	165.7	Breeding: Black-throated diver, Common scoter	N							Y	Y	Y	Y
Loch Vaa	SPA	173.5	150.7	Breeding: Slavonian grebe	N							Y	Y	Y	Y
Loch Knockie and Nearby Lochs	SPA	176.9	163.1	Breeding: Slavonian grebe	N							Y	Y	Y	Y
Sumburgh Head	SPA	177.2	181.5	Breeding: Northern fulmar*, Black-legged kittiwake*, Arctic tern, Common guillemot*	Y	Y	Y						Y	Y	Y
Cairngorms	SPA	178.4	155.4	Breeding: Golden eagle, Osprey, Merlin, Peregrine falcon, Western capercaillie, Eurasian dotterel, Scottish crossbill	N							Y	Y	Y	Y
Lochs of Spiggie and Brow	SPA	181.8	186.4	Wintering: Whooper swan	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Loch of Strathbeg	SPA and Ramsar	181.9	150	Wintering: Sandwich tern, Whooper swan, Pink-footed goose, Greylag goose, Barnacle goose, Eurasian teal*, Common goldeneye*	N							Y	Y	Y	Y
Flannan Isles	SPA	183.9	202.8	Breeding: Northern fulmar*, Leach's storm-petrel, Black-legged kittiwake*, Common guillemot*, Razorbill*, Atlantic puffin*	Y	Y	Y						Y	Y	Y
River Spey - Insh Marshes	SPA and Ramsar	184.3	162.5	Breeding: Eurasian wigeon, Osprey, Spotted crake, Wood sandpiper	N							Y	Y	Y	Y
				Wintering: Whooper swan, Hen harrier											
Mousa	SPA	193.2	197.8	Breeding: European storm-petrel, Arctic tern	Y	Y							Y	Y	Y
North Uist Machair and Islands	SPA and Ramsar	194.2	211.1	Breeding: Corncrake, Eurasian oystercatcher, Ringed plover, Common redshank, Dunlin	N							Y	Y	Y	Y
				Wintering: Barnacle goose, Ringed plover, Purple sandpiper, Ruddy turnstone											
Papa Stour	SPA	195.9	202	Breeding: Arctic tern, Ringed plover	Y							Y	Y	Y	Y
Seas off St Kilda	SPA	197.1	215.7	Breeding: Northern fulmar, European storm-petrel, Northern gannet, Common guillemot, Atlantic puffin	Y	Y	Y			Y			Y	Y	Y
Creag Meagaidh	SPA	198.4	182.4	Breeding: Eurasian dotterel	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Buchan Ness to Collieston Coast	SPA	199.4	167.1	Breeding: Northern fulmar*, European shag*, Herring gull*, Black-legged kittiwake*, Common guillemot*	Y	Y	Y						Y	Y	Y
Muir of Dinnet	SPA and Ramsar	202.2	173.1	Wintering: Greylag goose	N							Y	Y	Y	Y
Ythan Estuary, Sands of Forvie and Meikle Loch	SPA and Ramsar	202.3	169.1	Wintering: Pink-footed goose, Common eider*, Northern lapwing*, Common redshank*	N			Y				Y	Y	Y	Y
				Breeding: Sandwich tern, Common tern, Little tern											
East Mainland Coast, Shetland	SPA	204	209.2	Wintering: Great northern diver, Slavonian grebe	N							Y	Y	Y	Y
				Breeding: Red-throated diver											
Noss	SPA	206.3	211.1	Breeding: Northern fulmar*, Northern gannet, Great skua, Black-legged kittiwake*, Common guillemot, Atlantic puffin*	Y	Y	Y						Y	Y	Y
Drumochter Hills	SPA	206.4	187.4	Breeding: Merlin, Eurasian dotterel	N							Y	Y	Y	Y
Glen Tanar	SPA	207.5	178.3	Breeding: Hen harrier, Osprey, Scottish crossbill	N							Y	Y	Y	Y
				Permanent: Western capercaillie											
Lochnagar	SPA	210	183.3	Breeding: Eurasian dotterel	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Loch of Skene	SPA and Ramsar	210.5	178.4	Wintering: Greylag goose, Common goldeneye, Goosander	N							Y	Y	Y	Y
Caenlochan	SPA	210.8	184.9	Breeding: Golden eagle, Eurasian dotterel	N							Y	Y	Y	Y
Rum	SPA	212.2	220.9	Breeding: Red-throated diver, Manx shearwater, Golden eagle, Black-legged kittiwake*, Common guillemot*	Y	Y	Y					Y	Y	Y	Y
Ben Alder	SPA	213.5	196.8	Breeding: Eurasian dotterel	N							Y	Y	Y	Y
Ronas Hill - North Roe and Tingon	SPA and Ramsar	219.2	225.5	Breeding: Red-throated diver, Great skua	Y	Y	Y					Y	Y	Y	Y
Canna and Sanday	SPA	221.9	233.4	Breeding: European shag*, Herring gull*, Black-legged kittiwake*, Common guillemot*, Atlantic puffin*	Y	Y	Y						Y	Y	Y
Forest of Clunie	SPA	222.9	198.8	Breeding: Hen harrier, Osprey , Merlin , Short-eared owl	N							Y	Y	Y	Y
Aird and Borve, Benbecula	SPA	223.8	239.8	Breeding: Corncrake	N							Y	Y	Y	Y
Monach Islands	SPA	228.4	244.9	Breeding: Barnacle goose, Little tern	N							Y	Y	Y	Y
South Uist Machair and Lochs	SPA and Ramsar	229.3	244.9	Wintering: Corncrake, Ringed plover, Sanderling, Common redshank, Little tern, Dunlin	N							Y	Y	Y	Y
				Breeding: Eurasian oystercatcher, Ringed plover											

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Otterswick and Graveland	SPA	234.1	240	Breeding: Red-throated diver	N							Y	Y	Y	Y
Fowlsheugh	SPA	236.8	204.9	Breeding: Northern fulmar*, Herring gull*, Black-legged kittiwake, Common guillemot, Razorbill*	Y	Y	Y						Y	Y	Y
Loch of Lintrathen	SPA and Ramsar	241.1	214.5	Wintering: Greylag goose	N							Y	Y	Y	Y
