

Ms Liz Foubister  
EIA Manager  
Offshore Wind Power Limited  
c/o Green Investment Group  
Atria One, Level 7  
Morrison Street  
Edinburgh  
EH3 8EX

Date: 22 November 2022

Dear Ms Foubister,

**Habitat Regulations Appraisal Screening under The Conservation (Natural Habitats, &c.) Regulations 1994), The Conservation of Offshore Marine Habitats and Species Regulations 2017 and The Conservation of Habitats and Species Regulations 2017**

Thank you for the Habitat Regulations Appraisal (“HRA”) Screening Report received on 8 September 2022, in relation to the construction and operation of the proposed West of Orkney Windfarm, to be located at least 23 kilometers (“km”) from the north coast of Scotland and 28km from the west coast of Hoy, Orkney. (“the Proposed Development”).

We have consulted on the HRA Screening Report with Fisheries Management Scotland, Caithness District Salmon Fisheries Board (“DSFB”), Northern DSFB (“NDSFB”), North and West DSFB, NatureScot (“NS”) and the Royal Society for the Protection of Birds Scotland (“RSPB Scotland”). Copies of the representations are attached (see Appendix 1). We advise you to fully review and address these, however we highlight some key points below. In addition, we advise that the HRA assessment must fully align with the impact pathways identified for assessment in the Scoping Opinion adopted by the Scottish Ministers in relation to the Proposed Development, dated 29 June 2022 (“the Scoping Opinion”).

**Diadromous fish**

The proposal to screen out Special Areas of Conservation (“SAC”) that do not overlap with the Proposed Development is unacceptable. The connectivity with 13 river SACs designated for Atlantic salmon on the west, north and north east coasts of Scotland are correct however we advise that all SACs in Scotland with Atlantic salmon listed as a qualifying interest are screened in. We also highlight that SACs with freshwater pearl mussel as a qualifying feature must also be screened in, as per NS representation.

With regards to impacts on other qualifying diadromous species such as sea and river lamprey, these can be screened out from the HRA and should instead be considered through the EIA Report.

## Marine Mammals

With regards to the five marine mammal species identified in the HRA Screening Report, we are content with those listed.

For the avoidance of doubt, a 20km buffer for grey seals and a 50km buffer for harbour seals are advised for the connectivity of the Proposed Development. We agree that as all European sites designated for seals are out-with these distances, they can be screened out.

With regards to bottlenose dolphins, as there is little to suggest the bottlenose dolphins sighted in the area of the Proposed Development have connectivity to the Moray Firth SAC, we agree that they can be screened out of the HRA assessment.

In relation to harbour porpoise, we agree that all SACs with harbour porpoise as the qualifying feature can be screened out.

We agree that otter can be screened out and will be assessed as part of the onshore HRA assessment providing the impacts within the sub-tidal zone, particularly waters less than 10m deep and within 100m from shore where foraging dives of otter are most likely to occur, is fully considered.

## Ornithological features

We refer to the representations made by NS and RSPB Scotland, who both highlight difficulties in evaluating the information in the HRA Screening Report regarding the assessment of connectivity and pathways. We support the NS representation in relation to producing an initial long list of Special Protection Area (SPA) and Ramsar qualifying features that can then be refined.

With respect to the qualifying features to be considered, impacts to European storm petrel, Leach's petrel and Manx shearwater from the potential effects from lighting attraction should be assessed qualitatively within the HRA. In relation to the potential displacement of any species of marine birds, we agree with the NS representation that an assessment of disturbance and/or displacement impacts from the Proposed Development itself should be included within the HRA. We also draw your attention to incorrect and contrary statements on individual species and/or sites that should be refined to show clear justification for screening decisions, as outlined by NS and RSPB Scotland.

Furthermore, we refer you to the NS representation with regards the species and sites to be screened in and out for further assessment including the impact pathways for each species and advise that this must be fully implemented. We advise that an updated final list of qualifying features and sites, including relevant justification, is provided to and discussed with the relevant stakeholders. We note that NS provided further ornithology comments, dated 28 October 2022 and this is included in Appendix A and associated Annex A.

Additionally, with regards to clear justification for screening in and out each protected site and/or species, consideration should be given to the use of matrix tables with evidence to support HRA Screening assessments and conclusions.

### In Combination Assessment

We advise finfish aquaculture, focusing on mortality for species including gannets and large gulls (associated with top nets) and disturbance of breeding red-throated divers and wintering waterfowl by vessel movements within the Scapa Flow and North Orkney marine SPAs should be screened in to the in-combination assessment. This view takes into consideration the NS representation with respect to ornithology.

If you require any further assistance or advice on the above, please do not hesitate to contact me.

Yours sincerely,

Rebecca Ross  
Marine Scotland - Licensing Operations Team

## **Appendix 1**

# **Consultation Representations and Advice**

# **NatureScot Advice**

Marine Scotland  
Marine Laboratory  
PO Box 101  
375 Victoria Road  
Aberdeen  
AB11 9DB

28 October 2022

Our ref: CNS REN OSWF-ScotWind-  
N1 OWPL West of Orkney Pre App

By email only: [ms.marinerenewables@gov.scot](mailto:ms.marinerenewables@gov.scot)

Dear Becca,

## **WEST OF ORKNEY OFFSHORE WINDFARM HABITATS REGULATIONS APPRAISAL SCREENING REPORT**

Thank you for consulting us on the West of Orkney Habitats Regulations Appraisal (HRA) Screening Report (document reference: L-100632-S09-A-REPT-001) received on 30 September 2022.

We have reviewed the HRA Screening Report and provide advice, as outlined below, on those European Sites and their qualifying features for which we consider it reasonable to expect a Likely Significant Effect (LSE) either alone or in-combination with other plans or projects. Our advice is laid out following a similar structure to that in the HRA Screening Report.

