FOREWIND

DOGGER BANK
TEESSIDE A & B

March
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Habitats Regulations Assessment Report

Appendix C Screening Report and Draft HRA Report consultation responses

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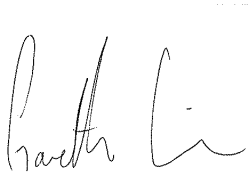
Date / initials approval			March 2014
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Table of Tables

Table C-1 HRA Screening Comments and Responses

Consultee	Concern	Comments	Response
JNCC / NE	General Approach	JNCC and Natural England note that the HRA Screening report contains background information relating to a variety of receptors (marine mammals, birds, fish etc). Whilst the HRA Screening document is generally comprehensive, the chosen structure made it difficult to follow from the background information provided on a specific receptor, to the decision on LSE for the same receptor found within the considered sites. JNCC and Natural England acknowledge that this is a complicated process, but advise that the chosen layout is altered to ensure that the information supporting an Appropriate Assessment is easier to follow. JNCC would recommend that Forewind refers back to Section 42 Consultation on the draft ES for Creyke Beck, Annex O, O.1 General Overview to assist in improving the accessibility of the HRA Screening document, and the forthcoming information to inform an Appropriate Assessment.	The Section 42 comments made in respect of the Dogger Bank Creyke Beck draft ES have been taken into account updating the structure of the Information for Appropriate Assessment (IfAA) Report submitted for the Dogger Bank Creyke Beck DCO application. The IfAA report (see **Appendix B** of the **HRA Report**) for Dogger Bank Teesside A & B follows a similar format and takes measures to clarify and promote accessibility of information and decisions.
JNCC / NE	Physical Processes	**Effects on physical processes and water quality**: JNCC notes that in Section 5.2.2. Forewind suggest that the presence of construction infrastructure would not influence physical processes and water quality beyond the immediate area of construction, and as such any effects would effectively be confined to the Dogger Bank and individual project. areas. JNCC notes that, in the draft ES for the Creyke Beck projects additional temporary work areas around the offshore project and cable route boundaries will be required (Creyke Beck, Draft ES, Chapter 5, Section 1.2.7). JNCC would like clarification from Forewind if temporary work areas will also be required for the Teesside projects, as they are not mentioned in Appendix A, or in Section 3, the proposed development. If the Teesside projects do require temporary work areas, JNCC advise that the wording in Section 5.2.2 is amended to reflect this and to ensure that any additional impacts arising from the work areas are considered in the information to inform an Appropriate Assessment.	Temporary work areas are included in the design envelope. Any impacts relating to these areas will be covered in the assessment.

Consultee	Concern	Comments	Response
JNCC / NE	Physical Processes	**Effects on physical processes and water quality - suspended sediment concentration**: JNCC and Natural England note that in Section 5.2.3 the screening report states: "However changes in suspended sediment concentrations resulting from offshore wind construction work have been shown to be typically within the range that naturally occurs due to the physical effects of waves and tidal currents (ABPmer *et al*., 2010)". JNCC and Natural England would like Forewind to provide greater detail on the changes in suspended sediment concentration within the Dogger Bank cSAC with regard to background concentrations. We would like to highlight to Forewind that this advice is consistent with that provided in our joint response to the Creyke Beck Habitats Regulations Assessment Screening (comment relating to P46 Effects on Physical Processes and Water Quality Pt2).	Detailed modelling on potential changes in suspended sediment concentrations within the Dogger Bank cSAC have been reported within the IfAA report (see **Appendix B** of the **HRA Report**).
JNCC / NE	Physical Processes	**Effects on physical processes and water quality - impacts considered**: JNCC and Natural England note that in Section 5.2.19 that the following effects on physical processes and water quality during operation have been considered – • Alterations to wave climate and tidal velocities, which are most likely to manifest themselves in localised scour.	Noted.
JNCC / NE	Physical Processes	**Additional impacts to consider for coastal processes and water quality**: The following impacts on coastal processes and water quality should also be considered, and included in the information to inform an Appropriate Assessment – • Any effects cable protection will have on hydrodynamic regime, physical processes and the dependency of habitats on these processes.	This aspect has been considered in the IfAA (see **Appendix B** of the **HRA Report**) where appropriate.
JNCC / NE	Physical Processes	**Additional impacts to consider for physical processes and water quality**: The following potential impacts on physical processes and water quality should also be mentioned within this section and considered in the information to inform an Appropriate Assessment: • The interaction between changes in hydrodynamic regime and contaminants. • How cable protection, both within the development zone and along the export cable will affect physical processes • operational changes on tides and waves. • The effect potential changes in physical processes could have on the structure and morphology.	These aspects have been considered where appropriate in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Physical Processes	**Changes in hydrodynamic regime**: Natural England notes that in Sections 5.4.8 Forewind Teesside concludes that changes to the hydrodynamic processes due to the presence of the cable would be localised to sections where protection would be required. Natural England requests that greater consideration is given to the extent in which longshore sediment transport processes contribute to this part of the East coast. Natural England would like to highlight to Forewind that this advice is consistent with that provided in our joint response to the Creyke Beck Habitats Regulations Assessment Screening (comments in Annex D.1.1 on p.21 and Annex D.2.1 on p.23-24 relating to Effects on Physical Processes).	The potential effect that cable protection could have on nearshore coastal processes has been considered in the IfAA (see **Appendix B** of the **HRA Report**) where appropriate.
JNCC / NE	Physical Processes	**Changes in hydrodynamic regime - impacts of linear cable protection**: Natural England notes that in Sections 5.4.7-9. impacts of linear cable protection to the hydrodynamic regime are also not considered. As previously advised for the Dogger Bank Creyke Beck Habitats Regulations Assessment Screening (comments in Annex D.1.1 on p.21 and Annex D.2.1 on p.23-24 relating to Effects on Physical Processes) the coastal processes, the sediment transport processes and the dependency of habitats on these processes should be included in the assessment. Although there is less potential to interrupt sediment movement in relation to the Teesside export cable corridor as there is less sediment movement than along the Holderness Coast (Creyke Beck export cable corridor) the nearshore zone could still be affected by linear cable protection preventing sediment transport. Further details of proposed landfall installation would be helpful in order to assess the extent of impacts on the nearshore zone. HDD methods for example could reduce the need for cable protection (depending on the distance HDD would extend). This matter should be addressed in detail prior to concluding likely significant effect with consideration being given to: • Designated sites north and south of the project and their dependency upon these processes. • The potential for infrastructure to interrupt the erosion and sediment transport processes. • The potential for buried infrastructure to become exposed and interrupt the identified processes. • The potential requirement for additional cable protection or maintenance works.	The potential impacts of linear cable protection on the hydrodynamic regime (and in turn any implications that this may have on designated habitats and species) has been considered in the IfAA (see **Appendix B** of the **HRA Report**) where appropriate.

Consultee	Concern	Comments	Response
JNCC / NE	Physical Processes	**Changes in hydrodynamic regime - prevention of sediment transport**: In relation to the above comments Natural England notes that in Section 4.2.21 sediment transport is reported to be in a south-easterly direction. Therefore there is potential for the prevention of sediment transport to occur (ie, as a result of linear cable protection) indirectly affecting the supporting habitats found at Teesmouth and Cleveland SPA, Flamborough and Filey Coast SPA , Beast Cliff-Whitby SAC and Flamborough Head SAC. Such impacts could impact the integrity of the site due to a change in sediment load, therefore affecting the benthic composition and/or supporting habitat of identified features of the site. Although it is reported that the Flamborough and Filey Coast SPA, Beast Cliff-Whitby SAC and Flamborough Head SAC are outside the hydrodynamic and sediment transport influence of the works, impacts caused by linear protection have not been fully considered.	See comment above.
JNCC / NE	Migratory Fish	**Marine fish communities of the Dogger Bank - fish surveys**: Natural England notes that Section 4.5.4 refers to the marine fish surveys undertaken for the Dogger Bank Creyke Beck project. Natural England would like further clarification as to whether further surveys specific to the Teesside project area will be undertaken.	Forewind have undertaken extensive fish surveys specific to Dogger Bank Teesside A & B as presented in Chapter 13 of the Dogger Bank Teesside A & B ES. The screening document was not updated with Teesside data prior to issue due to timings so there is a lot of reference to Dogger Bank Creyek Beck only. The IfAA (see **Appendix B** of the **HRA Report**) has used data pertinent to the Dogger Bank Teesside A & B.
JNCC / NE	Migratory Fish	**Migratory (diadromous) fish - electromagnetic fields**: In Section 5.4.28 Natural England notes that there is no consideration give to the potential impacts of Electromagnetic Fields (EMFs) which should be included to ensure a thorough assessment.	Noted. This aspect has been considered and reported upon in Section 3 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Migratory Fish	**Migratory (diadromous) fish - river Lamprey definition**: Natural England notes that Section 5.4.30 provides a misleading definition by stating that river lamprey, Lampetra fluviatilis, are fully estuarine or freshwater species. As per previous Creyke Beck project advice, please see the JNCC definition and life history description to include the marine life history within the definition: (http://jncc.defra.gov.uk/protectedsites/sacselection/species.asp?FeatureIntCode=S1099) where the species is ...found in coastal waters, estuaries and accessible rivers.	Noted. Definition has been updated in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Migratory Fish	**Potential impacts of wind farm development of migratory fish**: In Section 6.3.56 the impacts of EMF as a barrier effect should also be considered.	Noted.
JNCC / NE	Marine Mammals	**Harbour porpoise**: In Section 4.7.6 Harbour porpoise, Table 4-10 estimates of harbour porpoise populations from SCANS II survey are presented. JNCC would like to highlight to Forewind that the SCANS II survey data has been updated and that Forewind should be able to use Hammond *et al*., 2013, which correct some of the SCANS II data and the IAMMWG Marine Mammal Management Units 2013 paper in their information to inform an Appropriate Assessment.	The information in Hammond *et al*. (2013) has been utilised in the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Marine Mammals	**Harbour porpoise - figure headings**: In Section 4.7.10 the density plots of the distribution of harbour porpoise from 2010 and 2011 surveys is discussed. However both figure 4-2 and 4-3 are labelled "Harbour porpoise frequency based on surveys carried out in 2010". JNCC advise that the figure headings are changed to reflect the year of the correct survey year.	Noted.
JNCC / NE	Marine Mammals	**Inclusion of additional evidence for grey seal range**: In Section 4.7.26 it is reported that although harbour seals have a lesser range than grey seal more recent evidence from Denmark has suggested that they may have a much greater range. Natural England would like further clarity on the actual range reported by Dietz *et al*., 2003 as this would help in the assessment of the worst case scenario and ensure that the full range of this species is not omitted from the information to inform an appropriate assessment.	The range reported in Dietz *et al*. (2003) is the total distance travelled by harbour seals from the haul out sites, not the total distance in a straight line. Consequently, this is not considered to provide further reasoning or alteration to the screening in relation to the sites designated for this feature.
JNCC / NE	Marine Mammals	**Harbour seal - inclusion of the SMRU telemetry data**: Natural England notes that in Section 4.7.28 it is reported that harbour seals occur very occasionally in the Dogger Bank Project Zone. In line with our previous advice for the Creyke Beck HRA screening report and section 42 response it would be helpful to include the more recent SMRU telemetry data as evidence to support the range of this species. It was noted at the time of the Creyke Beck S42 consultation that the study would not be ready for inclusion until early 2014. Although this was acknowledged to be too late for inclusion in the Creyke Beck application Natural England would advise that the additional information is included for Teesside once its available before the species can be scoped out of the assessment.	This information was unavailable within the timeframe for inclusion in the Dogger Bank Teesside A & B assessment work.

