

**RWE Renewables UK Dogger Bank
South (West) Limited**

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South (East) Limited**

Dogger Bank South Offshore Wind Farms

**Habitats Regulations Derogation: Provision of Evidence
Volume 6**

**Annex C - Extension of the Dogger Bank SAC for HRA
Derogation Compensation – rationale and evidence base**

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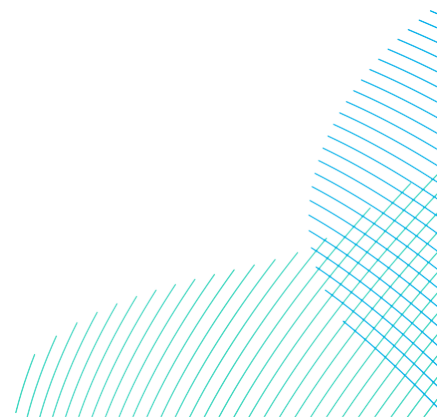
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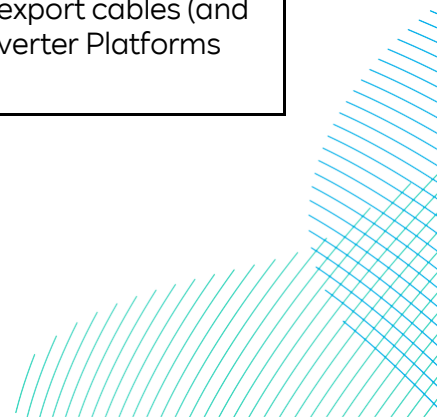
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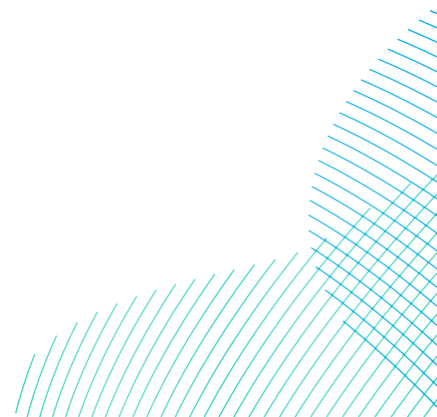


Glossary

Term	Definition
Array Areas	The DBS East and DBS West offshore Array Areas, where the wind turbines, offshore platforms and array cables would be located. The Array Areas do not include the Offshore Export Cable Corridor or the Inter-Platform Cable Corridor within which no wind turbines are proposed. Each area is referred to separately as an Array Area.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Dogger Bank South (DBS) Offshore Wind Farms	The collective name for the two Projects, DBS East and DBS West.
Environmental Statement (ES)	A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations.
In Isolation Scenario	A potential construction scenario for one Project which includes either the DBS East or DBS West array, associated offshore and onshore cabling and only the eastern Onshore Converter Station within the Onshore Substation Zone and only the northern route of the onward cable route to the proposed Birkhill Wood National Grid Substation.
Inter-Platform Cable Corridor	The area where Inter-Platform Cables would route between platforms within the DBS East and DBS West Array Areas, should both Projects be constructed.
Inter-Platform Cables	Buried offshore cables which link offshore platforms.
Offshore Development Area	The Offshore Development Area for ES encompasses both the DBS East and West Array Areas, the Inter-Platform Cable Corridor, the Offshore Export Cable Corridor, plus the associated Construction Buffer Zones.
Offshore Export Cable Corridor	This is the area which will contain the offshore export cables (and potentially the ESP) between the Offshore Converter Platforms and Transition Joint Bays at the landfall.

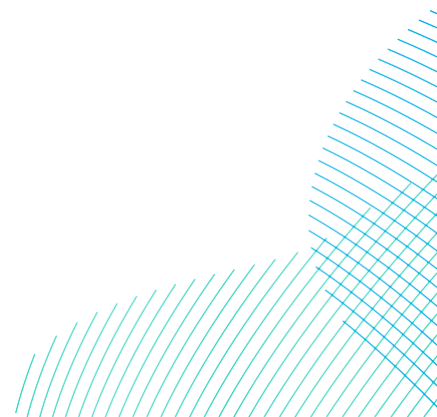


Term	Definition
Special Area of Conservation (SAC)	Strictly protected sites designated pursuant to Article 3 of the Habitats Directive (via the Habitats Regulations) for habitats listed on Annex I and species listed on Annex II of the Directive.
The Applicants	The Applicants for the Projects are RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited. The Applicants are themselves jointly owned by the RWE Group of companies (51% stake) and Masdar (49% stake).
The Projects	DBS East and DBS West (collectively referred to as the Dogger Bank South Offshore Wind Farms).