It is noted that the Marine Licence applications for the offshore transmission infrastructure associated with the connection of the Project to the proposed Flotta Hydrogen Hub will be submitted at a later date and will be the subject of a separate HRA Screening Report and thus is not covered by our advice below.

In addition, following the receipt of correspondence (document reference: WO1-WOW-HSE-CN-LT-0001) from West of Orkney confirming that floating foundation options have been removed from the Project Design Envelope (PDE), floating foundations and their potential impacts are not covered by our advice below.

### **NatureScot advice**

#### **Annex 1 habitats**

Identification of European sites, designated for Annex 1 habitats, is considered in Section 5 of the HRA Screening Report. The closest of these is Solan Bank Reef Special Area of Conservation (SAC) located approximately 25km away. Using an initial screening criterion of up to 10km Zone of

Eastbank, East Road, Kirkwall, Orkney KW15 1LX

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NatureScot is the operating name of Scottish Natural Heritage

Influence (ZOI), which we agree is reasonable, the HRA Screening Report concludes no connectivity to any European sites designated for Annex 1 habitats and therefore no potential for LSE. We agree with this conclusion.

### **Diadromous fish**

Identification of European sites, designated for diadromous fish and associated species (e.g. freshwater pearl mussel), are considered in Section 6 of the HRA Screening Report.

As noted in Section 6.2.1 there is the potential for European sites that have Atlantic salmon as a qualifying feature to have connectivity with the Project, despite being located a large distance away. This is due to the mobile nature of migrating Atlantic salmon, either as smolts travelling from rivers to offshore feeding grounds, or as adults returning to natal rivers to spawn. Although limited information is currently available on migratory routes, available tracking and tagging data for Atlantic salmon indicates that the Pentland Firth may be an important migratory route for returning adults and smolts to/from the north and east coasts of Scotland (Malcolm et al, 2010<sup>1</sup>; Youngson, 2017<sup>2</sup>).

Downie (2018)<sup>3</sup> illustrates the potential coastal migration routes of Grilse and Atlantic salmon, showing that they are now known to utilise coastal areas long distances from natal rivers and that migration patterns are not necessarily those which might be expected or predicted.

The HRA Screening Report acknowledges that movements of returning salmon from rivers south of the Aberdeenshire coast may primarily travel in a northerly direction (Malcolm et al, 2010) and thus there may be some interaction between salmon returning to the rivers of the south of the River Dee. In addition, it is also acknowledged that east to west migrations do occur (Youngson, 2017), with Malcolm et al (2010) finding that returning adults from west coast SACs may run off course and then adjust their route to return to their natal river in an east to west direction.

We acknowledge there is a lack of data on diadromous fish movements in and around the north coasts of Scotland. However, a lack of data is not sufficient evidence to conclude no LSE.

Therefore, taking the above into account we advise that all SACs designated for Atlantic salmon in Scotland are screened in at this stage for further assessment.

There is limited information on the distribution and behaviour of sea and river lamprey in marine waters and it is possible that migration routes may overlap with the proposed development. However, considering the distance to the nearest SAC (108km and 187km respectively), it is unlikely that the proposal will have a significant effect and we agree with the approach to screen them out from further HRA assessment.

Atlantic salmon are a host species for freshwater pearl mussel (FWPM) during a critical parasitic phase of the mussels lifecycle and so there is a need to consider indirect impacts upon this species

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<sup>1</sup> Malcolm I.A., Godfrey J., Youngson A.F. (2010) Review of migratory routes and behaviour of Atlantic salmon, sea trout and European eel in Scotland's coastal environment: implications for the development of marine renewables. Scottish Marine and Freshwater Science Vol 1, No 14

<sup>2</sup> Youngson, A., Malcolm, I.A., and Godfrey, J., (2017), Review of migratory routes and behaviour of Atlantic salmon, sea trout, and European eel in Scotland's coastal environment: implications for the development of marine renewables, Scottish Marine and Freshwater Science Vol. 1 No. 14

<sup>3</sup> Downie, H., Hanson, N., Smith, G.W., Middlemas, S.J., Anderson, J., Tulett, D. and Anderson, H., (2018) Using historic tag data to infer the geographic range of salmon river stocks likely to be taken by a coastal fishery. Scottish Marine and Freshwater Science, Vol. 9, No.6

to ensure populations are not adversely affected. Therefore, we advise that SACs with FWPM as a qualifying feature are also screened in for further assessment.

Despite advising that all Atlantic salmon and FWPM sites are included as having LSE, as we cannot currently apportion impacts correctly to individual SACs further discussion will be required to agree how this will be assessed in the next stage of the HRA process.

### **Marine mammals**

Identification of European sites, designated for marine mammals, is considered in Section 7 of the HRA Screening Report and we agree with the relevant features identified: otter, harbour seal, grey seal, bottlenose dolphin and harbour porpoise.

Seals are considered in Section 7.2.1 of the HRA Screening Report and as previously advised the relevant connectivity buffers have been used in the screening assessment, 20km for grey seal and 50km for harbour seal. As a result, all European sites designated for seals are outwith these distances and have no connectivity to the Project area. Therefore, we agree with the conclusion of no LSE.

We agree with the conclusions regarding cetaceans as set out in Section 7.2.2 of the HRA Screening Report. Few bottlenose dolphins are sighted along the north coast and there is very little evidence that any individuals present are from the Moray Firth SAC population, therefore we agree with the conclusion of no LSE.

As noted in Section 7.2.2 all harbour porpoise SACs within the West Scotland and North Sea Management Units have been initially screened in for assessment. The Inner Hebrides and the Minches SAC is located 93.9km from the Project area and at this distance we agree there is unlikely to be any associated pressure connectivity and thus agree with the conclusion of no LSE. We are also content that all other harbour porpoise SACs are also screened out.