Fetlar	SPA	241.6	247.4	Breeding: Northern fulmar*, Whimbrel, Red-necked phalarope, Arctic skua*, Great skua, Arctic tern, Dunlin	Y	Y	Y					Y	Y	Y	Y
Loch of Kinnordy	SPA and Ramsar	244.3	217	Wintering: Pink-footed goose, Greylag goose	N							Y	Y	Y	Y
Montrose Basin	SPA and Ramsar	247.1	217.3	Wintering: Pink-footed goose, Greylag goose, Common shelduck*, Eurasian wigeon*, Common eider*, Eurasian oystercatcher*, Common redshank, Red knot*, Dunlin*	N							Y	Y	Y	Y
Kilpheder and Smerclate, South Uist	SPA	249.5	264.3	Breeding: Corncrake	N							Y	Y	Y	Y
St Kilda	SPA	249.8	268.3	Breeding: Northern fulmar*, Manx shearwater*, European storm-petrel, Leach's storm-petrel, Northern gannet, Great skua, Black-legged kittiwake*, Common guillemot*, Razorbill*, Atlantic puffin	Y	Y	Y						Y	Y	Y
Coll and Tiree	SPA	253	260.3	Wintering: Great northern diver, Common eider	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Hermaness, Saxa Vord and Valla Field	SPA	257.7	263.7	Breeding: Red-throated diver, Northern fulmar*, Northern gannet, European shag*, Great skua, Black-legged kittiwake*, Common guillemot*, Atlantic puffin	Y	Y	Y						Y	Y	Y
Eoligarry, Barra	SPA	259.4	274	Breeding: Corncrake	N							Y	Y	Y	Y
Coll	SPA and Ramsar	261.4	268.2	Wintering: Barnacle goose, Greenland white-fronted goose	N							Y	Y	Y	Y
Outer Firth of Forth and St Andrews Bay Complex	SPA	266	236.6	Wintering: Red-throated diver, European shag, Slavonian grebe, Common eider, Long-tailed duck, Common scoter, Velvet scoter, Common goldeneye, Red-breasted merganser, Little gull, Black-headed gull, Common gull, Herring gull, Black-legged kittiwake, Common guillemot, Razorbill, Atlantic puffin	Y	Y	Y	Y		Y		Y	Y	Y	Y
				Breeding: Manx shearwater, Northern gannet, European shag, Herring gull, Black-legged kittiwake, Common tern, Arctic tern, Common guillemot											
Firth of Tay and Eden Estuary	SPA and Ramsar	267.8	241.1	Wintering: Great cormorant*, Pink-footed goose, Greylag goose, Common shelduck*, Common eider*, Long-tailed duck*, Common scoter*, Velvet scoter*, Common goldeneye*, Red-breasted merganser*, Goosander*, Eurasian oystercatcher*, Grey plover*, Sanderling*, Bar-tailed godwit, Common redshank, Black-tailed godwit*, Dunlin*	N			Y				Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Breeding: Eurasian marsh harrier, little tern											
South Tayside Goose Roosts	SPA and Ramsar	271.8	248	Wintering: Pink-footed goose, Greylag goose	N							Y	Y	Y	Y
				Breeding: Eurasian wigeon											
Coll (corncrake)	SPA	271.9	279.3	Breeding: Corncrake	N							Y	Y	Y	Y
Treshnish Isles	SPA	275.6	280	Breeding: European storm-petrel	Y	Y						Y	Y	Y	Y
				Wintering: Barnacle goose											
Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	SPA and Ramsar	281.9	290	Breeding: Eurasian oystercatcher, Ringed plover, Common redshank, Dunlin	N							Y	Y	Y	Y
				Wintering: Barnacle goose, Ringed plover, Ruddy turnstone, Greenland white-fronted goose											
Mingulay and Berneray	SPA	282.5	296.6	Breeding: Northern fulmar*, European shag*, Black-legged kittiwake*, Common guillemot*, Razorbill, Atlantic puffin*	Y	Y	Y						Y	Y	Y
Cameron Reservoir	SPA and Ramsar	288.6	261.2	Wintering: Pink-footed goose	N							Y	Y	Y	Y
Loch Leven	SPA and Ramsar	289.3	264.8	Wintering: Great cormorant, Whooper swan, Pink-footed goose, Gadwall, Eurasian teal, Northern	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				shoveler, Common pochard, Tufted duck, Common goldeneye											
Tiree (corncrake)	SPA	293.3	302	Breeding: Corncrake	N							Y	Y	Y	Y
Firth of Forth	SPA and Ramsar	295.1	266.6	Wintering: Red-throated diver, Great crested grebe*, Slavonian grebe , Great cormorant*, Pink-footed goose , Common shelduck , Eurasian wigeon*, Mallard*, Greater scaup*, Common eider*, Long-tailed duck*, Common scoter*, Velvet scoter*, Common goldeneye*, Red-breasted merganser*, Eurasian oystercatcher*, Ringed plover*, European golden plover , Grey plover*, Northern lapwing*, Red knot , Bar-tailed godwit , Eurasian curlew*, Common redshank , Ruddy turnstone, Dunlin*	N			Y				Y	Y	Y	Y
				Passage: Sandwich tern											
Loch Lomond	SPA and Ramsar	299.4	283.2	Wintering: Greenland white-fronted goose	N							Y	Y	Y	Y
				Permanent: Western capercaillie											
Forth Islands	SPA	301.9	273.5	Breeding: Northern gannet, Great cormorant*, European shag, Lesser black-backed gull, Herring gull*, Black-legged kittiwake*, Sandwich tern, Roseate tern, Common tern, Arctic tern, Common guillemot*, Razorbill*, Atlantic puffin	Y	Y	Y						Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Inner Clyde Estuary	SPA and Ramsar	310.8	295.4	Wintering: Common redshank	N							Y	Y	Y	Y