Consultee	Concern	Comments	Response
JNCC / NE	Marine Mammals	**Effects on marine mammals**: JNCC notes that in Section 5.2.34 the anticipated operational effects on marine mammals are listed. Vessel presence (not relating to noise) should be included in this section, and discussed in the information to inform an Appropriate Assessment.	The impact of vessel movement (collision) has been assessed in Section 5 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Marine Mammals	**SACs in other member states**: In the UK offshore region (beyond 12 nautical miles), where JNCC"s remit lies, and as the Moray Firth SAC for Bottlenose dolphins was justifiably screened out and there are currently no other offshore SACs in UK waters for which marine mammal species are a qualifying feature we have not reviewed the sections of the HRA Screening document which relate to foreign SACs. We recommend that Forewind continue to liaise with our counterparts in other member states in order to ensure that there will be no adverse effect to those sites as a result of the development.	Noted.
JNCC / NE	Marine Mammals	**Screening of sites - grey seal**: 6.3.33: Natural England supports the conclusion to screen in all sites that support grey seal at this stage for further assessment.	Noted.
JNCC / NE	Ornithology	**Confirmed extension of Flamborough Head and Bempton Cliffs SPA**: Natural England would like to reiterate that approval for formal consultation on the proposed extension to Flamborough Head and Bempton Cliffs SPA was given by Defra in July 2013, making this site a pSPA. In line with Government policy the pSPA, now named Flamborough and Filey Coast, should be considered in the same way as if it had already been classified. Therefore, the pSPA is now protected by the Habitat Regulations, and its updated features will need to be taken into account by competent authorities when considering plans and projects. These changes should be reflected in the assessment, please see email sent 07/08/2013. Natural England would be happy to discuss this issue in more detail. GIS coordinates for the pSPA can be downloaded from: http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp	The updated population data on the designated bird features of the pSPA, as per the email from Natural England of the 7.08.13 has been used in the assessment in Section 6 and 7 of the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	Offshore - During Construction: Effects on birds **- impacts considered within the construction phase**: In Section 5.2.14-15 a list is provided outlining the potential impacts the construction of Teesside A and B could have on birds within the nearshore, coastal zone and offshore construction zone. Natural England notes that the following impacts on birds have been considered for the construction zone: • Physical disturbance to birds. • Physical displacement to birds. • Physical displacement of prey.	Noted.
JNCC / NE	Ornithology	**Additional impacts to be considered within the construction phase**: The following potential impacts on birds should also be mentioned within this section and considered in the information to inform an Appropriate Assessment for both the construction zone and the cable route: reduction in intertidal and inshore water prey availability due to cable laying operations (Teesmouth & Cleveland Coast SPA only).	Noted – and these have been assessed in Section 4 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Ornithology	Offshore – During Operation: Effects on birds **- impacts considered within the operation and maintenance of project**: In Section 5.2.30 - 33. "Effects on birds" a list is provided outlining the potential impacts the operation and maintenance of Teesside A and B could have on birds within the nearshore, coastal zone and offshore construction zone. JNCC and Natural England note that the following impacts on birds have been considered for the construction zone: • Disturbance and displacement of birds from increased noise from the operation of wind turbines. • Disturbance and displacement of birds from maintenance activities and movement of maintenance vessels. • Disturbance and displacement of prey due to operation and maintenance activities. • Barrier effects caused by the operation of the turbines • Collision risk with wind turbine blades. • Reduction in prey availability due to benthic habitat loss.	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Additional impacts to be considered within the operation and maintenance or project**: The following potential impacts on birds should also be mentioned within this section and considered in the information to inform an Appropriate Assessment for both the construction zone and the cable route: • Reduction in prey availability due to benthic habitat change. • Displacement of prey due to changes in fishing activity.	These have been considered in Sections 4, 6, and 7 in the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Ornithology	**Initial identification of sites and features - inclusion of sites within the wider North Sea region**: Natural England welcomes the approach outlined in Section 5.3.2 i.e. that: "SACs / SCIs, SPAs and Ramsar sites and their associated designated features in the wider North Sea region and that could potentially be affected by offshore wind development (see impact pathways / effects summarised in Section 5.2) within the Dogger Bank Zone and that fall under the following criteria are automatically selected and taken through to the third stage of the pre-screening assessment: • Offshore marine sites (UK and transboundary). • Marine sites within UK territorial waters. • UK coastal sites with a marine component.	Noted.
JNCC / NE	Ornithology	**Initial identification of sites and features - screening in of migratory species that may pass through the Dogger Bank zone**: Natural England welcomes the approach outlined in Section 5.3.3. i.e. "Sites that support seabird species recorded in the Dogger Bank Zone and / or migratory species that **may** pass through the Dogger Bank Zone are screened into the assessment process, due to the potential influence of the effects summarised in Section 5.2.	Noted.
JNCC / NE	Ornithology	**Sites linked to onshore activities and effects**: Natural England welcomes the approach outlined in Section 5.3.4 i.e. "Effects on terrestrial sites could also potentially result from offshore (marine) activities (e.g. sites which support SPA / Ramsar designated bird populations that may migrate through a wind farm site). Consequently, terrestrial sites that have a coastal habitat component and / or bird species that could be affected by marine activities are screened into the assessment process."	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Determining the spatial extent of potential effects on designated bird populations**: Table 5.2 – Natural England welcomes the comprehensive approach taken to screening in SPAs/Ramsar sites for consideration of LSE. Please note that Mersey Narrows and North Wirral Foreshore is now an SPA and Ramsar site as opposed to being pSPA/pRamsar. Natural England supports the use of mean maximum foraging ranges when determining the spatial extent of potential effects on designated bird populations as explained in Section 5.4.56, and the use of colony-based tracking studies to refine the list of northern gannet SPAs screened into the HRA As previously discussed in the context of Dogger Bank Creyke Beck, as regards large auk species using the Dogger Bank Zone and their potential connectivity with English SPA colonies, we advise that there would be merit in reviewing your ornithological survey data for evidence of fish-carrying and trends in flight direction during the breeding season, as this may provide further evidence to justify the use of maximum foraging ranges for these species.	Noted.
JNCC / NE	Ornithology	**Sites linked to onshore activities and effects - distance of site from landfall/cable**: In Section 5.3.7: Natural England notes that the Teesmouth and Cleveland SPA and Ramsar site is reported to lie approximately 1.75km to the north west of the landfall/cable corridor, but in Section 6.3.14 and in table 6.1 it is stated as being 2km to the north west of the landfall/cable corridor. Clarification on the distance between landfall/cable corridor and the SPA would be helpful and should be revised to be consistent throughout the document.	Clarification has been provided in the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Ornithology	**Migratory fronts**: Table 5.4 Natural England acknowledges the comprehensive list of species detailed here. However, Natural England advises that due consideration should also be given to any other species for which the migratory fronts identified in Wright *et al* (2012) indicates may also pass over the zone.	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Designated bird populations - the transit of migratory species**: Natural England acknowledges the approach set out in Section 5.4.35 ie that "..... While some of these species were recorded only occasionally, the potential for a significant effect to occur with respect to designated populations could still arise, including migratory species that may transit through the Dogger Bank Zone in potentially significant numbers. On this basis, all species listed by Langston (2010), Austin *et al* (2011) and migratory waterbird / terrestrial species for which SPAs and Ramsar sites are designated are considered at potential risk of effects associated with wind farm development within the Dogger Bank Zone."	Noted.
JNCC / NE	Ornithology	**Red-throated diver**: Section 5.4.43 Natural England notes and agrees that "No further assessment is, therefore, proposed for designated populations of red-throated diver, black-throated diver and great northern diver.	Noted.
JNCC / NE	Ornithology	**White-billed diver**: Section 5.4.44. Natural England agrees with the approach to White-billed diver ie "given the potential significance of the Dogger Offshore ZDE for this species, full consideration and assessment of the implication of the development of the Dogger Bank Zone and individual projects will be undertaken via the EIA for Dogger Bank Teesside A & B."	Noted.
JNCC / NE	Ornithology	**Little auk**: Section 5.4.53 Natural England agrees with the approach for little auk ie "given the possible significance of the Dogger Bank Zone for little auk, full consideration and assessment of the implication of the development of the zone will be undertaken within the EIA process".	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Little tern**: Regarding Section 5.4.68, Natural England notes that whilst little tern is not likely to be affected by the OWF itself, the proximity of the inshore/intertidal cabling works to the Teesmouth & Cleveland Coast SPA and Ramsar site suggests potential overlap with the foraging areas of this species. Natural England advises that this issue requires further consideration and that a conclusion of LSE for this feature would be justified. Table 6-1 takes a generally very thorough approach to the consideration of LSE on SPA features. However, regarding the Teesmouth & Cleveland Coast SPA please note our comments above regarding little tern: due to potential overlap of the cable-laying/onshore works with potential foraging areas for this restricted range species, we advise that a conclusion of LSE is required. In addition, given the comments in 6.3.14 regarding potential indirect effects on the SPA/Ramsar site as a result of cable-laying, this should be recorded as a „project implication for site features" in Table 6 – 1 as well.	The potential for alteration to supporting habitat for the Teesmouth and Cleveland Coast Spa and Ramsar was identified in paragraph 6.3.14 in the HRA Screening Report (see **Appendix A** of the **HRA Report**). Subsequent to this consideration of the potential effect on the relevant features of the SPA and Ramsar was identified further in 3.2.7 in the IfAA (see **Appendix B** of the **HRA Report**), the LSE conclusions (see **Appendix D** of the **HRA Report**) and the PINS screening matrices (see **Appendix F** of the **HRA Report**). Assessment of the potential effects of the nearshore works on little tern has been undertaken in Sections 6 and 7 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Ornithology	In addition to this Natural England notes that little gull is missing from the assemblage list for Mersey Narrows and North Wirral Foreshore pSPA.	The little gull feature has been included in the LSE conclusions (see **Appendix D** of the **HRA Report**) and the PINS screening matrices (see **Appendix F** of the **HRA Report**).
JNCC / NE	Ornithology	**Herring gull**: Section 6.3.74 Natural England suggests retention of herring gull in order to ensure that if the predicted impact, eg, of collision mortality at Dogger Bank Teesside is anything other than de minimis it can be considered in an in combination assessment for a species which is red listed due to large scale population declines.	Further consideration to the status of herring gull and requirement to assess in more detail has been given and the outcome of this reported in Sections 6 and 7 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Ornithology	**Wintering hen harrier**: Natural England suggests the logic for inclusion of wintering hen harrier on the Dorset Heathlands SPA (on basis of published migratory front but in face of no sightings at Dogger) is at odds with exclusion of merlin which were seen on surveys. Clearly Dogger Bank is on the migratory front for merlin and so hen harrier ought to be taken forward.	The migratory species taken through the assessment process are based on those contained in the SoSS05 Report (Wright *et al*. 2012), which excludes merlin.
JNCC / NE	Ornithology	**In-combination assessment of herring gull**: Natural England suggests inclusion of herring gull at Flamborough Head and Bempton Cliffs SPA (as a precaution) and to ensure any small (if exceeding de minimis) contribution from Dogger Teesside can be included in an in combination assessment.	Noted – see previous comment on herring gull.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Bewick's swan**: Natural England notes from the SOSS05 report that WWT were said to be conducting a study fitting GPS loggers to Bewick‟s swan wintering in the UK and that developers should contact WWT to determine whether this new information has altered the understanding of migratory routes across the North Sea. Natural England advises that it may be premature to screen out sites holding Bewick‟s swan prior to examination of any such new information. The same comment applies in general that assessments of whether species‟ migratory routes pass over the Dogger Zone should not be simply based on the SOSS05 report but also take into account any more up to date information on migratory routes that may have altered our understanding since then. As such, Species screened out at this stage on the basis of the SOSS05 report may need to be screened in again if recent/new information suggests that would be appropriate.	If new information on the migratory movements of Bewick's swan (and any other species) becomes available in a reasonable timeframe to permit inclusion in the assessment process for Teesside A & B then it will be utilised.

Consultee	Concern	Comments	Response
JNCC / NE	Ornithology	**Effects on birds -operational projects**: Regarding the discussion of already-operational projects in Section 7.2.17, Natural England advises that the cumulative impact assessment in the HRA report will need to incorporate the impacts of operational OWF, due to the potential for existing projects to have ongoing effects (yet to be reflected in the baseline e.g. mortality rates) on long-lived but slow-to-mature seabird populations. Built, operational, developments are not part of an HRA in-combination assessment, but they are part of an existing baseline of impacts, accumulated over time. Thus, built, operational windfarms should form part of the assessment (in the sense of being a cumulative impact) but not strictly speaking be part of the in-combination element of the assessment unless there are residual effects. Natural England is concerned that Table 7-2 does not appear to consider cumulative impacts arising from some built, operational projects, projects and others that, whilst not yet in the planning system, are clearly foreseeable (i.e. remaining Round 3 schemes) and a small number of other North SEA OWF. All of these have been considered to some extent in other OWF HRA CIA. Whilst far from an exhaustive list, Natural England advises consideration of the following additional OWF when considering impacts on seabirds and migratory waterbirds in the CIA: • Built, operational OWF: Scroby Sands, London Array Phase I, Lynn & Inner Dowsing, Gunfleet Sands, Kentish Flats and Thornton Bank Phase I. • Consented or proposed OWF: Blyth Demonstration Project, BARD Offshore 1, Thornton Bank Phase II and III, Borkum Phase I, Kentish Flats extension. • Reasonably foreseeable future projects, eg. Rampion and Navitus Bay. Natural England is currently looking at potential solutions to address the inconsistency issues with in-combination assessments undertaken by Offshore Windfarms. One potential solution is the tired approach, similar to the approach taken by Hornsea OWF Project 1. When Natural England‟s thinking is better developed around this approach we would like to discuss this approach with Forewind. Meanwhile should you have any further thoughts or queries on the matter we are open to have discussions.	Further clarification to the approach taken by Forewind to the selection of offshore wind farm projects for in-combination assessment has been provided in Section 7 of the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Advice relating to Scottish SPAs	**Methodological approach**: JNCC/SNH advise that there are some differences in the methodological approach to the screening process and that of assessing impacts (see below). This may not affect the overarching conclusions in respect of Scottish SPA sites presented, although it will significantly reduce the SPAs under consideration. We suggest that, after full consideration of the comments presented below it may be useful to provide a revised summary table of the conclusions reached in terms of Scottish SPAs in the final HRA report.	Noted.
JNCC / NE	Advice relating to Scottish SPAs	Seabird SPA - impacts in the breeding season **The use of maximum foraging ranges**: JNCC and SNH jointly note that in the context of Scottish developments - JNCC and SNH advise that a mean maximum range should be employed to identify potential connectivity with SPAs in the breeding season. While there may be some merit in extending to a maximum range, for species in which recent tracking work suggests they may forage at larger distances than previously thought, this only applies to a few species (black legged kittiwake, common guillemot, razorbill). Furthermore, again as noted above, this initial screening should then consider other sources of evidence to support whether birds present at Dogger Bank are actively engaged in breeding activities and/or demonstrate connectivity with the SPAs identified (based on for example flight directions, fish carrying behaviour, age). As such, the generic application of a maximum foraging range to screen species in is not supported by JNCC/SNH for Scottish SPAs, unless there is evidence to support this. The use of mean maximum foraging ranges will decrease the Scottish SPAs screened in due to LSE and currently progressed from LSE and AA.	A mean maximum foraging range, in line with NE/JNCC advice has been adopted for all species unless there is specific evidence from other studies (e.g. tagging) that birds using Dogger Bank may originate from sites at distances greater than the mean maximum foraging distance (as set out in Thaxter *et al*. (2012)).