It states in Section 7.2.3 of the HRA Screening Report that otter have been screened out from further HRA assessment as there is considered to be no potential for effects as a result of the offshore works. They will instead be considered as part of the onshore HRA assessment. We are content with this approach providing impacts within the sub-tidal zone, particularly waters less than 10m deep and within 100m from shore (Kruuk, 2006) where foraging dives of otter are most likely to occur, are fully considered.

### **Ornithology**

Identification of European sites, designated for ornithological features, is considered in Section 8 of the HRA Screening Report. A summary of advice is provided below with further comments provided in Appendix A and associated Annex A.

We advise for HRA Stage 1 LSE screening, that an initial long list of European sites be drawn up based solely on potential theoretical connectivity to the proposed development. Once this initial long list of Special Protection Area (SPA) and Ramsar<sup>4</sup> qualifying features is produced, it can be refined using information from site-specific baseline characterisation surveys or other agreed data

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<sup>4</sup> In line with Scottish Government policy Ramsar sites are protected by whatever underpinning designation is relevant to the particular feature(s). <https://www.gov.scot/publications/implementation-of-scottish-government-policy-on-protecting-ramsar-sites/> please note a different approach may be taken outwith Scotland.



sources, as well as consideration of relevant impact pathways and sensitivity. This will result in a list of sites and qualifying features for which an Appropriate Assessment is required.

However, the approach to compiling the initial long list (Table 8-1) is confusing and does not indicate on what basis each site has been included, which has made evaluation difficult.

Having reviewed Table 8-1, we note:

- All UK seabird colony SPAs with connectivity in the breeding season are included.
- All relevant UK SPAs for migratory geese, swans, ducks, waders, raptors, owls, divers, grebes and crakes are included.
- For all types of interest, relevant sites in the Irish Republic (including e.g. Manx shearwater and fulmar colonies and wintering goose sites) are not considered.
- The North Orkney and Scapa Flow marine SPAs have been omitted from the long list and these should be added and retained for LSE for all development phases on the basis of potential for disturbance impacts from vessel movements associated with the proposed offshore development transiting through these sites. All other relevant marine SPAs with wintering waterfowl features are included on the basis of potential collision risk to qualifying features on migration, which is also relevant to the two aforementioned Orkney marine SPAs.
- The initial long list incorrectly includes many sites with no potential connectivity to the proposed development given the qualifying features (e.g. chough, Bewick's swan, great crested grebe, stone curlew) and/or location (e.g. cormorant and tern colonies in southern Britain).
- Loch an Duin (Ramsar) does not have any bird features so can be removed from the long list.

Contrary to our advice of 12 July 2022, migratory seabirds have been identified as a separate category to seabirds in the breeding and non-breeding seasons. Although our previous advice relates more directly to the apportioning phase (of the impact assessment) for which we identify two distinct seasons. Movements of seabirds between breeding and non-breeding seasons is relevant to connectivity if birds from breeding colonies may move through a site on passage to distinct wintering areas. Given the northerly location of this development, there are relatively few SPA colonies where migratory/dispersal movements (rather than breeding or non-breeding season distributions) might be relevant and these are detailed in our advice.

For the sites retained for further consideration (213 sites listed in Table 8-2), rather than a clear conclusion of LSE the phrase used is '*No potential LSE cannot be concluded*'. This wording used here is confusing but we assume the intention is to progress to Appropriate Assessment for all these sites.

In the justification column in Table 8-2 all references to disturbance/displacement impacts relate to disturbance from vessels and there is no reference to potential displacement of any species of marine birds arising from the presence of the wind farm itself. There is also no mention of potential effects arising from lighting attraction with respect to European storm petrel, Leach's petrel and Manx shearwater. Both of which need to be addressed.

In general, we support the conclusions as to which sites should be retained for further consideration in the Appropriate Assessment on the basis of potential connectivity and generic impact pathways. However, not all associated commentaries on individual species/sites are correct, for example:

- For Sule Skerry and Sule Stack SPA, shag should be included in the list of qualifying species with connectivity to the OAA.
- For Foula, Flannan Isles and Ramna Stacks and Gruney SPAs, Leach's petrel should be included in the list of qualifying species with connectivity to the OAA.
- For Troup, Pennan and Lion's Heads SPA and also the Shiant Isles SPA, guillemot and razorbill features are not within the relevant mean max (+1SD) foraging ranges. The same applies to puffin in Mingulay and Berneray SPA, and these should be removed.
- LSE associated with vessel disturbance should be concluded for breeding red-throated divers from the Orkney Mainland Moors SPA during all phases. Conversely, it isn't clear why the breeding red-throated diver feature of Foula SPA is considered to be at risk of disturbance. Therefore, this feature should be removed.
- LSE associated with potential collision risk in the operational phase should be concluded for all breeding red-throated diver SPAs in Shetland and Orkney given potential migration routes and wintering areas.
- LSE should be concluded with respect to the Arctic tern feature of Papa Stour SPA.
- Given migration fronts for gadwall from northern and eastern Europe wintering in the UK, it is unclear why gadwall are not identified as one of the species at risk of collision during the operational phase for all 21 SPA/Ramsar sites with wintering gadwall features. This impacts conclusion with respect to LSE for four sites. The same applies to the 22 sites for which shoveler are a wintering or passage feature, which affects conclusion with respect to LSE for an additional two sites.

Due to the above as well as the way the information has been presented, it was difficult to follow the qualifying features and sites through the various steps of the HRA Stage 1 LSE screening process. This has been further compounded as there are some inconsistencies with the impact pathway justification used. Therefore, we request sight of an updated final list of qualifying features and sites, along with the relevant justification, being taken forward to the Report to Inform Appropriate Assessment.

As above, further comments on ornithology are provided in the Appendix A and associated Annex A.