Acronyms

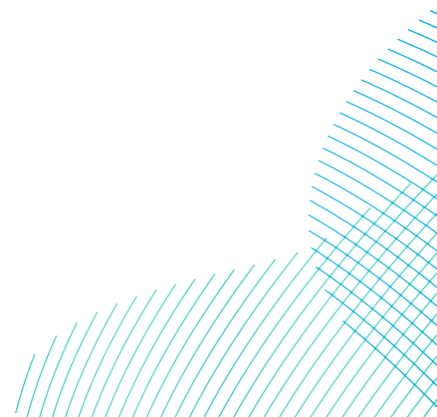
Term	Definition
DBS	Dogger Bank South
MPA	Marine Protected Area
SAC	Special Area of Conservation



1 Introduction

1.1 Background

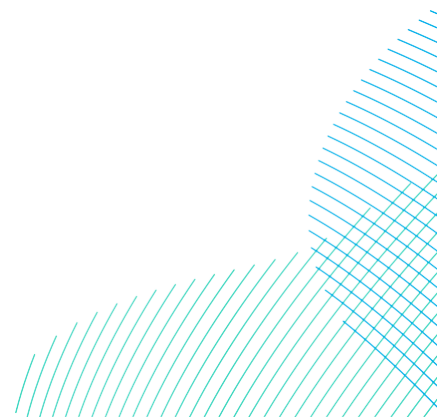
1. Special Areas of Conservation (SACs) identified for their seabed habitats under the European Habitats Directive (92/43/EEC), together with Marine Protected Areas (MPAs) designated under national and devolved legislation, form part of a national site network of MPAs established at a UK level (Defra 2021). Under the UK Habitats Regulations (S.I. 2017/1012 and S.I. 2017/1013) and amendments to adapt the regulations following EU exit (S.I. 2019/579), if 'adverse effect on the integrity (AEol) of the site' cannot be ruled out and there are 'imperative reasons of overriding public interest' for a proposed development and no alternative solutions, 'compensatory measures' to ensure overall coherence of the national site network of MPAs will be required in order to achieve Good Environmental Status under the UK Marine Strategy (Defra 2021). Compensatory measures should only be considered once an applicant has worked through all other possible options to avoid, reduce or mitigate potential impacts of a development on an MPA.
2. The Array Areas of the Dogger Bank South Wind Farms (hereafter referred to as 'the Projects') are located completely within the Dogger Bank SAC. Therefore, construction and operation of the Projects will lead to both temporary and long-term habitat loss. The current management advice for the SAC requires action be taken to 'restore' the 'Extent and Distribution', 'Structure and Function' and 'Supporting processes' attributes under the site's conservation objectives (JNCC, 2022a, 2022b). Whilst the area of habitat loss is likely to be small in relation to the size of the SAC (<5km² footprint from an area of 12,331km² approximately (0.04% of the SAC)), given the advice to restore and the Crown Estate's Appropriate Assessment for the Round 4 Plan (The Crown Estate, 2022) concluding that the Projects will lead to adverse effect on the integrity of the sandbank feature of the Dogger Bank SAC, compensation measures will be necessary if the Projects are to be consented.



3. Extending the current boundary of the SAC to encompass areas of equivalent habitat is considered by the Applicants to be the most ecologically appropriate as well as practicable measure to compensate for any habitat loss. In this report, 'extension' is used to indicate designation of a Marine Protected Area (with the mechanism either being a SAC or potentially a Marine Conservation Zone). Given that the area of ecologically equivalent habitat adjacent to Dogger Bank SAC is extensive, far greater than the area that might be lost or disturbed by these two Projects, this option will also enable compensation to be delivered for sandbank habitat loss or disturbance at a strategic level.

1.2 This document

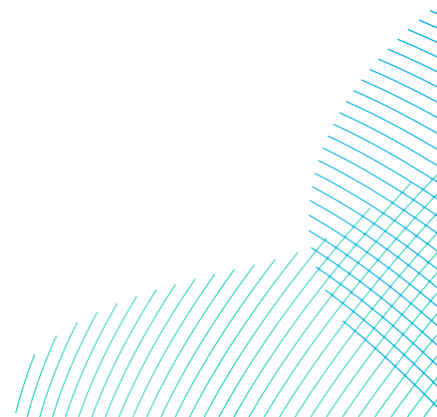
4. This document contains a review of the data underpinning our understanding of the Dogger Bank and recommendations on sufficiency of data to justify extension of the SAC as a compensatory measure.



2 Review of the Evidence Base

2.1 Rationale for extension

5. The Dogger Bank is situated in the southern North Sea and was designated as a SAC for the seabed habitat “sandbanks which are slightly covered by sea water all the time” listed in Annex I to the European Habitats Directive (92/43/EEC). Unlike other sandbanks in UK offshore waters, the Dogger Bank is not a tidally-formed sandbank but it does fall within the definition of Annex I sandbank habitat. It was formed by geological processes and subsequent sea-level rise, is a permanently submerged topographic feature predominantly surrounded by deeper water and consists of mainly of sandy sediments. Banks where sandy sediments occur in a layer over hard substrata are classed as sandbanks if the associated biota are dependent on the sand rather than the underlying hard substrata. Larger or smaller grain sizes (boulders, cobbles and/or mud) may also be present on a sandbank (European Commission 2007a). Dogger Bank is covered by varying depths of sandy sediments with areas of gravels (not considered at the time of designation to be part of the Annex I sandbank habitat (JNCC 2011a)). Thus due to its size, location and physical structure, equivalent Annex I sandbank habitat to that found at Dogger Bank is not known from other areas within UK waters.
6. Although Annex I sandbank habitat generally occurs in shallow waters (less than 20m water depth) the habitat extent is not defined by water depth (European Commission 2007). The current SAC boundary was delineated in 2010 following peer-reviewed statistical analysis of available data on benthos and epibenthos to identify the characteristic biological communities of the shallower parts of the bank (those in less than 20m water depth) and their extent into deeper waters. The biological communities characteristic of the shallower parts of the bank were assessed to extend out to approximately 35-40m water depth and the area within the current SAC boundary of 12,331km² “closely follows the extent of the Annex I sandbank habitat” (JNCC 2011a).