Consultee	Concern	Comments	Response
JNCC / NE	Advice relating to Scottish SPAs	**Seabird SPAs – impacts in the non-breeding season:** ***Please note that this advice is from JNCC/SNH only and applies to Scottish SPAs only (please see appendix 1 for the position agreed for English SPAs)***. The identification of connectivity between individual breeding season SPA colonies and birds at sea in the non-breeding season, and subsequent quantification of impact can be challenging. Currently, JNCC/SNH advise marine proposals in Scottish waters that there is **no requirement** for impacts to be assessed under HRA to SPAs outwith the breeding season. For example where potential connectivity only exists between the proposed site and seabird species in the non-breeding season. Instead, the assessment of impact at larger populations scales (e.g. national, flyway, biogeographic), and for the appropriate season, should be presented as part of the EIA process. As such, a large proportion of scottish SPAs that have currently been screened in due to LSE in the post or non breeding season would be screened out. We recommend the HRA screening report is revised to reflect this.	Position noted and has been taken account of in the IfAA Sections 6 and 7 of the IfAA (see **Appendix B** of the **HRA Report**) where applicable.
JNCC / NE	Benthic Ecology	**Dogger Bank Teesside A & B export cable corrdior**: In Section 4.2.13 "Dogger Bank Teesside A & B export cable corridor" it is stated that "The cables will likely be buried at shallow depths depending on localised seabed conditions, though in some cases protection will be required over non-buried sections." JNCC and Natural England would like to make Forewind Teesside aware that our preferred method of protection would be cable burial at optimum depth. It would be helpful if Forewind Teesside could state the anticipated depth of burial and estimated details of the type and quantity of protection required. JNCC and Natural England recognises the difficulty at such an early stage in providing such details, but suggests that an estimated range would be helpful in the assessment of the worst case scenario.	It is not possible at this time to state what the burial depth for the cable will be. However, the worst case scenario (0m burial) has been assessed, including the maximum quantity of protection to the cable likely to be required.
JNCC / NE	Benthic Ecology	**Sediments and sediment transport - cobble reef assessment**: In Section 4.2.18 "Sediments and sediment transport" Natural England notes the presence of cobbles in the inshore seabed area of the export cable corridor where bedrock and till are present. Natural England would like Forewind to undertake an assessment against the Irving 2009 cobble reef criteria to confirm whether cobble reef is present. This will help in the assessment of the worst case scenario and ensure that important habitats of conservation interest are not omitted from information to inform an appropriate assessment.	The main benthic characterisation survey (Gardline, 2012) included an assessment for the potential for Annex I geogenic reef habitat to exist within both Tranche B and the Dogger Bank Teesside A & B Cable Corridor. The results of this survey work are summarised in Chapter 12 (Section 4) of the Dogger Bank Teesside A & B ES. The assessment of the reef habitat provided by Gardline was undertaken with reference to the Irving (2009) criteria.

Consultee	Concern	Comments	Response
JNCC / NE	Benthic Ecology	**Effects on benthic habitats and communities - impacts considered**: In Section 5.2.5. "Effects on Benthic Habitats and Communities" a list is provided outlining the potential impacts construction of Teesside A and B could have on benthic communities within the construction zone, and along the cable route. JNCC and Natural England note that the following impacts on benthic habitats and communities have been considered: *Construction Zone* • Direct physical disturbance to benthos (construction and decommissioning). • Re-mobilisation of contaminated sediments affecting benthos (construction and decommissioning). • Increase in suspended sediment concentrations affecting benthos (construction and decommissioning). • Increased underwater noise levels (construction, operation and decommissioning). • Permanent loss of habitat (operation). • Localised change in benthos as a result of modified physical process and associated scour (operation). *Cable Route* • Localised physical disturbance to intertidal habitats (construction and decommissioning). • Localised physical disturbance to other habitats within the installation footprint (construction and decommissioning). • Electromagnetic fields (operation).	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Benthic Ecology	**Additional impacts to be considered**: The following potential impacts on benthic communities should also be mentioned within this section and considered in the information to inform an Appropriate Assessment: *Construction Zone* • Direct mortality of individuals (construction and decommissioning). • Selective removal of individuals (construction and decommissioning). • Changes in seabed sediment composition (construction, operation and decommissioning). Direct loss of habitat (construction, operation and decommissioning). *Cable Route* • Direct mortality of individuals (construction and decommissioning). • Selective removal of individuals (construction and decommissioning). • Changes in seabed sediment composition (construction, operation and decommissioning). • Direct loss of habitat (construction, operation and decommissioning). • Re-mobilisation of contaminated sediments affecting benthos (construction and decommissioning). • An increase in suspended sediment concentrations affecting benthos (construction and decommissioning). Please refer to our comments made to the Section 42 PEI3 consultation for Creyke Beck, Annex G, G.1.1, Main concerns, and points relating to Section 5.5 and Annex O, O.1.4. Annex 1 Designated Habitats Dogger Bank cSAC Main Concerns, points relating to Section 2.6, 3.3.	The assessment of these impacts has been undertaken with respect to the Dogger Bank cSAC (see Section 4 of the IfAA (see **Appendix B** of the **HRA Report**)), with the exception of mortality of individuals and selective removal of individuals. It is considered that with respect to these aspects these are assessed in the overall assessment in relation to the benthic communities from the various physical, chemical and biological changes resulting from the various phases of Dogger Bank Teesside A & B.
JNCC / NE	Benthic Ecology	**Effects on physical processes and water quality**: Section 5.2.2. The export cable could result in modification of physical processes and associated scour depending upon the type of cable protection implemented. Benthic communities could be affected by changes in velocities and sediment characteristics. JNCC and Natural England advise that this potential effect should be considered see comment 8 above (for changes in hydrodynamic regime - prevention of sediment transport).	Noted – and considered in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Benthic Ecology	**Effects on benthic habitats and communities**: Section 5.2.22. Operation and maintenance activities within the array could, depending on the activity disturb benthic communities, cause direct mortality, and alter water quality by creating sediment plumes and change sediment composition. JNCC advises that these potential effects should be included in this section and that these effects are included in the information to inform the Appropriate Assessment on Dogger Bank cSAC. Please refer back to the advice provided in our response to the Creyke Beck draft ES, Annex O, 3.3.	Noted – and considered in the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Benthic Ecology	**Effects on benthic habitats and communities - potential stepping stone impact**: In Section 5.2.25 the possible benefit of the presence of hard substrata encouraging settlement of new species leading to increased biodiversity is reported. JNCC and Natural England notes that in the Creyke Beck Section 42 ES the potential „stepping stone" impact is also included (see Dogger Bank Creyke Beck Section 42 ES Chapter 12, page 98, and page 43 of the consultation response in relation to Section 7.6.7-8). JNCC and Natural England advise that this effect is included in this section.	This effect has been considered and assessed in Section 4 of the IfAA (see **Appendix B** of the **HRA Report**)
JNCC / NE	Benthic Ecology	**Effects on benthic habitats and communities - removal of hard structures at the time of decommissioning**; Section 5.2.40; JNCC and Natural England note that there are not anticipated to be any potential impacts on intertidal communities during decommissioning as export cables are likely to be disconnected and left in situ. JNCC and Natural England would like to make the Teesside team aware of our current advice regarding the removal of hard structures during decommissioning, in relation to the Creyke Beck projects. "Natural England and JNCC would consider the removal or rock armouring essential at the time of decommissioning in order to return the seabed to its natural state. Therefore Natural England"s and JNCC"s preferred method of rock armouring is concrete matressing as it allows more effective removal" (Natural England & JNCC response to Creyke Beck, S420 PEI3 Consultation, Annex C, C.2.1. comment relating to 3.10 6-7. JNCC and Natural England would provide the same advice to the Teesside projects, and therefore on this basis JNCC disagree with the notion that there are not anticipated to be any potential impacts on intertidal communities during decommissioning, as removal of any rock armouring could potentially affect the existing benthos.	Forewind notes the position of JNCC and Natural England regarding this matter. Should the need to remove cables during decommissioning arise, any potential effect on intertidal communities would be assessed and addressed as part of a decommissioning EIA.