### **In-combination**

We broadly agree with the approach to in-combination assessment. However, we advise that the in-combination assessment with respect to ornithology should also include finfish aquaculture, with particular focus on mortality for species including gannets and large gulls (associated with top nets) and disturbance of breeding red-throated divers and wintering waterfowl by vessel movements within the Scapa Flow and North Orkney marine SPAs.

We hope this advice is helpful. If you have any queries please contact myself, Kim McEwen in the first instance.

Yours sincerely,

Kim McEwen  
Marine Sustainability Adviser  
[kim.mcewen@nature.scot](mailto:kim.mcewen@nature.scot)



## Appendix A - Detailed comments and advice on ornithology

### Background

We previously provided advice to the West of Orkney ornithology consultants regarding the approach to the HRA screening assessment at an offshore ornithology meeting on 12 July 2022.

#### *Breeding seabirds*

During this meeting we recommended use of relevant foraging range criteria only for the first stage of the HRA LSE screening assessment to compile the initial long list of sites, with information such as tracking data being relevant at the Appropriate Assessment stage as it requires detailed consideration to interpret this data. We also advised that we recommend some minor variations to the foraging distances for some species with respect to colonies in the Northern Isles.

#### *Migrating/wintering seabirds*

It was noted during the aforementioned meeting that BDMPS (Furness, 2015)<sup>5</sup> boundaries are close to the project area and it was queried which region impacts should be assessed upon. We advised that the consultants provided some thoughts and detailed reasoning as to an assessment approach, based on a couple of examples, for further consideration and review. We have not yet received any information on this aspect ahead of submission of this HRA Screening Report.

However, we note that the details of BDMPS regions become more important at the later apportioning stage and that for HRA LSE screening, the more general information provided in Furness 2015 (e.g. on dispersal or migration patterns that will determine connectivity in the non-breeding season) is relevant.

It was also suggested that the update to the previous '*Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds*'<sup>6</sup> might be used to inform the assessment and this would be our preference. However, we are unclear as to the expected timescales for publication of this update, noting that the updated report does not include any true seabirds. In the absence of an updated report, we advised use of either colony foraging range or BDMPS for HRA screening for true seabirds in all seasons as we do not support the approach taken to migratory seabirds in the 2014 migration review.

### Section 8.1: Initial screening criteria

The criteria used to develop the initial long list of sites with potential connectivity to the project area is detailed in Section 8.1 of the HRA Screening Report and includes SPAs and Ramsar sites:

- That overlap the offshore project boundary.
- With breeding seabird features where mean max plus 1 SD foraging range(s) overlap the offshore project boundary (see comments on Section 8.2.1.1).
- With qualifying bird features whose migratory range overlaps the offshore project boundary based on data in WWT (Consulting) Ltd and MacArthur Green Ltd (2014) (see comments on Section 8.2.1.4).
- For which the site or qualifying feature is located within the potential extent of indirect effects associated with the offshore Project acting through prey or access to habitat (see comments on Section 8.2.1).

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<sup>5</sup> Furness, R.W. 2015. Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Reports, Number 164.

<sup>6</sup> Wildfowl & Wetlands Trust (Consulting) Ltd and MacArthur Green Ltd (2014). Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds. Scottish Marine and Freshwater Science Report Vol 5 No 12.

There is no reference here to seabirds in the non-breeding season.

### **Section 8.2.1: Ornithology features with potential connectivity**

Ornithology features with potential connectivity are categorised as:

- Breeding seabirds
- Non-breeding seabirds
- Migratory seabirds; and
- Migratory terrestrial birds (including water birds)

This list does include non-breeding seabirds, but as detailed below (Section 8.2.1.2) it is unclear how these have been considered.

In addition, this list excludes breeding red-throated divers and non-breeding waterfowl features of marine SPAs that may be impacted by movements of vessels to and from the project area. As public consultation information identifies the Scapa Deep Water Quay as the construction port for the Project, **connectivity (and LSE) should be concluded for both the Scapa Flow and North Orkney SPAs.**

#### **Section 8.2.1.1: Breeding seabird features**

The use of the mean maximum plus 1 SD foraging ranges from Woodward et al (2019)<sup>7</sup> to compile the initial long list is broadly correct. However, as noted above in the Northern Isles we advise some exceptions to this with respect to gannets, guillemots and razorbills (see information contained in Annex A).

#### **Section 8.2.1.2: Non-breeding seabird features**

The HRA Screening Report states that *'seabird species in general disperse widely during non-breeding seasons, so that effects to some degree may be felt on the SPA populations during these seasons. The species are not constrained by extents of central-place foraging and for that reason no potential LSE on all species that are SPA qualifying or named assemblage features cannot be concluded. It is however expected that densities of species will be lower in non-breeding seasons or lower apportioning values to the relevant SPA will be appropriate (compared to the breeding season)'*. It is unclear from this explanation how seabird colony SPAs have been screened in for inclusion in the long list with respect to potential connectivity in the non-breeding season. In particular, there is no reference here or in Table 8-1 to BDMPS (Furness, 2015), although this is mentioned for a number of sites in Table 8-2. The exception for guillemot, which we advise should be treated the same in breeding and non-breeding seasons (see Annex A), will have been applied by default through consideration of breeding season connectivity.

#### **Section 8.2.1.3: Migratory seabirds**

It is detailed here that not enough information is known around the presence of migratory seabirds at the offshore Project, and therefore, a conclusion of no potential LSE cannot be made. As highlighted above, considering migratory seabirds as a separate category to breeding or non-breeding seabirds during the apportioning phase is contrary to the advice provided at the meeting of 12 July 2022.

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<sup>7</sup> Woodward, I., Thaxter, C.B., Owen, E. & Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO research report number 724

#### Section 8.2.1.4: Migratory terrestrial birds

We note here that the '*Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds*' (WWT (Consulting) Ltd and MacArthur Green Ltd, 2014) has been used to establish whether there is likely to be connectivity for migratory terrestrial birds and the offshore Project. This is an appropriate source pending publication of the updated review recently commissioned by Marine Scotland.