7. There are no clear-cut boundaries between sediment types and the communities they support, so determining the 'outer edge' of the Annex I sandbank habitat at Dogger Bank is not clear-cut. Consequently, six different versions of the boundary for Dogger Bank SAC were initially drafted by JNCC between 2006 and the current SAC boundary delineated in 2010 (JNCC 2009b). JNCC first formally recommended the Dogger Bank to Defra as a draft SAC in 2008 with a boundary based on topography of the bank by modelling change in slope (following a methodology developed by Germany in Klein, 2006) and analysis of data on infauna and epifauna. It extended out northwards beyond the 2010 boundary approximately to the 50m depth contour with a site area of 15,057km² (Diesing *et al.* 2009) - 2,726km² larger than the boundary of the current site. These boundaries are illustrated in **Figure 2-1** (the March 2010 boundary being that of the current SAC).

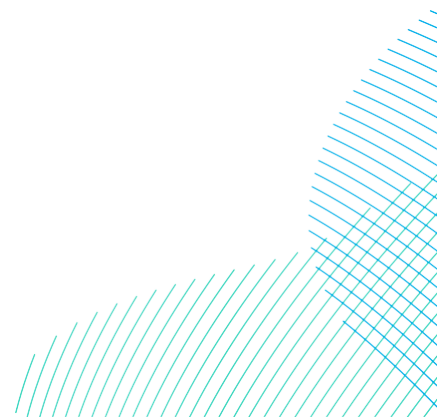
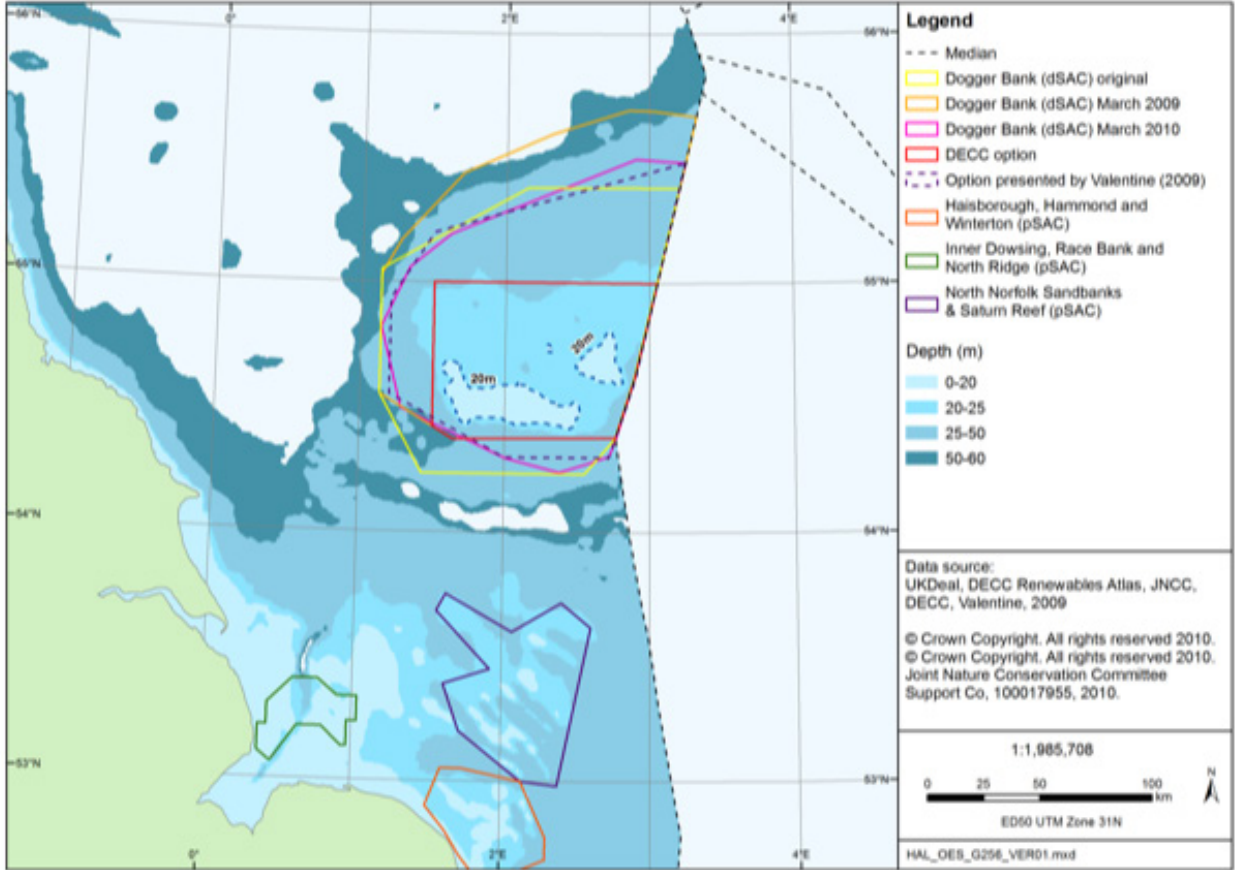
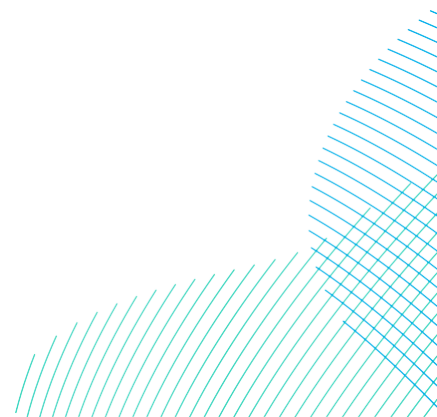