Consultee	Concern	Comments	Response
JNCC / NE	Benthic Ecology	**Direct habitat loss - Dogger Bank cSAC**: Section 6.3.9. JNCC agrees with Forewind‟s decision to take Dogger Bank cSAC into the Appropriate Assessment stage of the HRA.	Noted.
JNCC / NE	Benthic Ecology	**Indirect alteration of habitats - MarLIN sensitivity index**: Section 6.3.11. The report states: “The sensitivity of this biotope to physical disturbance is very low. In shallow and mobile sand communities, the fauna are adapted to natural sediment disturbance and mobility and are characterised by highly fecund, short lived species capable of rapid recovery once the disturbance has abated. Potentially, therefore any disturbance to this biotope as a result of construction or operational activities could be of a short term nature as rapid recovery of affected areas would be expected”. JNCC has assumed that this conclusion is based upon the MarLIN sensitivity index, and that “physical disturbance” relates to “substratum loss” in the MarLIN sensitivity index for SS.SSa.IFiSa.NcirBat biotope. JNCC would like clarification from Forewind if these assumptions are correct, and would advise that the text is altered to provide clarity. Further to the above comment, JNCC disagree with the conclusion that rapid recovery was expected from disturbance to this biotope as a result of construction or operational activities as this argument is currently unsupported. The rate of recovery depends on the magnitude of the disturbance, its frequency, and its duration. No information has been provided to assess these factors. JNCC advises that Forewind refer to our advice in Creyke Beck PEI3 Consultation, Annex O, O.1.5 the use of the MarLIN sensitivity index to ensure that their information to inform an Appropriate Assessment for the Teesside projects addresses these concerns.	The consideration of effects in relation to the alteration of habitats has been undertaken in Section 4 of the IfAA (see **Appendix B** of the **HRA Report**), including the consideration of sensitivity with respect to the MarLIN sensitivity index and relevant effects.
JNCC / NE	Benthic Ecology	**Indirect alteration of habitats**: In Section 6.3.14 Natural England notes that the only site considered within 12nm is the Teesmouth and Cleveland Coast SPA. Please see the comment above in relation to Section 4.2.21. Flamborough and Filey Coast SPA and Flamborough Head SAC should be included in the assessment until they can be confidently screened out in relation to the potential sediment transport effects.	The effects (indirect) on the supporting habitat features of the Teessmouth and Cleveland Coast SPA are considered and assessed in Section 4 of the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Fish and Shellfish	**Effects on fish - impacts considered in the construction phase**: Section 5.2.11- 5.2.13. JNCC and Natural England note that the following impacts on fish have been considered during the construction phase: • Direct physical disturbance. • Underwater noise. • Effects of suspended sediment concentration in relation to respiratory or reproductive functions.	Noted.
JNCC / NE	Fish and Shellfish	**Additional impacts to consider in the construction and operational phase**: The following potential impacts on fish and shellfish should also be mentioned within this section and considered in the information to inform an Appropriate Assessment: • Alterations to habitat. • Electromagnetic fields. • The impacts to birds as a result of impacts to prey should also be clearly linked.	Noted – and included in the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Terrestrial Ecology	**Sites linked to onshore activities and effects**: Section 5.3.9: Natural England agree that the installation of the onshore section of the cable system and the substations are not likely to affect any designated site interest features, as stated in Section 5.3.9 of the screening document.	Noted.
JNCC / NE	Terrestrial Ecology	**Sites linked to onshore activities and effects - birds using intertidal habitats**: Section 5.3.7: We also agree that landfall works could potentially affect birds using intertidal habitats in Teesmouth & Cleveland Coast SPA and Ramsar site through disturbance, as stated in Section 5.3.7. Redcar Rocks SSSI, the closest part of the SPA, is located approximately 1.75km north-west of the proposed landfall point, and SPA / Ramsar birds may use offsite feeding areas in the intertidal zone between the SPA and the landfall. However, this disturbance effect does not appear to have been included under „project implications for site features" for Teesmouth & Cleveland Coast SPA and Ramsar site in Section 6.1. We would advise that „potential disturbance effects during construction" is added to this section of the table and taken forward to the appropriate assessment stage. This should also be considered under the assessment of in-combination effects.	Noted – and included in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Fishing as a plan or project**: JNCC notes that activities which have not required consent, or which have historically been carried out are judged to form or have influenced the existing baseline environment as recorded to date. JNCC would like to highlight to Forewind that there is potentially an additional requirement, as announced by DEFRA, to consider fishing as a plan or project when undertaking a cumulative impact assessment as part of a Habitat Regulations Assessment. We are currently unsure as to how DECC, as the competent authority in this instance, is considering approaching this issue and we therefore advise that Forewind seek further clarification from DECC on this matter.	Noted.
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Residual impacts of existing plans and projects**: JNCC would like to refer Forewind Teesside to the advice contained in Annex C, C.1. Chapter 4, Appendix A: Forewind Cumulative Impact Assessment Strategy Offshore, Dogger Bank Cryeke Beck Pre-Application Under Section 42 of the Planning Act, JNCC & Natural England"s response 10th June 2013. This advice highlights that the residual impacts of existing plans and projects should be considered. JNCC advise that the Teesside take this advice into consideration, when producing their information to inform an Appropriate Assessment.	Noted.
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Additional in-combination impacts to consider at the construction phase**: JNCC and Natural England note that the activities and effects for consideration of in-combination effects related to European sites are listed in Table 7-1. The following impacts should be included in the construction phase of this table, and included in the information to inform an Appropriate Assessment: • Changes in community structure, including direct mortality (benthic). • Changes in seabed sediment composition. • Disturbance caused by vessel presence (Marine Mammals). • Displacement of marine mammals. • Changes in the physical structure of Annex I sandbanks (Either by direct removal of sediment, or changes in existing structures such as mega-ripples. • Changes in water quality in relation to contaminants. • Changes in physical processes which would affect the supporting habitats of ecological interest features.	Noted and included in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Additional in-combination impacts to consider at the operational phase**: The following additional impacts should be considered in the operational phase: • Changes in seabed sediment composition. • Physical barrier as a result of EMF (marine mammals and fish). **Additional in-combination impacts to consider at the decommissioning phase:** The following additional impacts should be considered in the decommissioning phase: • Changes in community structure, including direct mortality (benthic). • Changes in seabed sediment composition. • Disturbance caused by vessel presence (Marine Mammals). • Displacement of marine mammals.	The assessment of these in-combination impacts has been undertaken with respect to the Dogger Bank cSAC and marine mammals in Section 7 of the IfAA (see **Appendix B** of the **HRA Report**).
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Marine benthic ecology - assessment alone and in-combination against the conservation objectives**: In Section 7.2.10 JNCC notes that it is thought that the impacts on the benthos during construction and operational phases of the development will be limited both spatially and temporarily. JNCC disagrees with this conclusion, on the basis that it is currently unjustified. Furthermore we would like to highlight to Forewind that the impacts of the Teesside projects needs to be assessed alone and in-combination with other plans and projects against the conservation objectives for Dogger Bank SCI and therefore all plans and projects which could add to a cumulative impact, for each conservation objective should be considered. JNCC suggests that Forewind consider the advice given in Annex O, O.1.6, Conclusions on integrity of Dogger Bank cSAC when assessed in-combination with other plans and projects Dogger Bank Creyke Beck Pre-Application Under Section 42 of the Planning Act. JNCC & Natural England"s response, 10th June 2013, when writing their information to inform an Appropriate Assessment.	The assessment of the in-combination impacts in relation to the features (and against the conservation objectives) of the Dogger Bank cSAC has been undertaken and is present in Sections 4 and 7 of the IfAA (see **Appendix B** of the **HRA Report**). All relevant projects that have the potential for in-combination effects have been screened in and assessed.

Consultee	Concern	Comments	Response
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**Conclusions - habitats supporting ecological interest features of a site**: Natural England notes that in Section 8.1.4 it states that „the site identification process is based on an examination of the capacity of the likely effects of development within the Dogger Bank Zone to influence the ecological features for which European sites may have been designated". While this statement is relevant with regard to ecological features, many European Sites have been identified for habitats such as mudflats which are supported by physical process, which should also be considered. It is important to consider these habitats which support the ecological interest features of a site. This is in line with our previous advice provided for the Creyke Beck HRA Screening Report (comment referring to p 45, s 5.1.2).	Noted and considered where relevant in respect of Dogger Bank Teesside A & B.
JNCC / NE	Plans and Projects for the Assessment of In-combination Effects	**8.2. European sites screened out of LSE**: JNCC and Natural England welcome the inclusion of this list as it provides clarity.	Noted.
MMO	Fisheries and Shellfisheries	In general, whilst the document seems broadly acceptable, we recommend that the following sections are changed to read as follows: Atlantic Salmon Section 4.5.14. "Atlantic salmon is an Anadromous migratory species which utilises both freshwater and marine habitats during its life cycle. The UK salmon population comprises a significant proportion of the total European stock, with Scottish rivers in particular being a European stronghold for this species (JNCC, 2011). The species supports important commercial and recreational (rod) fisheries along the east coast of the UK; these are mostly situated to the north of the Humber Estuary." Section 4.5.15. "They spawn in rivers in late autumn with eggs hatching the following spring. Juveniles may stay in the rivers for one to four or five years, depending on water temperatures and food availability. In spring once they have reached a length of 12cm to14cm they undergo a transformation both physiologically and in external appearance, which allows them to adapt to salt water. They are then known as 'smolts'. Smolts move down rivers in April to June to start their oceanic migration. After one or more years feeding at sea, they return to their home rivers to spawn. The amount of time spent at sea prior to the spawning migration varies from one winter for "grilse" to up to two to four years for "multi-sea-winter" (MSW) salmon (Malcolm *et al.,* 2010). The majority of fish only spawn once, but a small proportion survive to return to the sea and spawn again in future years.	Comments relevant to the Atlantic salmon are noted and will be taken account in providing any further screening information in respect of this species as part of the HRA process.

Consultee	Concern	Comments	Response
MMO	Fisheries and Shellfisheries	Section 4.5.16. “A number of important salmon and sea trout rivers exist on the NE coast of England, and increasing numbers of these salmon and sea trout are now returning to various rivers that discharge into the Humber. The main salmon and sea trout spawning rivers discharge into the North Sea located in Scotland and North East England. The important salmon and recovering rivers are the Coquet, the Tyne, the Wear, the Tees, the Yorkshire Esk, the Trent system, the Ouse and the Humber river. Salmon catches in the English North East Coast net fishery are dominated by catches in the Northumbrian area, which accounts for 74% to 96% of the total. In 2011, the proportion of total catch caught from each area was 94% in Northumbria and 6% in Yorkshire (Shelley, 2012). A reasonably high proportion of the salmon caught in this fishery originate from rivers in Scotland. However, some salmon are also caught each year in the coastal sea trout fishery that operates off East Anglia. However, the numbers of salmon caught are very low (averaging 4 fish per year in the last 5 years, 2008-2012).” Section 4.5.17. “Available evidence indicates that the majority of Atlantic salmon returning to rivers on the east coast of Scotland and North East England from winter feeding grounds in the North Atlantic, including the Faroes and West Greenland areas, do not migrate far south beyond their river of origin. It is therefore unlikely that significant numbers of salmon returning to these rivers would migrate through the Dogger Bank Zone It is, however, possible that some salmon post-smolts and adults may transit the area of the export cable corridor as part of their foraging and /or migratory activity.” Consideration of sea trout (another Anadromous salmonid species) has also been omitted from the HRA Screening Report. This species does utilise the southern North Sea in its feeding migrations (see below comments).	See response above.

Consultee	Concern	Comments	Response
MMO	Fisheries and Shellfisheries	Sea Trout Although sea trout are not a qualifying feature of the SAC, they are a BAP species and an important species to consider along with salmon due to their migratory behaviour and commercial fisheries value. We recommend the following to be included in the HRA Screening Report as follows: • "Sea trout are an Anadromous migratory species which utilise both freshwater and marine habitats during their life cycle. Sea trout supports important commercial and recreational (rod) fisheries along the east coast of the UK, particularly to the north of the Humber Estuary, although there is also a coastal fishery for sea trout along the East Anglian coast, for which the 10-year average catch for 2002-2011 is 1,106 fish." • "Sea trout spawn in rivers in late autumn with eggs hatching the following spring. Juveniles may stay in the rivers for one to four or five years, depending on water temperatures and food availability. In spring once they have reached a length of about 15cm to 20cm they undergo a transformation both physiologically and in external appearance, which allows the sea trout to adapt to salt water. They are then known as 'smolts'. Smolts swim down rivers in April to June to start the marine phase of their life-cycle. In some populations a high proportion of the smolts may remain reasonably close to the river of origin, returning to the river after just two to three months at sea. In other populations, the smolts undergo longer marine migrations (although not to the same extent as salmon), and may remain at sea for one or more winters before returning to spawn. Sea trout usually survive after spawning (unlike salmon), and move between fresh water and the sea a number of times, spawning repeatedly over a number of years." • "There are a number of important salmon and sea trout rivers on the NE coast of England, and increasing numbers of these fish also now returning to various rivers that discharge into the Humber, with the main spawning rivers discharging into the North Sea located in Scotland and North East England. The important sea trout/salmon and recovering rivers are the Coquet, the Tyne, the Wear, the Tees, the Yorkshire Esk, the Trent system, the Ouse and the Humber river. However, smolts originating from rivers in North East England and South East Scotland are known to migrate south to feed in the southern North Sea. Tagging studies have demonstrated that fish from these rivers are caught in the fishery close to the East Anglian coast and tag returns have also been	As sea trout is not a listed Habitats Directives Annex II species there are no SAC designated populations of this species. Consequently it is not considered in the HRA. However, consideration of potential impacts to this BAP species will be given in the appropriate section of the Dogger Bank Teesside A & B ES. Applicable comments concerning Atlantic salmon have been added to Section 3 of the IfAA (see **Appendix B** of the **HRA Report**) summarising the findings of the HRA screening stage.

Consultee	Concern	Comments	Response
		reported from other parts of the North Sea. Thus, both post-smolts and adults may transit the area of the export cable corridor as part of their foraging and /or migratory activity." Due to the proposed landfall of Teesside A and B on the coast at Teeside, the validity of the statement that "there are no important salmon/sea trout rivers in the vicinity of landfall" is debatable, as there are a number of important salmon and sea trout rivers on the NE coast of England, and increasing numbers of these fish are also now returning to various rivers that discharge into the Humber. For reasons of accuracy, this statement on the proximity of salmon/sea trout should be changed, and the important sea trout and salmon rivers named.	
MMO	Fisheries and Shellfisheries	<u>Migratory Routes and Behaviour of Diadromous Fish in the North Sea: Atlantic Salmon</u> We recommend that the following sections in the HRA Screening Report are changed as follows**:** • Section 6.3.48. "A review of the migratory routes taken by Atlantic salmon originating from Scottish waters, based on tagging studies, indicates that Scottish salmon have been caught at different locations in the North Atlantic, extending from Labrador in the west to Faroe in the east (Malcolm *et al*., 2010). The available data suggests that many Scottish multi-sea winter (MSW) salmon are likely to migrate as far as West Greenland and Faroe to feed. The same applies for salmon originating from other parts of the UK. The general consensus is that salmon, both grilse and MSW fish, returning to the Scottish coast and rivers are likely to do so across a relatively broad front from a range of locations to the north and west of the British Isles (Malcolm *et al*., 2010). Again, this is considered to be broadly consistent for salmon returning to rivers elsewhere in the UK, although salmon returning to rivers in the south east of England (e.g. River Thames) may migrate through the North Sea." • Section 6.3.49. "It is therefore unlikely that salmon returning to the majority of rivers in the UK would migrate through the Dogger Bank Zone. The exposure risk for populations originating in Scottish and English east coast rivers to effects that could potentially influence migratory behaviour (e.g. turbine installation, cable-laying) is therefore considered to be very low. There are a number of important salmon and sea trout rivers on the NE coast of England and increasing numbers of these fish also now returning to various rivers that discharge into the Humber."	Applicable comments concerning Atlantic salmon have been added to the Section 3 of the IfAA (see **Appendix B** of the **HRA Report**) summarising the findings of the HRA screening stage.