Oronsay and South Colonsay	SPA	320.1	319	Breeding: Red-billed chough, Corncrake	N							Y	Y	Y	Y
				Wintering: Red-billed chough											
Renfrewshire Heights	SPA	320.5	305.8	Breeding: Hen harrier	N							Y	Y	Y	Y
Black Cart	SPA	322.9	304.7	Wintering: Whooper swan	N							Y	Y	Y	Y
Sound of Gigha	SPA	328.3	321.2	Wintering: Great northern diver, Slavonian grebe, Common eider, Red-breasted merganser	N							Y	Y	Y	Y
Fala Flow	SPA and Ramsar	338.1	311.8	Wintering: Pink-footed goose	N							Y	Y	Y	Y
Gruinart Flats, Islay	SPA and Ramsar	338.8	337.9	Breeding: Red-billed chough	N							Y	Y	Y	Y
				Wintering: Barnacle goose, Greenland white-fronted goose, Red-billed chough											
				Passage: Pale-bellied brent goose											
Westwater	SPA and Ramsar	339.8	315.8	Wintering: Pink-footed goose	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Gladhouse Reservoir	SPA and Ramsar	340.9	315.4	Wintering: Pink-footed goose	N							Y	Y	Y	Y
Rinns of Islay	SPA and Ramsar	342	341.2	Breeding: Common scoter, Hen harrier, Corncrake, Red-billed chough	N							Y	Y	Y	Y
				Wintering: Red-billed chough, Greenland white-fronted goose											
				Permanent: Whooper swan											
Arran Moors	SPA	346.5	334.9	Breeding: Hen harrier	N							Y	Y	Y	Y
Kintyre Goose Roosts	SPA and Ramsar	348.4	339.9	Wintering: Greenland white-fronted goose	N							Y	Y	Y	Y
Bridgend Flats, Islay	SPA and Ramsar	350.2	348	Wintering: Barnacle goose	N							Y	Y	Y	Y
Muirkirk and North Lowther Uplands	SPA	354.3	333.2	Breeding: Hen harrier, Merlin, Peregrine falcon, European golden plover, Short-eared owl	N							Y	Y	Y	Y
				Wintering: Hen harrier											
Laggan, Islay	SPA	354.5	352.5	Wintering: Barnacle goose, Greenland white-fronted goose	N							Y	Y	Y	Y
Greenlaw Moor	SPA and Ramsar	354.6	326.7	Wintering: Pink-footed goose	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Eilean na Muice Duibhe (Duich Moss)	SPA and Ramsar	355.1	352.6	Wintering: Greenland white-fronted goose	N							Y	Y	Y	Y
Northumbria Coast	SPA and Ramsar	362.7	333.1	Breeding: Little tern	Y		Y					Y	Y	Y	Y
				Wintering: Purple sandpiper, Ruddy turnstone											
Lindisfarne	SPA and Ramsar	365.3	335.7	Wintering: Whooper swan, Greylag goose, Common shelduck, Eurasian wigeon, Common eider, Long-tailed duck, Common scoter, Red-breasted merganser, Ringed plover, European golden plover, Grey plover, Sanderling, Bar-tailed godwit, Common redshank, Dunlin, Light-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Roseate tern, Little tern											
Din Moss - Hoselaw Loch	SPA and Ramsar	374.3	346	Wintering: Pink-footed goose, Greylag goose	N							Y	Y	Y	Y
Holburn Lake and Moss	SPA and Ramsar	377.5	348	Wintering: Greylag goose	N							Y	Y	Y	Y
Ailsa Craig	SPA	391.9	378.3	Breeding: Northern gannet, Lesser black-backed gull, Herring gull*, Black-legged kittiwake*, Common guillemot*	Y	Y							Y	Y	Y
Langholm - Newcastleton Hills	SPA	400	374.3	Breeding: Hen harrier	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Castle Loch, Lochmaben	SPA and Ramsar	409.9	386.4	Wintering: Pink-footed goose	N							Y	Y	Y	Y
Glen App and Galloway Moors	SPA	411.6	396.5	Breeding: Hen harrier	N							Y	Y	Y	Y
Antrim Hills	SPA	412	405.7	Breeding: Hen harrier, Merlin	N							Y	Y	Y	Y
Loch Ken and River Dee Marshes	SPA and Ramsar	412.4	391.9	Wintering: Greylag goose, Greenland white-fronted goose	N							Y	Y	Y	Y
Solway Firth	SPA and Ramsar	419.5	396.7	Wintering: Red-throated diver, Great cormorant*, Whooper swan, Pink-footed goose, Barnacle goose, Common shelduck*, Eurasian teal*, Northern pintail, Northern shoveler*, Greater scaup, Common scoter*, Common goldeneye*, Goosander*, Eurasian oystercatcher, European golden plover, Grey plover*, Northern lapwing*, Red knot, Sanderling*, Bar-tailed godwit, Eurasian curlew, Common redshank, Ruddy turnstone*, Black-headed gull*, Common gull*, Herring gull*, Dunlin*	N							Y	Y	Y	Y
				Passage: Ringed plover											
Lough Foyle	SPA and Ramsar	426.7	426.7	Wintering: Whooper swan, Bar-tailed godwit, Light-bellied brent goose, Red-throated diver*, Great crested grebe*, Bewick swan*, Greylag goose*, Shelduck*, Eurasian teal*, Mallard*, Eurasian wigeon*, Common eider*, Red-breasted merganser*, Oystercatcher*, European golden	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				plover*, Grey plover*, Northern lapwing*, Red knot*, Dunlin*, Eurasian curlew*, Common redshank*, Common greenshank*, Slavonian grebe*											