Figure 2-1 Proposed boundaries for Dogger Bank draft SAC



8. The 2008 survey reported in Diesing *et al.* 2009 was commissioned by JNCC and designed specifically to provide data to enable definition of the extent of the sandbank and its Annex I habitat prior to formal recommendation of the draft SAC to Defra. Therefore the distribution of sampling effort was much more extensive than the area now included within the current SAC boundary. The physical data (slope analysis, bathymetry, underlying geology and sediment distribution) indicated that the extent of the sandbank feature was far more extensive than the part occurring in waters shallower than 20m. The biological data indicated that the bank as identified by its physical characteristics supported broadly similar biological communities with a similar range of species, which were different to the range of species found at depths greater than 45-50m off the bank itself (Diesing *et al.* 2009).
9. The “North-Eastern community” of infauna identified in 2003 by Wieking & Krönke and supported by data analysis from Diesing *et al.* 2009 (see section 2.2.2 for a description of these communities) is represented within the northern part of the SAC and extends beyond the current SAC boundary. Although the communities beyond the SAC boundary were deemed at the time to be a slightly different community type to those of the shallower parts of the bank, there are no clear-cut boundaries between sediment types and their faunal community types. There is a gradual small change with increasing depth in the balance of species making up the infaunal communities. The infaunal and epifaunal communities of the “North-Eastern community” are characteristic of sandy sediments with slightly higher silt content transitional between those of shallow waters (such as the “Bank” and “South-West Patch” communities identified within the SAC) and deeper waters. All three community types share a number of species characteristic of sandy sublittoral habitats.
10. JNCC produce composite maps to help assess the conservation status of the features listed under the Habitats Directive. One of those data products is a map showing the total area of known Annex I sandbank habitat in UK waters. This map of area of sandbank habitat does not currently include the area to the north of the current SAC boundary as the map is clipped to the boundaries of current SACs in offshore waters (beyond 12nm from the coast). The possible deepest ‘range’ of Annex I sandbank habitat is noted as 60m water depth (JNCC, 2022c). Therefore, any sandy habitat that could fit the definition of Annex I sandbank habitat but is currently outside SAC boundaries in UK offshore waters, is not shown.



11. The Applicants conducted a survey in March 2023 across the northern boundary of the Dogger Bank SAC, with a view to investigating the similarity, or not, of the habitat type and benthic communities within and outside the current SAC boundary (see section 2.2.1 for a summary description of the survey and the communities found).
12. Given the original boundary definition was not clear cut with clear ecologically-defined boundaries and existing and new data confirm the similarity of habitat and benthic communities outside the SAC boundary to the north with those inside the SAC, an extension to the SAC north of the current boundary could be justified and could be considered as like-for-like compensation for Annex I habitat loss within the shallower parts of the SAC.

2.2 Data sources

2.2.1 Current communities within the SAC and to the north of the SAC boundary

13. The Applicants survey (17-20th March 2023) was designed in a series of 12 transects 10km apart running approximately north-south across the northern part of the SAC boundary, with benthic grab samples and seabed imagery collected at 5 stations approximately 5km apart along each transect (see **Figure 2-2**).