Consultee	Concern	Comments	Response
MMO	Fisheries and Shellfisheries	Migratory Routes and Behaviour of Diadromous Fish in the North Sea: Sea Trout As previously mentioned, although sea trout are not a qualifying feature of the SAC, they are a BAP species and an important species to consider along with salmon due to their migratory behaviour and commercial fisheries value. We recommend the following to be included in the HRA Screening Report as follows: • "There are a number of important salmon and sea trout rivers on the NE coast of England, and increasing numbers of these fish are also now returning to various rivers that discharge into the Humber, with the main spawning rivers discharging into the North Sea located in Scotland and North East England. However, sea trout smolts originating from rivers in North East England and South East Scotland are known to migrate south to feed in the southern North Sea. Tagging studies have demonstrated that fish from these rivers are caught in the fishery close to the East Anglian coast and tag returns have also been reported from other parts of the North Sea." • "It is therefore likely that some sea trout from Scottish and English east coast rivers migrate to and from the southern North Sea through the Dogger Bank Zone. In addition, both post-smolts and adults may transit the area of the export cable corridor as part of their foraging and /or migratory activity. However, given the size of the proposed construction area relative to the North Sea, the exposure risk for sea trout populations originating from Scottish and English east coast rivers to effects that could potentially influence migratory behaviour (e.g. turbine installation, cable-laying) may be considered to be low." Specific reference to shellfish interests are lacking, for example on page 69 – "Demersal fish and crustacean species" could refer… but with no prior mention to crustaceans in the zone. For completeness and consistency, we recommend that a general overview should be provided in the environmental baseline section of the shellfish ecology in the zone and cable corridor, in a similar way as is provided for the marine and migratory fish section to summarise shellfish interests.	As sea trout is not a listed Habitats Directives Annex II species there are no SAC designated populations of this species. Consequently it is not considered in the HRA. However, consideration of potential impacts to this BAP species will be given in the appropriate section of the Dogger Bank Teesside A & B ES.
MMO	Coastal Processes	The description of physical processes in the document is very *"high level"* with little detail at this stage, however, we see no obvious omissions regarding consideration of coastal processes.	Noted. Greater detail has been provided in the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
MMO	Benthic Ecology	The report contains broad outcomes of recent discussions with the developer which at this stage shows no obvious omissions.	Noted.
MMO	Benthic Ecology	The MMO wishes to re-iterate the value of having early sight of the likely placement locations for the turbines, and clarification on the foundation type to be used. As previously stated, once this level of detail has been provided, the MMO is better able to comment on what the likely significance of any loss of habitat might be (e.g., well distributed across all habitat types present or concentrated loss within a subset of habitat types). This is of particular importance for this site in that it is an SAC designation on the basis of its contribution to broad scale habitats and associated biotopes.	Noted.
MMO	Conclusion	At this stage the HRA Screening Report provides a high level description of the interests within the zone of activity, and we recommend the points mentioned above should be addressed to supplement the level of detail currently provided.	Noted.
Planning Inspectorate	Approach to HRA Screening for Likely Significant Effect (LSE)	It is unclear from the HRA Screening Report what other projects would be considered within the Dogger Bank Zone assessment, for example, is it just Dogger Bank Creyke Beck? Or is it wider than this? This should be clarified in the submitted HRA Screening Report.	As identified in Section 7 of the IfAA (see **Appendix B** of the **HRA Report**) the other Dogger Bank Zone projects included Dogger Bank Teesside C & D as well as the Dogger Bank Creyke Beck projects.
Planning Inspectorate	Stage 2 - Consideration of in combination effects	The study area that has been considered for the in combination assessment is stated to be the greater North Sea and beyond (paragraph 7.2.1). However, as this description is not specific, it would be helpful if the HRA Report submitted with the Dogger Bank Teesside A & B DCO application, when describing the study area considered for the in combination assessment, could refer to a plan illustrating the spatial extent of the study area.	Figure 7.1 in **Appendix B** of the **HRA Report** has been revised to show the study area for consideration of projects to be considered in-combination with the proposed project for the three Annex I supporting European sites. Figures 3.2 and 3.3 in **Appendix B** of the **HRA Report** present the study area for which the search of European sites with grey seal and harbour porpoise, respectively, Annex II features were screened into the assessment. Figure 7.11 in **Appendix B** of the **HRA Report** presents the other projects considered in-combination with the proposed project, which has been revised to show the study area for selection of other projects.

Consultee	Concern	Comments	Response
Planning Inspectorate	Stage 2 - Consideration of in combination effects	The criterion used to identify the 'other plans and projects' considered in the in combination assessment is identified in paragraph 7.1.2 of the HRA Screening Report. However, it is unclear whether this criterion is based on any guidance or has been developed by Forewind. It is also unclear whether the approach has been agreed with the SNCBs. All these points should be clarified in the submitted HRA Report.	See below.
Planning Inspectorate	Stage 2 - Consideration of in combination effects	Whilst there is no legal definition of what constitutes a plan or project for the purposes of the Habitats Regulations, the Planning Inspectorate has set out in Advice Note 10 (HRA) a suggested list of categories which should be considered in the in combination assessment (see page 8 of Advice Note 10), which Forewind may wish to refer to.	Reference to and consideration of the Advice Note 10 has been made, particularly within Section 1 and Section 10 of the IfAA (see **Appendix B** of the **HRA Report**).
Planning Inspectorate	Stage 2 - Consideration of in combination effects	An initial list of projects which have been screened into the in combination assessment is identified in Table 7-2, based on the criteria identified in paragraph 7.1.2. The projects listed in Table 7-2 indicate which ecological receptor (and relevant grouped features) will be assessed in combination with the projects identified. The HRA Screening Report states that this list of projects will be reviewed on commencement of the in combination assessment to ascertain whether any additional projects should be included, or where additional projects are identified through consultation (paragraph 7.3.1). It would be helpful if the submitted HRA Report could include both a list of projects which have been screened into and out of the in combination assessment, and confirmation that these lists have been discussed and agreed with the relevant consultees, including the Statutory Nature Conservation Bodies (SNCBs).	The projects considered in the HRA are drawn from those that have been screened into the assessment process for the specific topic areas covered in the ES (e.g. benthic ecology, marine mammals, ornithology). Full lists of the projects considered are provided in these ES chapters and for ornithology in Appendix 8 of **Appendix 11A** of the Dogger Bank Teesside A & B ES.
Planning Inspectorate	Stage 2 - Consideration of in combination effects	The terminology within the in combination assessment chapter switches between cumulative and in combination, for example, in paragraphs 7.1.3 and 7.1.4. Care should be taken to ensure consistency in the HRA Report using the terminology 'in combination' effects in accordance with the wording in the Habitats Regulations, unless cross-referring to the cumulative assessment within the ES. The Inspectorate anticipates that the projects considered in the cumulative and in combination assessments may be the same. Where this is not the case, justification should be provided.	Throughout the IfAA (see **Appendix B** of the **HRA Report**) a consistency check has been undertaken to ensure that the use of 'cumulative' and 'in-combination' has been made appropriately in relation to the aspects under discussion.

Consultee	Concern	Comments	Response
Planning Inspectorate	Reliance on Dogger Bank Creyke Beck environmental information	The Inspectorate notes the use of information in the draft Dogger Bank Creyke Beck draft ES and AA at this stage, but expects Forewind to use the final versions of any reports where these are available, together with any new or updated information arising from the examination of this and other projects considered in the in combination assessment, where final versions or additional information is available, prior to the submission of the Teesside A & B project.	The information used from the Dogger Bank Creyke Beck ES and AA contained information from surveys across the Dogger Bank Zone, and were used as the results of all surveys specifically within the Dogger Bank Teesside A & B areas were not available at that time. Given that the only difference would be quantitative rather than whether species are present or absent this would not influence the screening.
Planning Inspectorate	Reliance on Dogger Bank Creyke Beck environmental information	It would also be useful to explain how any changes to earlier documents that had been relied upon have been taken into account in the final versions of the ES and HRA Report submitted with the DCO application for Dogger Bank Teesside. Where this has not been provided and the Dogger Bank Teesside project is accepted for examination, the ExA is likely to request this clarification from both the SNCBs and the applicant in its first round of examination questions.	See note above. However, if there are any additional species identified as present in the later surveys (and which influence the screening in or out of sites and/or features, this has been identified specifically within Section 3 of the IfAA (see **Appendix B** and **Appendix F** of the **HRA Report**).
Planning Inspectorate	Reference to Guidance used to inform the HRA	The HRA Screening Report refers to IPC Guidance (2011) at paragraph 2.2.2 and IPC Guidance (2012) at paragraph 1.1.3, however, as neither of these guidance documents are listed in the Reference section of the HRA Screening Report (section 9), it is unclear what these guidance documents are. Forewind should note that following the abolition of the IPC, any guidance produced by the IPC is no longer extant.	Where relevant within the IfAA (see **Appendix B** of the **HRA Report**) the latest guidance used to for the assessment has been stated. Specifically, the latest Planning Inspectorate Advice Note 10 on Habitats Regulations Assessment (Version 5, August 2013) has been considered and adhered to.
Planning Inspectorate	Reference to Guidance used to inform the HRA	Where reference is made to a report, study or guidance relied upon in the submitted Teesside A and B HRA Report, where this document is not publically available it should be provided appended to the HRA Report, to enable the ExA and interested parties to review such documents as part of the examination.	As far as reasonably practical, all supporting reports and studies have been provided along with the DCO application, either in support of the HRA or the Dogger Bank Teesside A & B ES.
Planning Inspectorate	Relationship between the Environmental Statement (ES) and HRA	Section 3 of the HRA Screening Report helpfully sets out a description of the proposed development, including both onshore and offshore infrastructure. However, Forewind should ensure consistency of this description with the ES and with the draft DCO submitted with the Teesside A and B DCO application.	Section 3 of the IfAA (see **Appendix B** of the **HRA Report**) has been checked against the description of the onshore and offshore infrastructure as identified in the ES to ensure consistency.

Consultee	Concern	Comments	Response
Planning Inspectorate	Consultation with SNCBs	Forewind's covering email noted that the HRA Screening Report has now been issued to consultees for comment, including the SNCBs. The Inspectorate welcomes this approach to enable early engagement and discussion between Forewind and the SNCBs. Clarification should be provided as to when consultation commenced. The aim of such consultation at this stage should be to agree where possible the conclusions of the initial screening assessment, or if not, to understand the reasons for any lack of agreement.	The Dogger Bank Teesside A & B HRA Screening Report was submitted on 2nd August 2013. All responses received are tabulated within this appendix.
Planning Inspectorate	Consultation with SNCBs	However, the Inspectorate notes that whilst European sites located within Scotland have been identified within the HRA Screening Report (see for example Table 5-2 and Figure 5-3), the list of consultees included in Forewind's covering email did not include Scottish Natural Heritage (SNH). As some of the European sites potentially affected are in Scotland or within Scottish waters then it would seem appropriate to consult with SNH, especially as SNH are more likely to have more knowledge of such sites entirely within Scotland and would be better able to assist the applicant.	The Dogger Bank Teesside A & B HRA Screening Report was not directly submitted to SNH.
Planning Inspectorate	Consultation with SNCBs	The outcome of this consultation should be recorded within the finalised HRA Screening Report, ideally in a Table format, including both where agreement has and has not been reached and the reasons why agreement cannot be achieved.	This Appendix (**Appendix C** of the **HRA Report**) provides the comments received from all consultations carried out with respect to the Habitats Regulations Assessment and associated paramaters within the ES.
Planning Inspectorate	Consultation with SNCBs	Where appropriate, copies of correspondence with the consultees should be appended to support any statements, for example, that a SNCB has agreed that a certain European site can be excluded from further assessment.	All responses received are tabulated within this appendix. However, Forewind are happy to supply digital copies of the correspondence received on request.
Planning Inspectorate	Consultation with SNCBs	The Inspectorate recommends that applicants seek to agree Statements of Common Ground (SoCG) with relevant organisations, in particular the SNCBs, during the pre-application process and if possible, to submit these with the DCO application. The SoCGs should clearly identify the extent to which relevant matters are agreed and areas where disputes remain and should be used to inform the final HRA Report. If the Dogger Bank Teesside A & B DCO application is accepted for examination, this information would assist the ExA in narrowing down the issues to be considered during examination.	No SOCG have been drafted or agreed for Dogger Bank Teesside A & B. However Forewind will continue stakeholder engagement to agree these post submission. This work will build upon the form of agreements agreed in respect of the Dogger Bank Creyke Beck application.