#### Section 8.2.2: Initial screening results

The outputs from this initial screening exercise are detailed in Table 8-1 and the relevant sites are mapped in Figure 8-1.

It would have been helpful if Table 8-1 had included an indication as to which of the criteria detailed in Section 8.1 and species categories in Section 8.2.1 had informed inclusion of each site and also the relevant qualifying interests on which the inclusion was based. However, we have reviewed the list and have the following comments to make.

For breeding seabirds we reviewed the list against all relevant SPAs in the UK for: gannet, kittiwake, all large gulls, great skua, Arctic skua, Arctic tern, common tern, guillemot, razorbill, puffin, shag, cormorant, red-throated diver, fulmar, Manx shearwater, European storm petrel and Leach's petrel. We have also checked the information for migratory geese, swans, ducks, waders, raptors, owls, divers, grebes and crakes. **All 40 breeding seabird colony SPAs in the UK that we would expect to see in the initial long list based on relevant breeding season foraging ranges are included in Table 8-1.**

We also checked the exceptions of mean max plus 1 SD for the Northern Isles colony SPAs for gannets, guillemots and razorbill. The only instance where this could have differed is for both guillemots and razorbills at Fair Isle SPA, which lies beyond the generic mean max plus 1 SD foraging ranges for these species (95.2km and 122.2km respectively) but within the ranges for colonies in the Northern Isles (153.7km and 164.6km respectively). However, Fair Isle SPA has correctly been included in Table 8-1.

**Connectivity should also be presumed for all five Manx shearwater SPAs in the Republic of Ireland (Blasket Islands, Cruagh Island, Deenish Island and Scariff Island, Puffin Island and Skelligs) and for the majority if not all 17 fulmar SPAs.**

A further 16 seabird colony SPAs, which include tern qualifying features, plus one moorland common gull site and two breeding red-throated diver sites that are beyond mean max plus 1 SD foraging ranges for any of the qualifying features are also included in Table 8-1 and should be removed. **Loch an Duin (Ramsar) does not have any bird features so can be removed from the long list of sites.** It is unclear why the seven tern and cormorant sites in southern Scotland, England and Wales were initially included in Table 8-1 given the lack of connectivity.

**We do not support the conclusion of no LSE for the red-throated diver interest of Otterswick and Graveland SPA (see below).**

**All relevant UK SPAs for migratory geese, swans, ducks, waders, raptors, owls, divers, grebes and crakes are also listed in Table 8-1.** However, there are additional sites listed with no connectivity that should be removed. In particular, the migration fronts for dark-bellied brent goose, European (greater) white-fronted goose and Bewick's swan in the UK are such that inclusion of any sites solely on the basis of one or more of these species is not supported. The same applies to great crested grebe, avocet, bittern, stone curlew, nightjar, wood lark, Dartford

warbler and little egret interests. Therefore, it is unclear why Belfast Lough Open Water SPA, Deben Estuary SPA and Ramsar, Arun Valley SPA and Ramsar, Porton Down SPA, Walmore Common SPA and Ramsar, Tamar Estuaries Complex SPA, Crouch and Roach Estuaries (Mid-Essex Coast Stage 3) SPA and Ramsar, Thorne and Hatfield Moors, Breckland, Sandlings, Thames Basin Heaths, Thursley, Hankley and Frensham Commons, Wealden Heaths (Phase 1 and Phase 2), Ashdown Forest, East Devon Heaths and Marazion Marsh SPAs were included in Table 8-1. In Table 8-2 no LSE is then concluded for all of these on the basis of a lack of connectivity. Also, the European (greater) white-fronted goose interests of Stodmarsh, Severn Estuary and Minsmere-Walberswick SPA and Ramsar sites would not migrate through the offshore project area (contrary to information in Table 8-2). **As for breeding seabirds, relevant SPAs in the Irish Republic have not been considered.**

The rationale for inclusion of eight sites with only breeding black-throated diver features (Knapdale Lochs SPA, Loch Shiel SPA, Rannoch Lochs SPA, Loch Maree SPA and Ramsar, Wester Ross Lochs, Inverpolly, Loch Urigill and nearby Lochs, Assynt Lochs, Lairg and Strath Brora Lochs SPAs) is also unclear and all of these sites are also excluded at the next step (Table 8-2) given absence of connectivity.

There is also no rationale for including sites designated solely for red-billed chough and both sites, The Oa and Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal SPAs, listed in Table 8-1 are ruled out from further consideration in Table 8-2 given absence of connectivity.

### **Section 8.3: Potential pathways for LSE**

The categories of pathways identified at the various project phases are appropriate. However, contrary to statements in the final sentences of Sections 8.3.1, 8.3.2 and 8.3.3 **disturbance and/or displacement effects associated with vessel movements to and from ports used as operational bases during pre-construction, construction, operation or decommissioning could arise outwith the offshore Project area.** In particular, as noted previously for Scapa Flow and North Orkney marine SPAs.

### **Section 8.4: Determination of no potential LSE**

This is essentially the second step of the screening exercise, in which it is determined whether there may be LSE, and hence requirement for Appropriate Assessment, for sites/features identified as having theoretical connectivity. This should be informed by results of site characterisation surveys or other agreed data sources, species impact pathways and species sensitivity to impacts.

For each of the sites (SPA or Ramsar) listed in Table 8-1, relevant project phases (i.e. pre-construction, construction, decommissioning and operation) and associated impact pathways are considered. Table 8-2 asks for all the site's qualifying features *'Can it be concluded that there will be no potential LSE?'* **This form of wording is convoluted and open to misinterpretation, a simpler question *'Is LSE likely?'* would be preferable.**

**No details are provided as to how this step has been approached and specifically whether there has been any consideration of site-specific survey data or existing information sources of direct relevance to the offshore Project area.** There is nothing in the supporting text in Table 8-2 to indicate that this step has been informed by such specific information.