Loch of Inch and Torrs Warren	SPA and Ramsar	431.8	416.6	Wintering: Hen harrier, Greenland white-fronted goose	N							Y	Y	Y	Y
North Pennine Moors	SPA	438.9	412.1	Breeding: Hen harrier, Merlin, Peregrine falcon, European golden plover	N							Y	Y	Y	Y
Larne Lough	SPA and Ramsar	445.4	436.2	Breeding: Mediterranean gull, Sandwich tern, Roseate tern, Common tern	N							Y	Y	Y	Y
Lough Neagh and Lough Beg	SPA and Ramsar	457.3	452.3	Wintering: Bewick swan, Whooper swan , Common pochard , Tufted duck , Common goldeneye , Little grebe*, Great crested grebe*, Great cormorant*, Greylag goose*, Shelduck*, Eurasian wigeon*, Gadwall*, Eurasian teal*, Mallard*, Northern shoveler*, Greater scaup*, Common coot*	N							Y	Y	Y	Y
				Breeding: Common tern											
Belfast Lough	SPA and Ramsar	458.6	448.6	Breeding: Common tern, Arctic tern	Y							Y	Y	Y	Y
				Wintering: Bar-tailed godwit, Common redshank, Black-tailed godwit											
Copeland Islands	SPA	458.8	447.1	Breeding: Manx shearwater, Arctic tern	Y	Y							Y	Y	Y

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Outer Ards	SPA and Ramsar	460.7	449.5	Breeding: Arctic tern	Y							Y	Y	Y	Y
				Wintering: Ringed plover, European golden plover, Ruddy turnstone, Light-bellied brent goose											
Strangford Lough	SPA and Ramsar	473.1	462.2	Wintering: Red knot, Common redshank, Light-bellied brent goose , Bar-tailed godwit*, Black-tailed godwit*, Common coot*, Eurasian curlew*, Dunlin*, Common eider*, Gadwall*, Great crested grebe*, Greylag goose*, Common greenshank*, Common goldeneye*, European golden plover*, Grey plover*, Northern lapwing*, Mallard*, Oystercatcher*, Northern pintail*, Red-breasted merganser*, Common ringed plover*, Shelduck*, Northern shoveler*, Eurasian teal*, Ruddy turnstone*, Eurasian wigeon*	N							Y	Y	Y	Y
				Breeding: Sandwich tern, Common tern, Arctic tern											
Teesmouth and Cleveland Coast	SPA and Ramsar	482.1	452.1	Wintering: Red knot, Ruff, Gadwall*, Northern shoveler*, Sanderling*, Eurasian wigeon*, Northern lapwing*, Herring gull*, Black-headed gull*	N							Y	Y	Y	Y
				Breeding: Pied avocet, Common tern, Little tern											
				Passage: Common redshank, Sandwich tern											

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Morecambe Bay and Duddon Estuary	SPA and Ramsar	492.8	469.7	Breeding: Lesser black-backed gull, Herring gull, Sandwich tern, Common tern, Little tern	Y							Y	Y	Y	Y
				Wintering: Little egret, Whooper swan, European golden plover, Ruff, Bar-tailed godwit, Mediterranean gull, Great egret*, Eurasian spoonbill*, Light-bellied brent goose*, Eurasian wigeon*, Eurasian teal*, Mallard*, Ring-necked duck*, Common eider*, Common goldeneye*, Red-breasted merganser*, Great cormorant*, Northern lapwing*, Little stint*, Spotted redshank*, Common greenshank*, Black-headed gull*, Common gull*, Herring gull*											
				Passage: Pink-footed goose, Common shelduck, Northern pintail, Eurasian oystercatcher, Ringed plover, Grey plover, Red knot, Sanderling, Eurasian curlew, Common redshank, Ruddy turnstone, Lesser black-backed gull, Black-tailed godwit, Dunlin											
Killough Bay	SPA and Ramsar	508	496.1	Wintering: Light-bellied brent goose	N							Y	Y	Y	Y
North York Moors	SPA	512.5	482.5	Breeding: Merlin, European golden plover	N							Y	Y	Y	Y
Slieve Beagh - Mullaghfad - Lisnaskea	SPA	516.8	514.3	Breeding: Hen harrier	N							Y	Y	Y	Y
Pettigoe Plateau	SPA and Ramsar	517.2	520	Breeding: European golden plover	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Liverpool Bay / Bae Lerpwl	SPA	533.7	511.3	Wintering: Red-throated diver, Common scoter, Little gull, Red-breasted merganser*, Great cormorant*, Black-headed gull*, Common gull*, Common eider*, Northern Fulmar*, Great black-backed gull*, Great crested grebe*, Common guillemot*, Northern gannet*, Atlantic puffin*, Herring gull*, Black-legged kittiwake*, Lesser black-backed gull*, Black-throated diver*, European shag*, Razorbill*, Velvet scoter*	N							Y	Y	Y	Y
				Breeding: Common tern, Little tern											
Carlingford Lough	SPA and Ramsar	534.3	525.1	Breeding: Sandwich tern, Common tern	N							Y	Y	Y	Y
				Wintering: Light-bellied brent goose											
Upper Lough Erne	SPA and Ramsar	534.7	534.2	Wintering: Whooper swan	N							Y	Y	Y	Y
Bowland Fells	SPA	535.3	509.9	Breeding: Hen harrier, Merlin, Lesser black-backed gull	N							Y	Y	Y	Y
Flamborough and Filey Coast	SPA	556.7	525.6	Breeding: Northern gannet, Black-legged kittiwake, Common guillemot, Razorbill, Northern Fulmar*	Y	Y	Y						Y	Y	Y