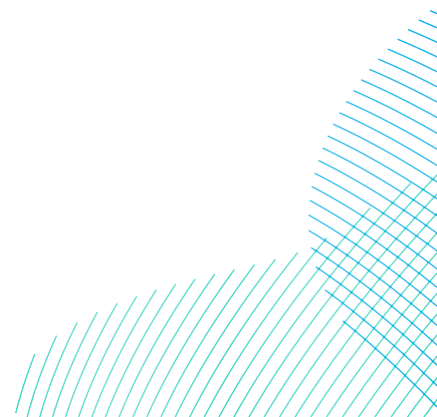
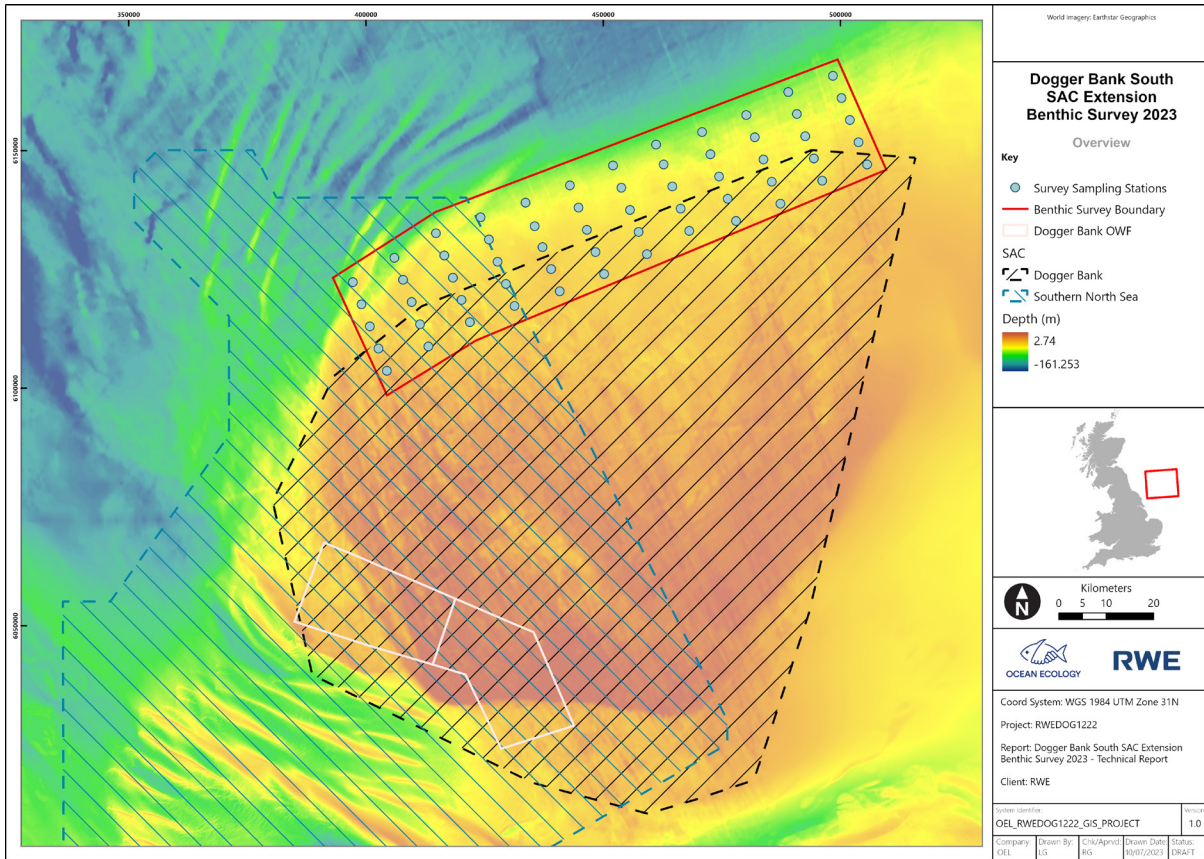
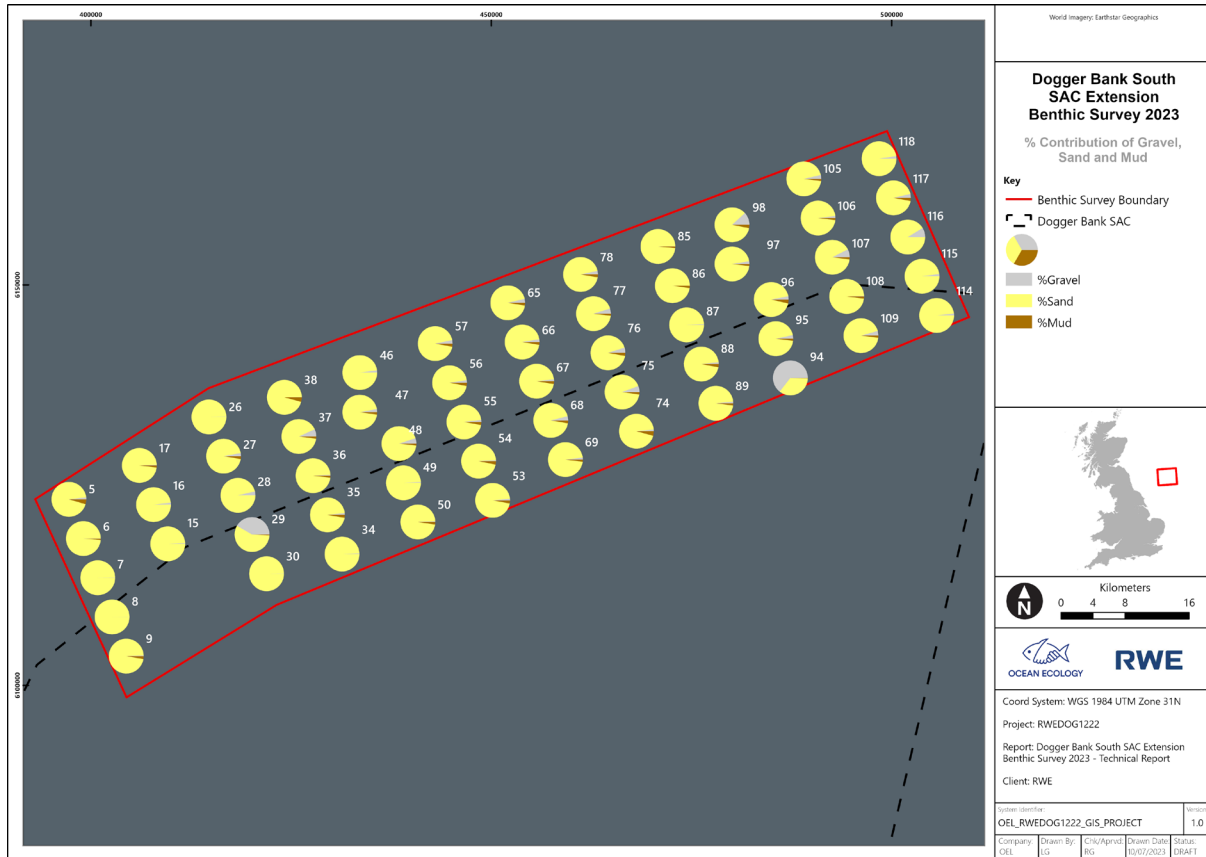