Given the very large number of sites and qualifying features, as well as the issues highlighted in our advice, we found it difficult to check the commentary for individual species. Therefore, we have focused our advice on:

- The 40 seabird colony SPAs identified as having breeding season connectivity to the Project (note: we have not checked whether at-sea foraging distances have been applied).
- Seabird and other sites for which the rationale for inclusion in the original long list was unclear.
- The sites/project phase combinations for which no LSE has been concluded.

### **Seabird colony SPA assessments**

In the operational phases it is noted that *‘There is the potential for disturbance to breeding species including [for various sites, European storm petrel, Leach’s storm-petrel, gannet, fulmar, great skua, great black-backed gull, herring gull, kittiwake, common guillemot, razorbill and puffin] from operation and maintenance vessels’*. **However, there is no reference to potential displacement of any species of marine birds arising from the presence of the wind farm itself.**

In addition, there are some inconsistencies with respect to identification of which species may be at collision risk during operational phases. For example, fulmar is included for Hoy SPA but not for the many other sites at which it is a qualifying (including named assemblage) feature. Gannet, large gulls, kittiwake and great skua features should consistently be listed as at collision risk where there is connectivity but given flight heights we would not consider fulmar as vulnerable to collision risk.

**There is no mention of the potential effects of lighting attraction with respect to European storm petrels, Leach’s petrels and/or Manx shearwaters** (this applies to Sule Skerry and Sule Stack, Auskerry, North Rona and Sule Sgeir, Rum, Priest Island (Summer Isles), Foula, Mousa, Flannan Isles, Ramna Stacks and Gruney, St Kilda, Treshnish Isles, Copeland Islands, Irish Sea Front, Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast, Bardsey Island and Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moreoedd Penfro SPAs). This should be recognised as presenting additional potential risk to these species; in particular attraction to turbine lighting and/or lighting on vessels could impact assessment of both displacement and collision risks.

For Sule Skerry and Sule Stack SPA, shag should be included in the list of qualifying species with connectivity to the OAA.

For Foula, Flannan Isles and also Ramna Stacks and Gruney SPAs, Leach’s petrel should be included in the list of qualifying species with connectivity to the OAA based on the updated mean from Woodward et al (2019) of 657km, thus all of these SPAs are well within the relevant foraging range of the proposed Project area. For Ramna Stacks and Gruney SPA, this does not impact conclusion but strengthens the potential for LSE.

For Troup, Pennan and Lion’s Heads SPA and the Shiant Isles SPA, guillemot and razorbill features are not within the relevant mean max (+1 SD) foraging ranges of 95.2km and 122.2km respectively (Woodward et al, 2019). The same applies to puffin at Mingulay and Berneray SPA; the updated mean max (+1 SD) foraging range for puffin is 265.4km.

For Moray Firth SPA it is unclear why shag are considered at risk of disturbance.

Reference is made to BDMPS for 19 sites with breeding seabird features outwith relevant mean max (+1SD) foraging ranges of the offshore Project. For the majority of these the associated commentary reads *‘The proportion of the seabird populations migrating through the OSS and offshore export cable corridor will be small relative to BDMPS’*. As per our comments above, the proportions of non-breeding (BDMPS) populations that might be impacted should not be

considered until the apportioning stage of the impact assessment. However, the conclusions with respect to LSE can be supported.

BDMPS is not referenced with respect to over 40 sites with breeding tern features outwith relevant foraging ranges. For these sites, statements are made with respect to the pre-construction, construction and decommissioning phases such as *'Breeding terns from this SPA likely migrate south...after breeding, therefore connectivity with the offshore Project is unlikely'*, or *'SPA is beyond mean maximum foraging range (+1D) to the OAA and offshore export cable corridor for breeding [seabird species]. There is very limited potential for disturbance...from...vessels'*. In most of these cases there is no reference to potential collision risk in the operational phase and it is unclear why there is a focus on vessel disturbance as a potential impact pathway. **However, given their locations, the conclusion of no LSE with respect to breeding tern species at these sites can be supported, with the exception of breeding Arctic tern feature of Papa Stour SPA.**

From Liverpool Bay SPA it is stated *'During migration, there is potential for designated wintering fulmar to be disturbed by...vessels'*. The same text is used for the breeding fulmar (assemblage) feature at Flamborough and Filey Coast SPA. The basis for this conclusion is unclear.

Potential LSE should be concluded for breeding red-throated divers from the Orkney Mainland Moors SPA during the pre-construction, construction and decommissioning phases as these birds may forage in either the Scapa Flow or North Orkney marine SPAs and are therefore at risk of disturbance associated with project vessel movements to and from ports in these waters. Disturbance risk also applies in the operational phase.

Conversely, it is unclear why the red-throated diver feature of Foula SPA is considered to be at risk of disturbance in the operational phase (but not in the pre-construction, construction and decommissioning phases).

**Potential LSE associated with collision risk in the operational phase for migrating red-throated diver should be concluded for all breeding red-throated diver SPAs in Shetland and Orkney** (Foula SPA, Ronas Hill - North Roe and Tingon SPA and Ramsar, Otterswick and Graveland SPA, Hermaness, Saxa Vord and Valla Field, Hoy and Orkney Mainland Moors SPAs). This pathway is only referenced for Otterswick and Graveland SPA for which no associated LSE is concluded on the basis that *'Due to the distance between the SPA and the offshore Project, the southern migration direction of red-throated divers after the breeding season and that migration is most likely to occur in a coastal band from 0-20km from shore, this species is unlikely to migrate through the OAA'*. No reference is given to support this and the conclusion is contrary to the summary information in Furness (2015) and recent evidence around wintering areas for red-throated divers (Duckworth *et al*, 2022)<sup>8</sup>.