Irish Sea Front	SPA	558.6	542.5	Breeding: Manx shearwater	Y	Y				Y			Y	Y	Y

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South Pennine Moors Phase 2	SPA	559.1	531.7	Breeding: Merlin, European golden plover, Short-eared owl	N							Y	Y	Y	Y
Ribble and Alt Estuaries	SPA and Ramsar	561.8	537.7	Wintering: Great cormorant, Bewick swan, Whooper swan, Pink-footed goose, Common shelduck, Eurasian wigeon, Eurasian teal, Northern pintail, Greater scaup, Common scoter, Eurasian oystercatcher, European golden plover, Grey plover, Northern lapwing, Red knot, Sanderling, Bar-tailed godwit, Eurasian curlew, Common redshank, Black-tailed godwit, Dunlin	N							Y	Y	Y	Y
				Breeding: Ruff, Black-headed gull, Lesser black-backed gull, Common tern											
				Passage: Ringed plover, Sanderling, Whimbrel, Common redshank											
Lower Derwent Valley	SPA and Ramsar	575.2	545.6	Wintering: Bewick swan, Eurasian wigeon, Eurasian teal, European golden plover, Ruff	N							Y	Y	Y	Y
				Breeding: Northern shoveler											
Martin Mere	SPA and Ramsar	579.3	554.8	Wintering: Bewick swan, Whooper swan, Pink-footed goose, Eurasian wigeon, Northern pintail	N							Y	Y	Y	Y
Greater Wash	SPA	584.6	553.7	Breeding: Sandwich tern, Common tern, Little tern	N							Y	Y	Y	Y
				Wintering: Red-throated diver, Common scoter, Little gull											

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Peak District Moors (South Pennine Moors Phase 1)	SPA	594.5	567.5	Breeding: Merlin, European golden plover, Short-eared owl	N							Y	Y	Y	Y
Mersey Narrows and North Wirral Foreshore	SPA and Ramsar	596.1	572	Wintering: Great cormorant*, Eurasian oystercatcher*, Grey plover*, Sanderling*, Bar-tailed godwit, Common redshank*, Red knot, Dunlin*	N							Y	Y	Y	Y
				Breeding: Common tern											
				Passage: Little gull, Common tern											
Hornsea Mere	SPA	596.1	565.2	Breeding: Mute swan	N							Y	Y	Y	Y
				Wintering: Gadwall											
Humber Estuary	SPA and Ramsar	598.7	569.3	Wintering: Great bittern, Common shelduck*, Eurasian wigeon*, Eurasian teal*, Mallard*, Common pochard*, Greater scaup*, Common goldeneye*, Hen harrier, Eurasian oystercatcher*, Pied avocet, Ringed plover*, European golden plover, Grey plover*, Northern lapwing*, Red knot, Sanderling*, Bar-tailed godwit, Eurasian curlew*, Common redshank, Ruddy turnstone*, Black-tailed godwit, Dunlin, Dark-bellied brent goose*	N							Y	Y	Y	Y
				Breeding: Great bittern, Eurasian marsh harrier, Pied avocet, Little tern											

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Passage: Ringed plover*, Grey plover*, Red knot, Sanderling*, Ruff, Whimbrel*, Common redshank, Common greenshank*, Black-tailed godwit, Dunlin											
The Dee Estuary	SPA and Ramsar	603.3	579.8	Wintering: Common shelduck, Eurasian teal, Northern pintail, Eurasian oystercatcher, Grey plover, Red knot, Bar-tailed godwit, Eurasian curlew, Common redshank, Black-tailed godwit, Dunlin	N							Y	Y	Y	Y
				Breeding: Common tern, Little tern											
				Passage: Sandwich tern, Common redshank											
Mersey Estuary	SPA and Ramsar	606.6	582.5	Wintering: Great crested grebe, Common shelduck, Eurasian wigeon, Eurasian teal, Northern pintail, European golden plover, Grey plover, Northern lapwing, Eurasian curlew, Common redshank, Black-tailed godwit, Dunlin	N							Y	Y	Y	Y
				Passage: Ringed plover, Common redshank											
Traeth Lafan/ Lavan Sands, Conway Bay	SPA	612.6	591.6	Wintering: Red-breasted merganser, Eurasian oystercatcher, Eurasian curlew, Common redshank	N							Y	Y	Y	Y
				Passage: Great crested grebe											
Migneint-Arenig-Ddualllt	SPA	639.5	617.7	Breeding: Hen harrier, Merlin, Peregrine falcon	N							Y	Y	Y	Y

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Berwyn	SPA	648.5	625.6	Breeding: Red kite, Hen harrier, Merlin, Peregrine falcon	N							Y	Y	Y	Y
Glannau Aberdaron ac Ynys Enlli/ Aberdaron Coast and Bardsey Island	SPA	660.3	642.2	Breeding: Manx shearwater, Red-billed chough	Y	Y						Y	Y	Y	Y
				Wintering: Red-billed chough											
Gibraltar Point	SPA and Ramsar	690.6	659.8	Wintering: Grey plover, Sanderling, Bar-tailed godwit	N							Y	Y	Y	Y
				Breeding: Little tern											
Dyfi Estuary / Aber Dyfi	SPA	691.5	670.2	Wintering: Greenland white-fronted goose	N							Y	Y	Y	Y
The Wash	SPA and Ramsar	692.7	661.9	Wintering: Bewick swan, Pink-footed goose, Common shelduck, Eurasian wigeon, Gadwall, Northern pintail, Common scoter, Common goldeneye, Eurasian oystercatcher, Grey plover, Red knot, Sanderling, Bar-tailed godwit, Eurasian curlew, Common redshank, Ruddy turnstone, Black-tailed godwit, Dunlin, Dark-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Common tern, Little tern											