Consultee	Concern	Comments	Response
Planning Inspectorate	Transboundary consultation	The HRA Screening Report has identified a number of European sites located within other EEA States, in particular, Belgium, Denmark, France, Germany, Netherlands, Norway and Sweden, as shown on Figures 5.2 (SAC sites) and 5.3 (SPA and Ramsar sites). As Table 8-1: Summary of total number of European sites for which a potential LSE could arise, identifies a number of European sites within each of the above seven EEA States listed, Forewind will need to provide as part of the DCO application, information about the potential LSE on the European sites within these EEA States. The Inspectorate notes that it has previously issued notification to these seven EEA States, under Regulation 24 of the EIA Regulations 2009 (as amended), informing them about the proposed development.	The Dogger Bank Teesside A & B HRA Screening Report was submitted to EEA member states during formal consultation in October 2013. All responses received are tabulated within this appendix.
Planning Inspectorate	Study Area, Baseline and Methodology	The HRA Screening Report does not clearly state whether the study area, baseline and methodology used to inform the HRA have been agreed with the SNCBs. If the proposed development is accepted for examination, it would assist the ExA if the submitted HRA Report could include a statement as to whether or not these have been agreed with the SNCBs. If these have not been agreed with the SNCBs, this should be clearly stated in the HRA Report, together with an explanation of the reasons for the disagreement. Where this confirmation is not provided either in the HRA Report or a SoCG, the ExA is likely to request this clarification in its first round of examination questions. It would also be helpful for Forewind to set out in their submitted HRA Report, how they have responded to any comments from SNCBs on the study area, baseline and methodology used.	All responses received are tabulated within this appendix. However, Forewind are happy to supply digital copies of the correspondence received on request.
Planning Inspectorate	Satisfying the requirements of Regulation 61(1)	The HRA Screening Report appears to have considered SPA and Ramsar designations for the same site separately, as presented in Tables 6-1 (Screening of Likely Significant Effect for the UK SACs, SPAs and Ramsar sites) and 6-2 (Screening of Likely Significant Effect for Transboundary sites). The Inspectorate agrees with this approach to ensure that where a site has both an SPA and Ramsar designation, these are considered separately as the features of each site may differ.	Noted, and they are considered separately within the IfAA (see **Appendix B** of the **HRA Report**).

Consultee	Concern	Comments	Response
Planning Inspectorate	Conservation Objectives	Paragraph 6.2.1 of the HRA Screening Report states that *"Judgements of likely significant effect need to be based upon assessment of potential effects on the features for which the European site was designated and taking into account their conservation objectives".* However, Regulation 61(1) of the Habitats Regulations states that consideration of a site's conservation objectives is only relevant when undertaking an AA of the implications for that site. Therefore, it is unclear why a site's conservation objectives are being considered when determining at the screening stage in the HRA process whether the proposed development is likely to have a significant effect on a European site. This approach should be clarified in the submitted HRA Screening Report.	The conclusions in relation to LSE have only been undertaken with respect to the features for which European sites have been designated, not considering the conservation objectives.
Planning Inspectorate	Conservation Objectives	If an AA is required for this project, then the assessment of the implications for the affected European sites must be undertaken in view of that site's conservation objectives, as required in Regulation 61(1) of the Habitats Regulations and stated in the Inspectorate's Advice Note 10. However, the HRA Screening Report states that "In order to deal with the large number of sites being assessed for LSE, a generic set of conservation objectives that typically apply to the types of features (Annex I habitats, Annex II species populations and SPA designated bird populations) have been used as a reference against which to determine whether LSE may arise. This approach also enables candidate SACs and potential SPAs, for which conservation objectives will not have been developed, to be screened" (paragraph 6.2.3). The Inspectorate is concerned that Forewind's approach to the assessment of the implications of the project against the generic set of conservation objectives does not satisfy the requirement of Regulation 61(1) and requests that further information is provided in the submitted HRA Report explaining this approach. It would also be helpful to state expressly whether this approach has been discussed and agreed with the SNCBs. Where this is not provided, the ExA is likely to request clarification from both the applicant and the SNCBs on this issue, in its first round of examination questions.	Site specific conservation objectives have been used in the IfAA (see **Appendix B** of the **HRA Report**). European Site conservation objectives for English SPAs, as given by Natural England, are generic but obviously apply to individual designated features. These generic conservation objectives are quoted in this report and assessment undertaken with respect to them for the individual features screened into the assessment.

Consultee	Concern	Comments	Response
Planning Inspectorate	Management of the European site	Regulation 61(1) of the Habitats Regulations requires an AA where a proposed project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with, or necessary to, the management of that site. If Forewind determines that a shadow AA is required (to provide the information that the relevant SoS, as the CA, would require to undertake an AA), then this shadow AA should include a clear statement in relation to each site included within the AA, that the project assessed in the AA is not directly connected with, or necessary to, the management of that site, in accordance with Regulation 61 of the Habitats Regulations.	A statement to reflect this requirement is provided in Section 3 of the IfAA (see **Appendix B** of the **HRA Report**).
Planning Inspectorate	The Inspectorate's Advice Note 10	The HRA Screening Report includes a reference to the Inspectorate's Advice Note 10 (HRA) Version 3 at paragraph 2.2.3. However, Forewind should note that the current version of Advice Note 10 is version 5 (August 2013) which is updated to include revisions made in response to emerging best practice on projects. This revised version of Advice Note 10 supersedes all previous versions.	The latest guidance (Version 5, August 2013) has been considered and used in relation to the HRA.
Planning Inspectorate	The Inspectorate's Advice Note 10	The Inspectorate's Advice Note 10 also includes screening and integrity matrices (see Appendix 1 and 2 respectively) that have been developed by the Inspectorate to assist the CA in fulfilling the requirements of the Habitats Directive and the Habitats Regulations in the context of the Planning Act 2008 (as amended) (the 2008 Act) process. Whilst Table 6-1 sets out the conclusions of the screening for each of the UK European sites considered within the assessment and provides a reference to where the justification for the conclusion can be found, this information has not been presented in the format as provided in Appendix 1 of the Inspectorate's Advice Note 10.	The screening and integrity matrices have been provided with this **HRA Report** (see **Appendix F** and **Appendix G** respectively).

Consultee	Concern	Comments	Response
Planning Inspectorate	The Inspectorate's Advice Note 10	If the Dogger Bank Teesside application was accepted for examination, it would assist the ExA for the screening matrices to be presented in the format set out in Appendix 1 of the Inspectorate's Advice Note 10 and include the following information: • The Impacts Table should be used to identify which project activities are linked to particular ecological impacts. Forewind may wish to consider the format for the Impacts Table provided within the Reports on the Implications for European Sites for offshore wind farm projects, which have already been produced and submitted to the SoS; • To ensure that sufficient information is provided within the matrices to support any stated conclusions, where reference is made to the Screening or any AA Reports, the Inspectorate expects to see a brief paragraph summarising the evidence with references to where the evidence can be found for example 'Feature 1 may be subject to significant effects from Effect 1 during construction because……' (Chapter x, paragraph y of the Environmental Statement). It will also be appropriate to refer to any correspondence with the SNCBs, or appropriate consultees, which also support the statement; and • A word version of the matrices should also be provided with the DCO application documents, as this will enable the ExA, if the application is accepted for examination, to subsequently revise these matrices using the evidence gathered through examination of the proposed development.	The screening matrices have been provided with this **HRA Report** (see **Appendix F**), and these have been completed containing the relevant information as noted.
Comments received during Dogger Bank Teesside A & B PEI3 consultation			
JNCC / NE	Section 42 consultation on the draft ES, statutory: Definition of seabird breeding seasons	140.1: NE appreciate breeding seasons for some species have now been extended and that march is included for black-legged kittiwake. NE also appreciate that modelling specific breeding periods for each colony may be too complex to consider within the current assessment framework. It is for this reason that obtaining and referencing colony specific-breeding periods is important to ensure the range of dates used encompass those expected in the area and birds potentially attending colonies for breeding at either end of the breeding season are included as such. We would suggest that evidence verifying this has been checked should be included in the report.	Defined seasons are used within population modelling and subsequently in the impact assessment. As impacts derived from the population estimates were apportioned to a suite of sites (and colonies), it would have been extremely complex to consider specific breeding seasons for individual colonies.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Apportioning breeding season impacts to individual English SPAs	141.2. NE has an issue with the equation used to apportion impacts to individual SPAs as it assumes numbers of affected birds are inversely proportional to the square of the distance to the colony, and colony size. However, evidence submitted in reLation to the Galloper OWF by NE showed the relationship may decline more steeply.	The decline in density over distance is steeper based on the suggested exponent for northern gannet (as provided in Natural England's advice to the Examining Authority in relation to the Galloper case) than using the inverse distance squared used herein. As is noted in the evidence supplied in relation to the Galloper case, the decline in density with distance from a breeding colony is likely to be most pronounced in near-shore foragers. Therefore, to an extent, the relative difference in apportioning resulting from use of the different formulae will be of less consequence for Dogger Bank Teesside A & B because of the distance offshore. For northern gannet for example, for Teesside A, the Forth Islands SPA received a weighting of 68.19% and Flamborough Head and Bempton Cliffs, 31.64%. These would alter to 62.69% and 37.15%, respectively using the exponent -2.440 (NE 2012). These SPAs are over 100km from Dogger Bank Teesside A & B. Equivalent exponential distance functions, are not currently available for most other species, and would require work that is beyond the scope of this assessment. The distance weighting function methodology in this assessment was applied across all species, which was preferable to avoid inconsistent results between species. *Continued below:*

Consultee	Concern	Comments	Response
JNCC / NE (*Continued from above*)	Section 42 consultation on the draft ES, statutory: Apportioning breeding season impacts to individual English SPAs (*Continued from above*)	*See above*	*Continued from above:* In addition, information on the number of birds is available around Bass Rock from ship-based surveys during the breeding season for northern gannets (see Figure 2 in Camphuysen *et al*. 2012). Although a proportion of these birds are likely to include non-breeders and immature birds, the drop off from Bass Rock is less steep than the inverse square would suggest. It is likely that different rates of decline may be present for different colonies. Camphuysen *et al*. 2012. Identifying ecologically important marine areas for seabirds using behavioural information in combination with distribution patterns. *Biol Cons* **156**, 22-29.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Apportioning non-breeding season impacts to individual SPAs	141.3. Natural England recommends that the population figures used for the 'wider region' assessment are presented clearly, more up-to date population estimates are used where available (e.g. the SOSS04 PVA report for northern gannets and Frederiksen *et al*. (2012) for black-legged kittiwakes) and an explanation is given of how these figures have been produced, including what species-specific evidence has been used.	Population figures used in the assessment are presented in Section 2 of **Appendix 11A** of the Dogger Bank Teesside A & B ES. These have been derived from a variety of sources, as referenced in **Appendix 11A** of the Dogger Bank Teesside A & B ES.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Migratory waterbirds	142.1./2/3: Natural England notes that apportioning the migratory waterbirds predicted to transit the OWF to individual SPAs has not been attempted (e.g. Ch 11, App A: 4.2.11), and as a result the potential collision risk to features of specific SPAs has not been assessed in detail in either the draft ES or AA report. Wright *et al*. (2012) set out 5 alternatives in which the estimated overall collision mortality might be assigned to particular SPAs and note that the way in which the process is carried out should be agreed with the relevant SNCB. JNCC and NE's advise is as follows. • JNCC and NE advocate the use of the SOSS migration modelling tool or suitable alternatives. • Features of all SPAs in Great Britain that Wright *et al*. (2012) predict to pass through a corridor containingthe OWF footprint should initially be screened into the assessment. • To avoid addition errors in estimating SPA populations, the wintering estimate of the species in question (Musgrove *et al*. 2012) should be used. The migratory proportion of the wintering population should first be estimated, and then multiplied by the proportion of the species thought to be within the SPA network (Stroud *et al*. 2001) to give the abundance of 'SPA birds' migrating through the corridor. A similar approach can be taken for migrant breeding birds, using estimates in Musgrove *et al*. 2013. If it is justified to use a sub-section of the SPA network, this should be clearly explained. The number of migrants and proportion of birds associated with protected sites will need to be adjusted accordingly. • The value predicted to result in mortality from collision (using appropriate models and parameters) should be expressed as a proportion of the SPA total estimate. As we do not recommend any weighting to specific SPAs, except where this is justified and explained clearly, the effect will be felt at the same level across the network. The exception to this is if there is known difference in migratory routes, where the SPA network may be divided into smaller sub-sections, or if there are any SPAs which appear to be at greater risk. • The exercise should be repeated for all OWFs lying within the corridor established by Wright *et al*. (2012), to establish cumulative effect. *Continued below:*	As proposed, the methodology of Wright *et al*. (2012) has been followed, and features of all SPAs in Great Britain that Wright *et al*. (2012) predict to pass through a corridor containing the OWF footprint screened in. The proportion of the population within the SPA network has not been estimated but instead risk to migrants based on the entire UK or Great Britain or Great Britain & Ireland population as appropriate has been calculated. This will still give exactly the same answer as the method suggested in terms of the proportion of the population at risk (which can be applied to each SPA as suggested), but the absolute numbers will be slightly higher than they would had we multiplied populations by the proportion of the species thought to be within the SPA network. Our method is therefore more precautionary than that recommended by NE. We think our method is preferable as using the proportion of the population thought to be within the SPA network (as suggested by NE) will underestimate the numbers of 'SPA birds' affected due to turnover which is known to occur in most migratory species as individual birds move through SPAs. We have expressed the value predicted to result in mortality from collision as a proportion of the UK or Great Britain or Great Britain & Ireland population as appropriate (as described above). This gives exactly the same proportion as would have been calculated for the proportion of the SPA total estimate had we used the method suggested by NE. *Continued below:*