### **Migratory birds (non-seabirds)**

Given the very large number of sites and qualifying features and the issues highlighted above, we found it difficult to check the commentary for individual species at these sites. However, we have noted a generic inconsistency in wording. For many sites (e.g. Switha SPA) for pre-construction, construction and decommissioning phases it is stated *'[Qualifying interests] are unlikely to migrate through the OAA and offshore export cable corridor'* whereas for the operational phase it is stated *'Uncertain proportions of the [qualifying interests] population may migrate through the OAA and could potentially be affected by collision risk and barrier effects'*. **We agree that it is the**

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<sup>8</sup> Duckworth, J., O'Brien, S., Petersen, I. K., Petersen, A., Benediktsson, G., Johnson, L., Green, J. A. (2022). Winter locations of red-throated divers from geolocation and feather isotope signatures. *Ecology and Evolution*, 12(8).



**operational phase collision and barrier effects that require further consideration for these interests, but the basis on which LSE can be ruled out in the pre-construction, construction and decommissioning phases is not migratory routes but rather impact pathways.**

For a large number of sites including Moray Firth SPA, Lough Foyle, Strangford Lough, Lough Neagh and Lough Beg SPA and Ramsar, and Dungeness, Romney Marsh and Rye Bay SPA no details of qualifying interests considered at risk during migration are provided.

For Outer Firth of Forth and St Andrews Bay Complex marine SPA, red-breasted merganser and velvet scoter are excluded from lists of qualifying interests identified as at potential risk during migration, whereas these species are (correctly) included for adjacent Firth of Tay and Eden Estuary and Firth of Forth SPA and Ramsar sites.

Given migration fronts for gadwall from northern and eastern Europe wintering in the UK, it is unclear why gadwall are not identified as one of the species at risk of collision during the operational phase for all 21 SPA/Ramsar sites with wintering gadwall features. The only sites where this affects conclusion with respect to LSE at a site level are Hornsea Mere SPA (other qualifying feature mute swan), Avon Valley (other qualifying feature is Bewick's swan) and also Lee Valley and South West London Wetlands SPA and Ramsar sites, for both of which the other qualifying feature is shoveler. LSE should be concluded for all four of these sites in the operational phase for collision risk. The same applies to the 22 UK sites for which shoveler are a wintering or passage feature, but collision risk in operational phase is only recognised for Medway Estuary and Marshes SPA and Ramsar. In addition to Lee Valley and South West London Waterbodies SPA and Ramsar, the only sites where this affects conclusion with respect to LSE at a site level are Midland Meres and Mosses Phase 2 Ramsar (other qualifying features are cormorant, bittern and water rail) and Chew Valley Lake SPA (single feature).

Short-eared owls from Orkney Mainland Moors SPA could potentially move through the offshore Project area and should be included with hen harrier and red-throated diver in consideration of collision risk.

### **Other comments**

In section 2.1 it states that pSPAs are potential SPAs - just to note that this should be *proposed* SPAs. We also noted in Table 8-2 on page 1134 in relation to Monach Islands SPA the text refers to common terns rather than little terns, which are the qualifying feature.

## Annex A: variations to standard approach to establishing connectivity

We advise that mean max + 1SD from Woodward et al (2019) should be used to screen in connectivity to colony SPAs with the following exceptions:

1. Tracking on Fair Isle showed foraging distances are greater than those of all other colonies for both common **guillemot and razorbill**. Therefore, for common guillemot and razorbill we recommend:
  - Use of mean max +1SD, including data from Fair Isle for all **Northern Isles** designated sites.
  - For all designated sites south of the Pentland Firth (i.e. excluding the Northern Isles) use mean max +1SD discounting Fair Isles values.
2. For **gannet** we recommend using mean max +1SD for all colonies without site specific maximum values. However, for SPA colonies where site specific evidence exceeds this value (509.4km) then the site specific maximum should also be used - includes Forth Islands (Bass Rock), Grassholm and St Kilda.
3. 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.

Specifically, the exceptions for gannet, guillemot and razorbill are:

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

### Marine SPAs

For *most* qualifying features of marine SPAs, in particular wintering waterfowl, to determine LSE both connectivity and impact pathways needs to be considered only within close proximity to the marine SPA. Within our developing GIS tool we have applied a generic 15km buffer to identify developments that are within close proximity to a marine SPA. This approach can be used to produce a long list of SPA qualifying features including marine SPAs. However, the following considerations should also be taken into account:

- *Determining connectivity for wintering gull qualifying features of Marine SPAs:*  
Some marine SPAs have wintering gulls as a qualifying feature, and this is part may reflect their use of the adjacent shorelines as a roost. During the winter months gulls use roosts with a similar centrally-placed foraging behaviour to breeding seabirds. In the absence of specific gull wintering foraging ranges we therefore recommend that connectivity for wintering gulls within

marine SPAs is determined using the recommended breeding foraging range distance (see above and Woodward et al, 2019).

- *Determining connectivity for breeding seabird features of Marine SPAs:*

We recognise that the seabird populations using the marine SPAs during the breeding season includes breeders from potentially multiple colonies within foraging range as well as non-breeders, sabbaticals and juveniles. For breeding seabirds within marine SPAs determining connectivity will be addressed through consideration of connectivity from the seabird colony SPAs (i.e. using the recommended breeding season foraging ranges, as summarised above and detailed in Woodward et al, 2019). No additional consideration is required for the breeding seabirds using marine SPAs.

**For all marine SPA qualifying interests we advise that the following points are considered with regard to connectivity and impact pathways:**

- A. 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. cable routes or vessel movements associated with construction, operation or decommissioning works.
- B. 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 or migratory routes)? Flight direction data or tracking studies may be helpful in determining if there are any important commuting routes.
- C. Are there any direct impacts on prey or supporting habitat within the marine SPA? For example a cabling route directly adjacent to a marine SPA or barriers to fish movement that may impact on prey populations and habitats within the SPA.
- D. Are there indirect impacts e.g. water flow or quality that may alter the foraging resource?