Figure 2-2 Overview of the Dogger Bank South OWF SAC extension survey area (Fig 1 from Spode, 2023)



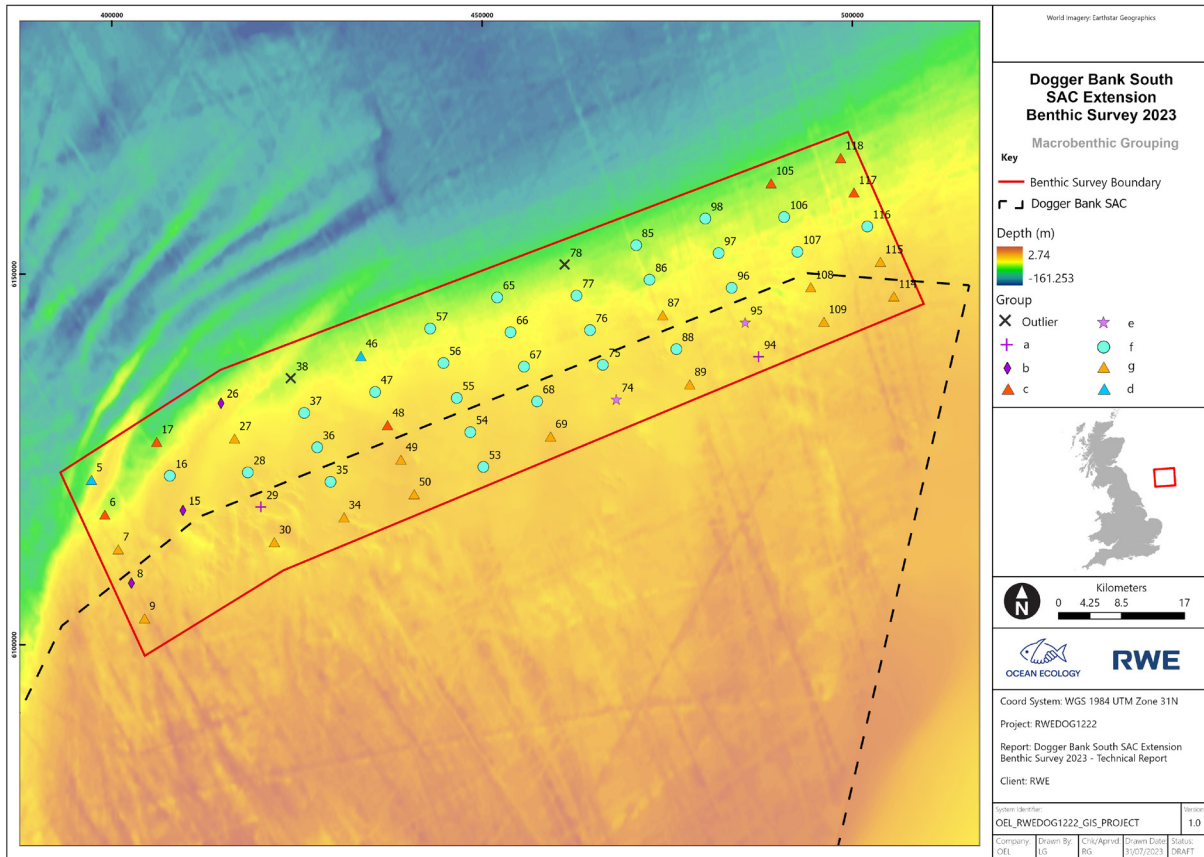
14. Fifty eight benthic grab samples in total were collected. Sediment particle size analysis indicated that the dominant sediment type was sand across the whole survey area, equivalent to EUNIS Broad Scale Habitats A5.2 Sand and muddy sand (50 stations) or A5.1 Coarse sediments (8 stations). **Figure 2-3** shows that gravel and mud content were both very low across all stations with the exception of two with higher percentages of gravel (stations 29 and 94 with 42% and 65% gravel respectively). These sediment types are all characteristic of Annex I sandbank habitat.