Consultee	Concern	Comments	Response
JNCC / NE (*Continued from above*)	*Continued from above:* Section 42 consultation on the draft ES, statutory: Migratory waterbirds	*Continued from above:* • Once the proportion of birds interacting is understood, this can be scaled to SPA abundance, and this value can be fed into the Band (2012) collision risk model. • Where the exercise reveals a specific indication that non-trivial numbers of birds are predicted to interact with OWFs, it may be appropriate to consider further the impacts at individual SPAs, by re-analysis of model output to focus on migration routes of birds arriving at a single point location (SPA) from across a wide front.	*Continued from above:* Based on the results obtained, there are no species for which non-trivial numbers of birds are predicted to interact. However, we do not think that the method suggested is appropriate because many migratory species will not migrate direct to SPAs but will instead migrate to the UK then move along the coast to the relevant SPAs. In cases where there is a wind farm very close to a particular SPA, if the wind farm is very close to the coast but slightly offset from the SPA in question, it is quite likely that using this method could significantly underestimate the numbers of birds likely to pass through the wind farm. We therefore think it is not appropriate to treat birds migrating to SPAs as migrating to/from a single geographical point.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Migratory waterbirds	142.4. The AA report should also attempt to assess the cumulative impacts on migratory waterbirds from other OWF as a result of collision mortality. Whilst we accept that limited information from other OWF submissions may be available to carry out such an assessment, meaningful potential impacts on migratory waterbirds are clearly more likely to accrue at the cumulative level.	Cumulative collision risk for migrants has been calculated for the Dogger Bank Teesside A & B, Creyke Beck A & B and Teesside C & D projects. Cumulative assessment has been undertaken at the scale of the wider North Sea region, although only projects and plans for which there is medium to high confidence data and project information have been included. In the case of the assessment of cumulative collision risk for migrants, figures are available for only a small proportion of those species likely to cross the overall suite of wind farm projects in the North Sea region, for which assessment is now possible through the work of Wright *et al*. (2012). Furthermore, the numbers of other projects for which estimates are provided for migrants are very few, and thus the sites for which data were available only represent a very small proportion of the overall suite in the North Sea region. For those species whose migration zones overlap with the Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, indicative figures of the percentages of these migration zones that overlap with the overall suite of wind farm projects considered in the cumulative assessment in the North Sea region are also shown.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA	144.1. Note JNCC and NE's comment on apportioning of breeding season impacts, as these have a bearing on the assessment of impacts on Flamborough Head & Bempton Cliffs SPA species.	See response to JNCC/NE comment 141.2 above.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA	144.2. Natural England considers that the collision mortality due to Dogger Bank Teesside A and B alone and in-combination on the northern gannets of Flamborough and Filey Coast pSPA requires further consideration before any conclusion regarding the significance of the effect can be reached.	Full consideration has been given to determining and assessing collision mortality in respect of the Flamborough and Filey Coast pSPA gannet population. Colony specific PBR calculations have been undertaken (see **Appendix E** of the HRA Report) and these are used in providing context to the predicted collision impact both for the project alone and in-combination with other projects.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA	144.3. NE does not aree with the use of Option 3 of the Band model and reflects the fact that standard avoidance rates are only applicable for use with the basic Band models. NE and JNCC also expect equal consideration to be given to collision mortality figures based on a 98% avoidance rate.	Discussion with regards to Collision Risk Modelling options and the appropriate avoidance rates to use within Collision Risk Modelling is ongoing. To inform this, a separate document (Forewind and SmartWind 2013) has been produced to provide a review of avoidance rates of seabirds at offshore wind farms and the applicability of their use within the Band collision risk model. We also note the content of the MROG Paper "Summary of current issues with Collision Risk Modelling approaches". Further work has been commissioned by Marine Scotland that should also better inform this issue.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA	144.4. Natural England is concerned that the mortality apportioned to Flamborough Head and Filey Coast pSPA may be underestimated due to the methodology used to divide estimates between this site and Forth Islands SPA. Further work by the Applicant is required to demonstrate a more evidence-based method of apportioning impacts on the smaller Flamborough and Filey Coast pSPA colony to reflect the probability of more birds in the breeding season originating from here rather than Forth Islands SPA than is currently assumed.	See response to JNCC/NE comment 141.2 above.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA	144.5. NE is concerned that conclusions cannot currently be drawn at a cumulative level due to the incomplete nature of the CIA. The in-combination assessment should include data from other reasonably foreseeable projects as well as constructed/operational projects where the additional mortality cannot be considered to have been captured in the background mortality level.	As previously consulted on with stakeholders including JNCC and Natural England, Forewind note that it is not considered appropriate to include operational wind farms within the cumulative impact assessment. This is only the case where a project has been operational for the full period over which the baseline data was collected. Where a project was under construction at the start of the surveys and where data allows, projects have been included in the CIA. Whilst the point is noted that impacts of operational wind farms may not yet be being experienced there is no way to tell whether this is the case or whether in fact the contrary is true and the full impacts are already being experienced. Further, for these projects it is often the case that the assessment in the HRA is based on a worst case which has not, in reality, been built and hence the impacts anticipated would not be expected to be as predicted in the assessments for that project, and would in fact be lesser. It would be a strategic level activity to revisit all now operational wind farms and calculate the actual predicted impact based on the operational wind farm and outside the scope of work for one developer. Hence it is considered that inclusion of these projects would give unrealistic results which are worse than the realistic worst case scenario and may inaccurately assume that impacts for these projects are not already being experienced at the relevant species or site level. As a result, Forewind has not included operational projects in the CIA and feel that to add these impacts to those outlined in the CIA would present an unrealistic worst case scenario which risks overestimating impacts on receptors.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Black-legged kittiwake	144.6. NE does not agree that there will not be an adverse effect on the integrity of the site for black-legged kittiwake, either alone or in-combination with other plans and projects. NE considers that the collision mortality due to Dogger Bank Teesside A and B, alone and in-combination, on the black-legged kittiwakes of Flamborough and Filey Coast pSPA requires further consideration before any conclusion regarding the significance of the effect can be reached.	Full consideration has been given to determining and assessing collision mortality in respect of the Flamborough and Filey Coast pSPA black-legged kittiwake population. Colony specific PBR calculations have been undertaken (see **Appendix E** of the **HRA Report**) and these are used in providing context to the predicted collision impact both for the project alone and in-combination with other projects.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Black-legged kittiwake	144.7. JNCC and Natural England do not support the selection of CRM Option 3 outputs as the sole basis on which assessment of impact are made.	Discussion with regards to Collision Risk Modelling options and the appropriate avoidance rates to use within Collision Risk Modelling is ongoing. To inform this, a separate document (Forewind and SmartWind 2013) has been produced to provide a review of avoidance rates of seabirds at offshore wind farms and the applicability of their use within the Band collision risk model. Ir is also noted that the MROG Paper “Summary of current issues with Collision Risk Modelling approaches”. As is noted, further work has been commissioned by Marine Scotland that should also better inform this issue. Option 3 was used throughout the assessment as it allows variation in turbine design (i.e. in their size and height above sea level) to be more accurately incorporated into the assessment of collision risk. Collision risk is not spread evenly within the rotor swept area as is assumed by Options 1 & 2. Using Option 3 allows us to take this into account and thus represented the most appropriate Option to use. However, as stated above, discussions in this regard are ongoing.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Common guillemot	144.9. NE does not agree that there will not be an adverse effect on the integrity of the site for common guillemot, alone or in-combination with other plans and projects as there are a number of queries regarding the assessment of displacement.	With respect to displacement, it should noted that the mortality rates considered in the assessment represent the proportion of those birds predicted to be displaced that might be expected to be lost to the population in the long-term. No attempt is made to assess this effect in relation to changes in background annual mortality that would be required to bring the population to the new lower equilibrium, as a number of uncertainties are likely to determine how long this will take to happen and thus the changes in annual mortality required.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Common guillemot	144.10. NE advises caution against the assumption that current population increases are likely to continue throughout the project lifetime and that more than one potential scenario should be considered (including population stability as well as slower rates of growth.	Noted.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Common guillemot	144.11. Displacement, particularly cumulative displacement, has the potential to reduce sensitive species survival/productivity, and consequently could impact at a site or population level. For example, based on a 5% mortality of displaced birds 0.16% of the Flamborough and Filey Coast pSPA common guillemot population were estimated to be lost. This will represent a greater than 1% increase in mortality compared to background mortality (and thus warrants comparison with e.g. PBR) and in-combination with other projects would be higher.	See response to 144.9 above. Where available, predictions of displacement and mortality for sensitive species have been obtained for other relevant projects. In-combination assessment utilising this data is provided in Section 7.8 of **Appendix B** to the **HRA Report**.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Common guillemot	144.12. The issue that additional OWF have the potential to increase SPA common guillemot displacement mortality levels beyond those already predicted for the Dogger Bank projects will require further consideration. This includes the use of data available from projects currently in the planning system, even if there is low confidence in the data.	See response above in respect of 144.11. Data from the following projects has been incorporated into the in-combination assessment for common guillemot: East Anglia ONE, the European Offshore Wind Development Centre), Firth of Forth Alpha and Bravo, Hornsea Project One, and Neart na Gaoithe.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough Head and Filey Coast pSPA - Razorbill	144.14. NE and JNCC note that the predicted displacement mortality for razorbills is less than that for common guillemots. However, for the reasons given for common guillemot, Natural England is not currently in a position to advise no Adverse Effect on Integrity on the SPA's population of razorbills from this project alone and when considered in-combination with other plans and projects without further considerations by the Applicant.	As response to JNCC/NE comment 144.11 and 144.12 above.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Farne Islands SPA - Common guillemot	145.1. For the reasons given for Flamborough Head and Filey Coast pSPA common guillemots, Natural England is not currently in a position to advise no Adverse Effect on Integrity on the population of common guillemots when considered in-combination with other plans and projects at Farne Islands SPA.	As response to JNCC/NE comment 144.11 and 144.12 above.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Migratory waterbirds migrating to English SPAs	146.1. The AA report does not currently provide sufficient site-specific information regarding collision impacts on migrating waterbird SPAs to allow a conclusion of no adverse effect on integrity to be reached, both alone and in-combination. NE and JNCC understand the method used and its rationale but attempts must then be made, e.g. using the alternative ways presented in Wright *et al*. (2012) to assess potential effects on individual SPAs so that potential adverse effects on integrity can be assessed.	See response to JNCC/NE point 142.1 to 142.4 above.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Assessment on non-English SPAs	147. JNCC in conjunction with SNH state that consideration of other of evidence to support whether birds present at Dogger Bank are actively engaged in breeding activities and/or demonstrate connectivity with the SPAs identified would be beneficial.	Noted.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Assessment on non-English SPAs	147. SNH and JNCC conclude no likely significant effect with regards to northern gannet, common guillemot and razorbill associated with any Scottish SPA.	Noted.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Assessment on non-English SPAs	148. JNCC and SNH advise that in Scottish water there is no requirement for impacts to be assessed under HRA to Scottish SPAs outwith the breeding season and instead the assessment of impact at larger populations scales, and for the appropriate season, should be presented as part of the EIA process.	Noted.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Assessment on non-English SPAs	149. JNCC and NE suggest that it would be useful to provide a revised summary table of the conclusions reached in terms of Scottish SPAs in the final HRA report, after full consideration of the comments presented.	Conclusions in respect of all of the SPAs and Ramsar sites screened into the assessment is provided in **Appendix D** to the **HRA Report**. This includes all of the Scottish sites considered and is set out in alphabetical order.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Table 3.6	150. Please note that Mersey Narrows and North Wirral Foreshore is now an SPA and Ramsar site as opposed to being pSPA/pRamsar.	This has been updated throughout, where relevant.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Table 3.6	150. NE supports the use of mean max foraging ranges colony-based tracking studies.	Noted.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Table 3.6	150. In regard to large auk species using the Dogger Bank Zone and their potential connectivity with English SPA colonies, we advise that there would be merit in reviewing the ornithological survey data for evidence of fish-carrying and trends in flight direction during the breeding season, as this may provide further evidence to justify the use of maximum foraging ranges for these species.	The survey data from the site was investigated for this issue, finding that little systematic recording existed hence being unsuitable to confirm or deny presence of breeding birds or nearby colonies.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Section 6.5.25	154. NE notes that the Teesmouth and Cleaveland SPA and Ramsar site is aproximately 1.75km to the north west of the landfall/cable corridor. However in section 6.4.85 it is stated as being less than 2km and in section 6.5.84 as aproximately 2km. Clarification and consistency is required.	The distance to the Teesmouth & Cleveland Coast SPA and Ramsar is dependent on the definitions and areas. With respect to the distance across the intertidal zone, the temporary works area is 2km away. The nearest straight line distance from the SPA / Ramsar site to the temporary works area is 1.5km, but to the Dogger Bank Teesside A & B Export Cable Corridor is 2km. Therefore, we are have ensured that all statements identify 2km.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - section 5.4.44 of the Draft HRA Appendix A Screening Report	156. NE does not agree with the mortality rate used for white-billed diver and notes that the data have been omitted from some tables in Chapter 11 of the ES.	We note the point regarding mortality rate for this species. The mortality rate of 37.5% for this species was derived using a scale from 0-50% applied to sensitivity scores of 1-5 from Furness & Wade (2012) (see Section 3 (and Section 4 in **Appendix 11A** of the Dogger Bank Teesside A & B ES)). Red-throated diver was included in the review by Furness & Wade (2012) – white-billed diver is assumed to show a similar species response, given their close-relatedness. The species was thus assumed to have a sensitivity score of 4 on the scale used giving the 37.5% value. This value was therefore deemed appropriate in keeping with the methodology outlined for displacement in Section 3 (and Section 4 in **Appendix 11A** of the Dogger Bank Teesside A & B ES). The missing quantities have been included in Tables 5.1, 5.8, 5.15, and 6.1 in **Appendix 11A** of the Dogger Bank Teesside A & B ES and Tables 6.2, 7.1, 7.2, 10.3, 10.4, 10.6, and 10.7 in **Chapter 11** of the Dogger Bank Teesside A & B ES.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Table 6.1 of the Draft HRA Appendix A Screening Report	158. NE notes that little gull is missing from the assemblage list for Mersey Narrows and North Wirral Foreshore pSPA.	The site details have been checked and updated in **Appendix D, Appendix, Appendix H** and **Appendix I** to the HRA Report.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Appendix B HRA Report, 3.2.47	159. NE suggests retention of herring gull in order to ensure that if the predicted impact, eg, of collision mortality at Dogger Bank Teesside is anything other than de minimis it can be considered in an in combination assessment for a species which is red listed due to large scale population declines.	Only small numbers of herring gull were observed during the surveys over Dogger Bank (see Section 3 in **Appendix 11A** of the Dogger Bank Teesside A & B ES) and for this reason no calculation of population estimates and specific collision risk modelling has been undertaken. As Dogger Bank is located well outside the mean maximum foraging range of breeding herring gull any apportioning of possible collision mortalities would be undertaken in respect of the suite of SPAs supporting this species around the North Sea (including sites in the Netherlands, Belgium and France). Given this, and the small numbers of birds observed within the study area, any apportioned collision losses would be very low and not significant in respect of in-combination assessment.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Hen Harrier	160. Natural England suggests the logic for inclusion of wintering hen harrier on the Dorset Heathlands SPA (on basis of published migratory front but in face of no sightings at Dogger) is at odds with exclusion of merlin which were seen on surveys. Clearly Dogger Bank is on the migratory front for merlin and so merlin ought to be taken forward.	Two merlin were recorded during the survey period used for assessment for Teesside A & B. The majority of merlin present in the UK during the winter are birds from UK breeding sites. The migratory population comprises birds from Iceland, the migratory route of which would be unlikely to intersect with the Dogger Bank (Wright *et al*. 2012). While no hen harrier were recorded, it is shown in Wright *et al*. (2012) as having a migratory path that clearly has the potential to intersect with the location fof the wind farm as birds may cross the North Sea from Scandinavia.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Herring Gull	161. NE suggests inclusion of herring gull at Flamborough Head and Bempton Cliffs SPA (as a precaution) and to ensure any small (if exceeding de minimis) contribution from Dogger Teesside can be included in an in combination assessment.	See response to 159 above.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Other Advice - Bewicks's Swan	162. NE advises that it may be premature to screen out sites holding Bewick's swan prior to examination of information presented by WWT. WWT are conducting a study fitting GPS loggers to Bewicks swans wintering in the UK. The same comment applies in general that assessments of whether species" migratory routes pass over the Dogger Zone should not be simply based on the SOSS05 report but also take into account any more up to date information on migratory routes that may have altered our understanding since then. As such, species screened out at this stage on the basis of the SOSS05 report may need to be screened in again if recent/new information suggests that would be appropriate.	While the SOSS05 report has been used as the main basis for determining the migratory routes taken by waterbirds and, from this, whether migratory populations would be likely to interact with the proposed wind farm development on Dogger Bank. The Wright *et al*. (2012) report contains the most up to date information and thinking on the migratory routes of waterbirds. No specific information from the Bewick's swan tagging study was available at the time of screening and as far as we are aware no published information has been made available. It should also be noted that only six swans were recorded during the entire three years of survey work (none identified as Bewick's swan) for Dogger Bank indicating that the site is unlikely to be on the migratory route for Bewick's swan.
JNCC / NE	Section 42 consultation on the draft ES, statutory: Dogger Bank SCI	163. JNCC advises that it is not possible on the basis of current evidence provided by the Applicant to conclude beyond reasonable scientific doubt that the construction, operation and decommissioning of the first two Teesside projects, alone and in-combination with other plans and projects, will not compromise the conservation objectives for the feature for which Dogger Bank SCI is designated.	The position of JNCC on this issue is noted.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory:	164. JNCC has outstanding concerns regarding discrepancies between the information presented in the draft ES, and the information for Appropriate Assessment and the Creyke Beck ES.	It should be noted that depending on the elements under consideration, the focus and assessment within the Dogger Bank Teesside A & B ES would include habitats or species which are not relevant to the HRA process (i.e. European designated sites). However, reviews and checks of the details, quantities and assessments within the ES where relevant to the HRA have been undertaken to avoid any discrepancies. We are, however, very happy to clarify any specific discrepancies that appear to have arisen in order to confirm whether they are discrepencies or differences for the reason identified in the first sentence herein. With regard to the Dogger Bank Creyke Beck ES, it can only be stated that further clarification and additional details have obviously arisen post submission of th ES, and therefore this may 'appear' to be a discrepancy but may be a clarification since summer 2013.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Flamborough & Filey Coast pSPA / Flamborough Head SAC	166. Potential case for inclusion within the Interruption to sediment transport pathways: The possible installation of cable protection at construction phase and the more long-term impacts through the operational phase could impact the Flamborough & Filey Coast pSPA/ Flamborough Head SAC sites. It is not clear whether Forewind have included the potential effects of the cumulative linear impacts of potentially four cables if an unbundled approach is taken (ie, worst case scenario).	The potential impacts of linear cable protection on the hydrodynamic regime including sediment transport (and in turn any implications that this may have on designated habitats and species) has been considered in the IfAA (**Appendix B** of the **HRA Report**), specifically in relation to the Teessmouth and Cleveland Coast SPA and Ramsar site (which is the closest site – 2km distant from the export cable corridor). However, further clarification is provided in Section 3 of the IfAA regarding the limited and localised nature of sediment transport pathway interruption, which would not extend to or near the Flamborough Head SAC or Flamborough and Filey Coast pSPA, 55km distant to the nearest offshore extent of cable, but 72km distant from the cable route in the nearshore zone. Furthermore, the features of the Flamborough Head SAC and supporting habitat of the Flamborough and Filey Coast pSPA are sensitive to increased suspended sediment and smothering, not potential temporary interruption to sediment transport as a physical manifestation.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Annex I Designated Habitats	167. NE advises that where cobbles (and boulders) have been identified outside of Dogger Bank SCI, detailed pre construction surveys should be undertaken to categorise the habitat and inform decisions on export cable micro-siting.	It is noted in Section 6.9 in Chapter 12 of the Dogger Bank Teesside A & B ES that the pre-construction marine ecology survey will include an Annex I habitat survey that will be designed such that the potential presence and spatial distribution of potential Annex I reef habitat (specifically cobble reef habitat in relation to Dogger Bank Teesside A & B) is fully determined prior to construction commencing. The design of this survey will be based upon guidance presented in the ALSF Report "Best methods for identifying and evaluating *Sabellaria spinulosa* and cobble reef" (Limpenny *et al.* 2010).
JNCC / NE	Section 42 consultation on the draft ES, statutory: Cumulative and In-combination Impacts - 7.2.6 (p.464)	168. In-combination effects – Offshore Wind Farms: The impacts of sediment interruption due to cable protection on the export cable corridors and barrier effects as a result of EMF should also be considered.	See response to JNCC/NE point 66 above in relation to sediment interruption. A potential 'barrier' effect as a result of EMF was screened out, and additional text supporting the screening out of this issue is presented in Section 3 of the IfAA (**Appendix B** of the **HRA Report**).
JNCC / NE	Section 42 consultation on the draft ES, statutory: Cumulative and In-combination Impacts - Marine mammals	169.1. JNCC and NE have outstanding concerns regarding the cumulative assessment in relation to marine mammals. JNCC and NE advise that for there to be confidence in a CIA an agreed framework should be established under the responsibility of the regulator to investigate cumulative impacts on marine mammal populations as part of Strategic Environmental Assessments.	Forewind are happy to support an agreed framework and provide information as necessary in relation to the proposed project to support the regulators investigation of cumulative impacts on Annex II marine mammal populations.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: 7.3.7 (p.476): Interruption to sediment transport pathways	170. Forewind concludes that due to the height and extent of the cable protection it would not be considered to measurably change either the patterns of sediment transport or the volume of sediment transport across the Dogger Bank SCI. Further justification and evidence is required before such a conclusion can be made. The variation in types, methods and extent of cable protection could alter the results significantly. It is also stated that a significant majority of the length of the cables will be buried and only relatively shallow protection or crossings would be used for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B, and Dogger Bank Teesside C & D. However, within the ES and the HRA report the maximum worst case scenario for the quantity of cable protection has been assessed. A more realistic worst case scenario where the anticipated extent, location and the anticipated methods of cable protection are required before the conclusion can be made that no interaction with the effects of Dogger Bank Teesside A & B and other projects would be expected.	The assessment of the affect of cable protection on sediment transport or the volume of sediment transport across the Dogger Bank SCI utilises the very data and results presented in the Section 4 in **Appendix B** of the **HRA Report**. The type and method of cable protection is clearly detailed in Section 2.3 and Table 2.2 of the IfAA (**Appendix B** of the **HRA Report**). Given the precautionary nature of both the Dogger Bank Teesside A & B ES and HRA, and the use of the worst case scenario, the worst case interruption to sediment transport has been assessed and scaled up to the SCI as a whole (see Section 4.7 and 7.3 of the IfAA (**Appendix B** of the **HRA Report**) and further detail in Chapter 9 of the Dogger Bank Teesside A & B ES). Given the use of the 'Rochdale envelope' approach, and the micro-siting that would take place, it is not possible at this stage to identify where exactly cable protection would occur, the length or the orientation. However, it is noted that the extent of cable protection and cable crossings assessed is conservative.