North Norfolk Coast	SPA and Ramsar	710.5	679.5	Breeding: Great bittern, Eurasian marsh harrier, Pied avocet, Sandwich tern, Common tern, Little tern	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Wintering: Pink-footed goose, Eurasian wigeon, Pied avocet, Red knot, Dark-bellied brent goose											
Rutland Water	SPA and Ramsar	714.7	685.9	Wintering: Great crested grebe, Mute swan, Eurasian wigeon, Gadwall, Eurasian teal, Northern shoveler, Tufted duck, Common goldeneye, Goosander, Common coot	N							Y	Y	Y	Y
Nene Washes	SPA and Ramsar	735.4	705.9	Breeding: Gadwall, Garganey, Northern shoveler, Black-tailed godwit	N							Y	Y	Y	Y
				Wintering: Bewick swan, Eurasian wigeon, Gadwall, Eurasian teal, Northern pintail, Northern shoveler											
Upper Nene Valley Gravel Pits	SPA and Ramsar	744.9	716	Wintering: Great crested grebe*, Great cormorant*, Great bittern, Eurasian wigeon*, Gadwall, Mallard*, Northern shoveler*, Common pochard*, Tufted duck*, Common coot*, European golden plover, Northern lapwing*	N							Y	Y	Y	Y
Ouse Washes	SPA and Ramsar	748	717.6	Wintering: Great cormorant, Mute swan, Bewick swan, Whooper swan, Eurasian wigeon, Gadwall, Eurasian teal, Northern pintail, Northern shoveler, Common pochard, Tufted duck, Hen harrier, Common coot, Ruff	N							Y	Y	Y	Y
				Breeding: Gadwall, Mallard, Garganey, Northern shoveler, Black-tailed godwit											

Site Name	Site Status	Distance to OAA (km)	Distance to Offshore ECC (km)	Qualifying Interest / Features	Basis for theoretical connectivity										
					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Broadland	SPA and Ramsar	756.7	724.5	Wintering: Bewick swan, Whooper swan, Eurasian wigeon, Gadwall, Northern shoveler, Hen harrier, Ruff	N							Y	Y	Y	Y
				Breeding: Great bittern, Eurasian marsh harrier											
Breydon Water	SPA and Ramsar	778.4	746.2	Wintering: Bewick swan, Pied avocet, European golden plover, Northern lapwing	N							Y	Y	Y	Y
				Breeding: Common tern											
				Passage: Ruff											
Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro	SPA	780.4	764	Breeding: Manx shearwater, European storm-petrel, Lesser black-backed gull, Atlantic puffin, Short-eared owl, Red-billed chough, Razorbill*, Common guillemot*, Black-legged kittiwake*	Y	Y						Y	Y	Y	Y
Bae Caerfyrddin / Carmarthen Bay	SPA	784.1	764.8	Wintering: Common scoter	N							Y	Y	Y	Y
Severn Estuary	SPA and Ramsar	788	763.2	Wintering: Bewick swan, Common shelduck, Gadwall, Common redshank, Greater white-fronted goose, Dunlin	N							Y	Y	Y	Y
Burry Inlet	SPA and Ramsar	790	769.4	Wintering: Common shelduck, Eurasian wigeon, Eurasian teal, Northern pintail, Northern shoveler, Eurasian oystercatcher, Grey plover, Red knot,	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Eurasian curlew, Common redshank, Ruddy turnstone, Dunlin											
Minsmere-Walberswick	SPA and Ramsar	805.3	773.4	Breeding: Great bittern, Gadwall, Eurasian teal, Northern shoveler, Eurasian marsh harrier, Pied avocet, Little tern, European nightjar	N							Y	Y	Y	Y
				Wintering: Gadwall, Northern shoveler, Hen harrier, Greater white-fronted goose											
Alde-Ore Estuary	SPA and Ramsar	819.6	788	Breeding: Eurasian marsh harrier, Pied avocet, Lesser black-backed gull, Sandwich tern, Little tern	N							Y	Y	Y	Y
				Wintering: Pied avocet, Ruff, Common redshank											
Lee Valley	SPA and Ramsar	821	791.7	Wintering: Great bittern, Gadwall, Northern shoveler	N							Y	Y	Y	Y
Stour and Orwell Estuaries	SPA and Ramsar	823.6	792.6	Wintering: Great crested grebe*, Great cormorant*, Mute swan, Common shelduck*, Eurasian wigeon*, Gadwall*, Northern pintail, Greater scaup, Common goldeneye*, Ringed plover*, European golden plover, Grey plover, Northern lapwing*, Red knot, Eurasian curlew*, Common redshank, Ruddy turnstone*, Black-tailed godwit, Dunlin, Dark-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Pied avocet											

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Passage: Ringed plover*, Common redshank											
Chew Valley Lake	SPA	833.2	809	Wintering: Northern shoveler	N							Y	Y	Y	Y
Abberton Reservoir	SPA and Ramsar	836.6	806.1	Wintering: Great crested grebe, Mute swan, Eurasian wigeon, Gadwall, Eurasian teal, Northern shoveler, Common pochard, Tufted duck, Common goldeneye, Common coot	N							Y	Y	Y	Y
				Breeding: Great cormorant											