Figure 2-1 Principal sediment components as determined from particle size analysis of samples (Fig 9 from Spode 2023)



15. Multivariate statistical analysis of sediment macrofaunal samples collected from each of the 58 stations identified 7 statistically significant assemblages of species, most represented at only 2 or 3 stations. Group A, represented at two stations (29 and 94) with a much higher proportion of gravel than other stations had higher species abundance and diversity. The macrofauna of the majority of stations (41 out of 58) fell within two, most similar, groups F and G. The species contributing to the similarity of Groups F and G included polychaetes, amphipods (*Bathyporeia* spp.) and juvenile *Dosinia* clams. Group G differed very slightly from Group F in including juvenile Amphiuroid brittlestars. **Figure 2-4** shows the macrofaunal groupings represented at the different sampling stations, from which it can be seen that Groups F and G both occur inside and outside the SAC boundary, but Group G was more frequent in the shallower parts of the survey area within the boundary, and Group F is more frequent in slightly deeper waters outside the SAC boundary.

Figure 2-2 Macrobenthic groupings derived from cluster and SIMPROF analysis of abundance data (Fig 18 from Spode, 2023)



- The Ocean quahog, *Arctica islandica*, is listed as a Species of Principal Importance in England (section 41) and Wales (section 42) under the Natural Environment and Rural Communities Act (2006) and is also protected under the OSPAR List of Threatened and/or Declining Species and Habitats (2008). One individual and 16 juveniles were recorded across the survey area. No invasive or non-native species (INNS) were identified in samples collected (Spode, 2023).

2.2.2 Previous information on communities within the SAC

17. JNCC (2011b) lists a number of studies as data sources that were used to inform the site selection process for the SAC, the studies used were conducted up to 20 years before designation. The most recent study included in JNCC (2011b) was specifically commissioned by JNCC to provide new data and enable better definition of the extent of Annex I sandbank habitat and therefore covered a wider area than is included within the current SAC boundary. It was undertaken in 2008 by Cefas, British Geological Survey and Envision Ltd (reported in Diesing *et al.* 2009) and encompassed multibeam and sidescan data collected over a broadscale grid with ground-truthing using biological sampling by grabs (61 stations), video/stills (56 stations), and beam trawls (10 stations). This study was used as the primary data source for the infaunal communities described in JNCC 2011b.
18. Studies of the infauna and epifauna of the Dogger Bank cited in JNCC (2011b) indicated that the characteristic macrofaunal communities on the Dogger Bank showed spatial variability across the site and a high overall abundance of individuals, numbers of species and total biomass. Evidence from surveys in 2008 and 2014 (Diesing *et al.* 2009; Eggleton *et al.* 2017) supported the existence of the four related biological communities previously identified by Wieking and Kröncke (2003):
 - the “Bank” community was the predominant one and straddled across the bank from north to southeast. It was mainly present in the shallowest part of the Dogger Bank and it is characterised by a *Bathyporeia-Tellina* community of amphipods and small clams;
 - the “North-Eastern” community had lower densities but the highest number of species. The tube-inhabiting velvet anemone *Cerianthus lloydii* and the small sea urchin *Echinocyamus pusillus* occurred at high densities in the shallower part. The brittlestar *Amphiura filiformis*, the clam *Abra prismatica* and the polychaete *Scoloplos armiger* were more common in the deeper part. The community has a high number of northern species and the diversity is highest of all four communities;
 - the “South-West Patch” community was a sub-group of the Bank community in the shallow western side in 18-23m water depth and had the lowest species number and abundance. The amphipod *Bathyporeia elegans* is the most abundant species with the clam *Donax vittatus* and the polychaete *Nephtys cirrosa* at their highest abundances in this sub-area of the Bank community; and

- the “Southern *Amphiura*” community in the deeper southern part of the bank. The polychaete *Spiophanes bombyx* was abundant, but here the brittlestar *Amphiura filiformis* and its commensal bivalve *Kurtiella bidentata* dominated in numbers.
19. These communities are illustrated in **Figure 2-5**.
 20. Epifaunal communities of sandy sediments identified from video and trawl sampling across the bank were typified by burrowing species such as the heart urchin *Echinocardium* sp., razor clam *Ensis* sp. and sandmason worm *Lanice conchilega*, the masked crab *Corystes cassivelaunus* and sandeels (*Ammodytes* sp.). The infaunal polychaete *Glycera lapidum*, and epifaunal species such as brittlestar *Ophiothrix fragilis*, hermit crab *Pagurus bernhardus*, starfish, serpulid worms and dead men’s fingers *Alcyonium digitatum* were characteristic of more gravelly and cobble patches. Benthic fish species recorded within the Dogger Bank SAC included sandeels *Ammodytes* sp., the dab *Limanda limanda*, gobies and the dragonet *Callionymus lyra*. (Diesing *et al.* 2009).