Consultee	Concern	Comments	Response
JNCC / NE	Section 42 consultation on the draft ES, statutory: Section 7	171. No assessment of cumulative impacts of interrupted sediment transport is made in relation to the export cable corridors. Consideration of the Dogger Bank Teesside A & B, export cable corridor along with the Dogger Bank Creyke Beck A & B, Dogger Bank Teesside C & D, Hornsea Project 1 and Hornsea Project 2 and the requirement of cable protection should be included within the assessment. In particular the impacts of interruption to sediment transport, suspended sediment concentrations and effects of EMF where cables are not buried should be included within the approach to the in-combination assessment before the conclusion of no LSE can be made.	See Sections 7.3 and 7.5 of the IfAA (**Appendix B** of the **HRA Report**), which include the assessment of in-combination effects of sediment transport; further detail is provided in Section 10 in Chapter 9 of the Dogger Bank Teesside A & B ES) for consideration of the in-combination effects. With respect to the Hornsea projects and sediment transport, suspended sediment, and EMF, the distance between the Hornsea projects possible export cable corridors in the nearshore zone prevents any likely overlap of impacts on the Dogger Bank cSAC/SCI, the Teessmouth and Cleveland Coast SPA and Ramsar site, the Flamborough Head SAC, and the Flamborough and Filey Coast pSPA. See also response to JNCC/NE point 170 above regarding sediment transport, and response to JNCC/NE point 168 above in relation to the screening out of EMF. In relation to suspended sediment transport, Sections 7.3 and 7.5 of the IfAA (**Appendix B** of the **HRA Report**) clearly identify the projects where any potential in-combination effect from suspended sediments during construction, operation or decommissioning.
JNCC / NE	Section 42 consultation on the draft ES, statutory:	172. We have outstanding concerns regarding cumulative impacts and would like further discussions with Forewind over their cumulative assessments.	Forewind look forward to and are keen to discuss and resolve any concerns JNCC/NE have with regard to cumulative (and in-combination) assessment.
RSPB	Section 42 consultation on the draft ES, statutory:	Appendix E Flamborough and Filey Coast p SPA: Potential Biological Removal (PBR) values for Gannet 286-393, Kittiwake 381-400 are cited. As per our overarching comments on PBR above, it is questionable that any of the various cited PBRs for adult kittiwake from FHBC indicate sustainable numbers “that could be removed annually without having a detrimental effect on the sustainable growth of the population”.	Revised PBR calculations (see **Appendix E** of the **HRA Report**) are utilised in the assessment. The justification for the use of these values is presented in **Appendix E**.