Colne Estuary (Mid-Essex Coast Phase 2)	SPA and Ramsar	837.9	807.3	Breeding: Common pochard, Ringed plover, Little tern, Dark-bellied brent goose	N							Y	Y	Y	Y
				Wintering: Hen harrier, Common redshank											
Hamford Water	SPA and Ramsar	838.1	807	Wintering: Common shelduck, Eurasian teal, Pied avocet, Ringed plover, Grey plover, Common redshank, Black-tailed godwit, Dark-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Little tern											
Blackwater Estuary (Mid-Essex Coast Phase 4)	SPA and Ramsar	840.9	810.4	Breeding: Common pochard, Ringed plover, Little tern	N							Y	Y	Y	Y
				Wintering: Hen harrier, Ringed plover, Grey plover, Black-tailed godwit, Dunlin, Dark-bellied brent goose											

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Salisbury Plain	SPA	845.2	819.6	Breeding: Eurasian hobby, Common quail, Stone-curlew	N							Y	Y	Y	Y
				Wintering: Hen harrier											
South West London Waterbodies	SPA and Ramsar	846.2	818.1	Wintering: Gadwall, Northern shoveler	N							Y	Y	Y	Y
Somerset Levels and Moors	SPA and Ramsar	846.5	822.8	Wintering: Bewick swan, Eurasian teal, European golden plover, Northern lapwing	N							Y	Y	Y	Y
Dengie (Mid-Essex Coast Phase 1)	SPA and Ramsar	847.1	816.6	Wintering: Hen harrier, Grey plover, Red knot, Dark-bellied brent goose	N							Y	Y	Y	Y
Foulness (Mid-Essex Coast Phase 5)	SPA and Ramsar	860	829.4	Wintering: Hen harrier, Eurasian oystercatcher, Pied avocet, Grey plover, Red knot, Bar-tailed godwit, Common redshank, Dark-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Pied avocet, Ringed plover, Sandwich tern, Common tern, Little tern											
Benfleet and Southend Marshes	SPA and Ramsar	861	831.1	Wintering: Ringed plover, Grey plover, Red knot , Dunlin , Dark-bellied brent goose	N							Y	Y	Y	Y
Thames Estuary and Marshes	SPA and Ramsar	862	832.3	Wintering: Hen harrier, Pied avocet, Grey plover, Red knot, Common redshank, Black-tailed godwit, Dunlin	N							Y	Y	Y	Y
Medway Estuary and Marshes	SPA and Ramsar	872.4	842.5	Wintering: Red-throated diver*, Great crested grebe*, Great cormorant*, Bewick swan, Common shelduck, Eurasian wigeon, Eurasian teal, Mallard*,	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Northern pintail, Northern shoveler, Common pochard*, Hen harrier, Merlin, Eurasian oystercatcher, Pied avocet, Ringed plover, Grey plover, Red knot, Eurasian curlew, Common redshank, Common greenshank, Ruddy turnstone, Black-tailed godwit, Dunlin, Dark-bellied brent goose, Northern lapwing*											
				Breeding: Pied avocet, Common tern, Little tern											
The Swale	SPA and Ramsar	880	849.9	Wintering: Gadwall*, Eurasian teal*, Eurasian oystercatcher*, Ringed plover*, Grey plover*, Eurasian curlew*, Common redshank, Dunlin, Dark-bellied brent goose	N							Y	Y	Y	Y
New Forest	SPA and Ramsar	883.7	857.8	Breeding: European honey-buzzard, Eurasian hobby, European nightjar, Wood lark, Dartford warbler, Wood warbler	N							Y	Y	Y	Y
				Wintering: Hen harrier											
Dorset Heathlands	SPA and Ramsar	888.7	863.1	Breeding: European nightjar, Wood lark, Dartford warbler	N							Y	Y	Y	Y
				Wintering: Hen harrier, Merlin											
Avon Valley	SPA and Ramsar	889.6	863.9	Wintering: Bewick swan, Gadwall	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Solent and Southampton Water	SPA and Ramsar	890.1	863.8	Breeding: Mediterranean gull, Sandwich tern, Roseate tern, Common tern, Little tern	N							Y	Y	Y	Y
				Wintering: Eurasian teal, Ringed plover, Black-tailed godwit, Dark-bellied brent goose											
Thanet Coast and Sandwich Bay	SPA and Ramsar	890.2	859.8	Breeding: Little tern	N							Y	Y	Y	Y
				Wintering: European golden plover, Ruddy turnstone											
Stodmarsh	SPA and Ramsar	898.7	868.2	Wintering: Great bittern, Eurasian wigeon*, Gadwall, Mallard*, Northern shoveler, Common pochard*, Tufted duck*, Hen harrier, Water rail*, Northern lapwing*, Common snipe*, Greater white-fronted goose*	N							Y	Y	Y	Y
				Breeding: Gadwall											
Exe Estuary	SPA and Ramsar	901.1	878.8	Wintering: Slavonian grebe, Eurasian oystercatcher, Pied avocet, Grey plover, Black-tailed godwit, Dunlin, Dark-bellied brent goose	N							Y	Y	Y	Y
Portsmouth Harbour	SPA and Ramsar	903.6	876.8	Wintering: Red-breasted merganser, Black-tailed godwit , Dunlin , Dark-bellied brent goose	N							Y	Y	Y	Y
Poole Harbour	SPA and Ramsar	906.2	881	Wintering: Little egret, Common shelduck, Pied avocet, Spoonbill, Black-tailed godwit, Dark-bellied brent goose*, Great cormorant*, Eurasian curlew*, Dunlin*, Common goldeneye*, Common pochard*,	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Red-breasted merganser*, Common redshank*, Spotted redshank*, Common greenshank*, Eurasian teal*, Black-headed gull*											