### **Non-breeding seabirds**

This includes non-breeding seabirds that are qualifying features of marine SPAs and breeding seabirds from colony SPAs during the non-breeding season. To determine which colony SPAs have connectivity with a marine energy development site during the non-breeding season we recommend the BDMPs Report (Furness, 2015) should be used. The exception to this is common guillemot which regularly attend colonies over winter (Bennett et al, 2022<sup>9</sup>; Sinclair, 2018<sup>10</sup>) and recent studies (Buckingham et al, 2022)<sup>11</sup> show they largely remain in the northern North Sea during the non-breeding season. For this species we advise the non-breeding season population is defined in terms of the mean max foraging range (Woodward et al, 2019) as per our breeding season advice.

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<sup>9</sup> Bennett, S., Harris, M. P., Wanless, S., Green, J. A., Newell, M. A., Searle, K. R., & Daunt, F. (2022). Earlier and more frequent occupation of breeding sites during the non-breeding season increases breeding success in a colonial seabird. *Ecology and Evolution*, 12, e9213

<sup>10</sup> Sinclair, N. 2018. Remote time-lapse photography to monitor attendance of auks outside the breeding season at two colonies in the Northern Isles of Scotland. Scottish Natural Heritage Research Report No. 1017

<sup>11</sup> Buckingham L, Bogdanova MI, Green JA, Dunn RE and others (2022) Interspecific variation in non-breeding aggregation: a multi-colony tracking study of two sympatric seabirds. *Mar Ecol Prog Ser* 684:181-197.

**The Northern District Salmon Fishery Board Advice**

## The Northern District Salmon Fishery Board

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3<sup>rd</sup> October 2022

Email: [MS.MarineRenewables@gov.scot](mailto:MS.MarineRenewables@gov.scot)

Dear Sirs

### **WEST OF ORKNEY OFFSHORE WIND FARM, WEST OF HOY, ORKNEY AND NORTH OF THE CAITHNESS COAST: HABITATS REGULATIONS APPRAISAL SCREENING REPORT**

Thank you for the opportunity to respond to the above screening report. We have consulted with our Scientific Advisor regarding this and can confirm that The Northern DSFB is content with the HRA Screening Report at this stage and have no comment to make.

We look forward to receiving further documentation as and when it becomes available as part of the planning application.

Yours faithfully,

Mrs Alexa MacAuslan  
**Clerk, NDSFB**

# **RSPB Advice**

Rebecca Ross  
Casework Officer - Consenting  
Marine Scotland  
Marine Planning & Policy



By email: [ms.marinerenewables@gov.scot](mailto:ms.marinerenewables@gov.scot)

28<sup>th</sup> October 2022

Dear Rebecca,

**Habitats Regulations Appraisal ("HRA") Screening Report in respect to proposed Section 36 consent (under the Electricity Act 1989) and Marine Licences (under the Marine (Scotland) Act 2010) and the Marine and Coastal Access Act 2009) for the West of Orkney Offshore Wind Farm**

Thank you for consulting RSPB Scotland on the above screening report. We understand it relates to the offshore components only and that these would consist of up to 125 wind turbine generators (fixed or floating), up to five offshore substation platforms, up to 750 km of inter-array cables and up to five offshore export cables to landfall(s) at Caithness. We also understand that the wind turbine array area would be located approximately 23 km from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney in the Crown Estate Scotland lease area 'N1'.

Faced with the threats of climate change to the natural world, RSPB considers that a low-carbon energy transition to reach net zero is essential to safeguard biodiversity. Inappropriately designed and/or sited developments can however cause serious and irreparable harm to biodiversity and must be avoided.

We have reviewed the screening report (Document L-100632-S09-A-REPT-00, Rev A01) and appreciate the applicant's application of a cautious approach to LSE and their initial broad inclusion of sites. This broad approach is important to prevent prejudgement of adverse effect on site integrity and for later assessment of cumulative impacts.

It is not however always clear exactly what criteria has been used in the subsequent consideration of pathways to conclude potential or no potential for LSE. In particular, for some sites and species there are contradictory statements. For example, wintering barnacle geese as a qualifying species for Switha SPA are "*unlikely to migrate through the OAA and offshore export cable corridor*" and yet "*Uncertain proportions of the barnacle goose population may migrate through the OAA and could potentially be*

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*affected by collision risk and barrier effects*". This makes it difficult to understand the assessment of connectivity and pathways for impact presented in Table 8-2.

Furthermore, while "*indirect effects through effects on habitats and/or prey species*" are, correctly, identified as a potential pathway to Likely Significant Effect during the operational phase, no details as to how these effects may manifest or the implications of them are given. This means it is impossible to understand the justification for screening decisions.

Nevertheless, based on there being breeding seabird colonies with a foraging range that extends through the proposed development and an impact pathway for these species, we agree with the overall conclusion that it is not possible to rule out the potential risk of significant effects on a European site either alone or in-combination with other projects. As likely significant effects (LSE) cannot be ruled out we agree that an appropriate assessment must be undertaken by the competent authority before a consent could be granted.

We would welcome the use of matrix tables with evidence supporting conclusions within HRA screening assessments. This would make it clear for each protected site, exactly which species is being screened in or out (and whether they are breeding/wintering), for what phase of development (e.g., construction, operation and maintenance, and decommissioning) that is, and what the impact mechanism being considered is (e.g. disturbance, displacement, collision, barrier to movement, habitat loss, prey availability). The evidence supporting conclusions should provide species- and site-specific narrative to adequately justify the decisions made.

Should you wish to discuss any of the above please do not hesitate to contact me.

Yours sincerely,

*Catherine Kelham*

Senior Marine Conservation Planner

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