				Breeding: Mediterranean gull, Sandwich tern, Common tern											
Chichester and Langstone Harbours	SPA and Ramsar	906.6	879.6	Wintering: Common shelduck, Eurasian wigeon, Eurasian teal, Northern pintail, Northern shoveler, Red-breasted merganser, Ringed plover, Grey plover, Sanderling, Bar-tailed godwit, Eurasian curlew, Common redshank, Ruddy turnstone, Dunlin, Dark-bellied brent goose	N							Y	Y	Y	Y
				Breeding: Sandwich tern, Common tern, Little tern											
Chesil Beach and The Fleet	SPA and Ramsar	909.9	885.8	Breeding: Little tern	N							Y	Y	Y	Y
				Wintering: Eurasian wigeon											
Dungeness, Romney Marsh and Rye Bay	SPA	922	892.2	Wintering: Greater white-fronted goose, Eurasian wigeon, Gadwall, Common pochard, Little grebe, Great crested grebe, Great cormorant, Common coot, Northern lapwing, Sanderling, Whimbrel, Common sandpiper, Great bittern, Bewick swan, Northern shoveler, Hen harrier, European golden plover, Ruff	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
				Breeding: Eurasian marsh harrier, Pied avocet, Mediterranean gull, Sandwich tern, Common tern, Little tern											
				Passage: Aquatic warbler											
Falmouth Bay to St Austell Bay	SPA	938.8	919.7	Wintering: Black-throated diver, Great northern diver, Slavonian grebe	N							Y	Y	Y	Y
Bluemull and Colgrave Sounds	SPA	242.9	249.4	Breeding: Red-throated diver	N							Y	Y	Y	Y
Mointeach Scadabhaigh	SPA	205.4	221.7	Breeding: Red-throated diver, Black-throated diver	N							Y	Y	Y	Y
Slamannan Plateau	SPA	313.5	292.2	Wintering: Taiga bean goose	N							Y	Y	Y	Y
Pagham Harbour	SPA	916.1	890.6	Wintering: Ruff, Common tern, Little tern, Dark-bellied brent goose	N							Y	Y	Y	Y
Northumberland Marine	SPA	363.2	334.2	Breeding: Sandwich tern, Roseate tern, Common tern, Arctic tern, Little tern, Common guillemot, Atlantic puffin. Seabird assemblage includes kittiwake	Y		Y						Y	Y	Y
Outer Thames Estuary	SPA	776.9	746.5	Breeding: Common tern, Little tern Wintering: Red-throated diver	N							Y	Y	Y	Y
Abernethy Forest	SPA	171.9	148.2	Breeding: Osprey, Western capercaillie, Scottish crossbill	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Achanalt Marshes	SPA	132.6	129.2	Breeding: Wood sandpiper	N							Y	Y	Y	Y
Assynt Lochs	SPA	73.5	84.8	Breeding: Black-throated diver	N							Y	Y	Y	Y
Inverpolly, Loch Urigill and nearby Lochs	SPA	81.1	88.5	Breeding: Black-throated diver	N							Y	Y	Y	Y
Knapdale Lochs	SPA	312.5	305.2	Breeding: Black-throated diver	N							Y	Y	Y	Y
Lairg and Strath Brora Lochs	SPA	75.7	59.3	Breeding: Black-throated diver	N							Y	Y	Y	Y
Loch Maree	SPA	131.4	142.6	Breeding: Black-throated diver	N							Y	Y	Y	Y
Loch Shiel	SPA	220.0	217.3	Black-throated diver	N							Y	Y	Y	Y
Rannoch Lochs	SPA	221.7	207.4	Breeding: Black-throated diver	N							Y	Y	Y	Y
St Abb's Head to Fast Castle	SPA	337.6	309.0	Breeding: European shag, Herring gull, Black-legged kittiwake, Common guillemot, Razorbill	Y		Y						Y	Y	Y
Wester Ross Lochs	SPA	119.2	130.4	Breeding: Black-throated diver	N							Y	Y	Y	Y
Elenydd – Mallaen	SPA	708.6	687.7	Breeding: Red kite, Merlin	N							Y	Y	Y	Y
Northern Cardigan Bay / Gogledd Bae Ceredigion	SPA	652.9	633.1	Wintering: Red-throated diver	N							Y	Y	Y	Y

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					Qualifying interest species recorded in baseline survey data in non-trivial numbers (Y/N)	Breeding seabirds in the breeding season	Breeding seabirds in the non-breeding season	Inshore wintering waterfowl	Wintering gulls	Breeding seabirds using marine SPAs	Red-throated divers (terrestrial and/or marine SPAs)	Migratory species (including terrestrial and non-breeding waterfowl)	Theoretical connectivity to offshore Project (Y/N)	Potential pathway for LSE (Y/N)	Potential LSE (Y/N)
Coquet Island	SPA	415.8	386.4	Breeding: Sandwich tern, Roseate tern, Common tern, Arctic tern. Seabird assemblage including Atlantic puffin.	Y		Y						Y	Y	Y
Farne Islands	SPA	382.4	352.5	Breeding: Roseate tern, common tern, Arctic tern, Sandwich tern, common guillemot, Atlantic puffin*, European shag*, Great cormorant*, black-legged kittiwake*	Y		Y						Y	Y	Y
Rathlin Island	SPA	398.6	393.6	Breeding: razorbill, peregrine falcon, black-legged kittiwake, common guillemot, Northern fulmar*, European shag*, eider*, common gull*, herring gull*, lesser black-backed gull*, Atlantic puffin*								Y	Y	Y	Y