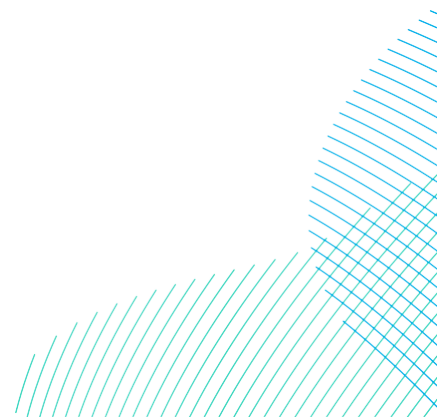
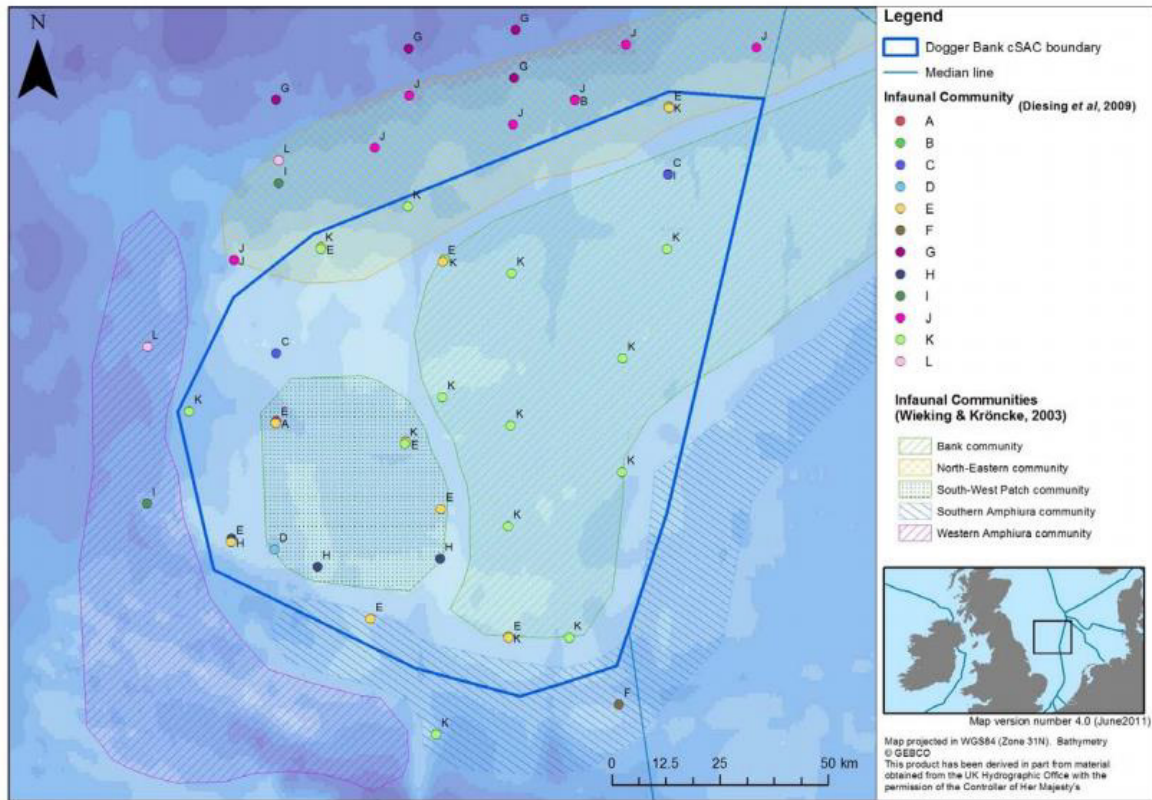


Figure 2-3 Infaunal communities of the Dogger Bank SAC (source: Figure 4a of JNCC 2011b)



21. A combined statistical analysis of the 2023 sediment infaunal data was attempted with previous infaunal datasets. Despite initial attempts to collect samples with a similar Hamon grab to that used in previous surveys to facilitate statistical analysis, inadequate samples were collected and so a larger grab sampler had to be employed in 2023. As a consequence, statistical analysis showed a clustering tendency according to dataset rather than 'true' biological assemblages. However, the F and G infaunal groupings identified from the 2023 data correspond well with descriptions of the "North Eastern" community identified by Wieking and Kroncke (2003) and similar infaunal groupings identified through previous surveys (Diesing *et al.* 2009; Eggleton *et al.* 2017).

22. Different statistical analysis of pre-existing sample data across the whole North Sea by Cefas is reproduced in the OneBenthic data layer (see **Figure 2-6**). Macrofaunal abundance data collected using comparable sampling methods was analysed using a random forest approach. The modelled data layer indicated the same community type D2d occurring across the whole Dogger Bank and extending to the north of the SAC boundary (Cooper *et al.* 2022). Taxa represented in cluster D2d encompassed those identified at greater detail from the previous statistical analyses and the 2023 analysis: Bathyporeiidae, Spionidae, Magelonidae, Nephtyidae, Tellinidae, Cirratulidae, Semelidae and Nemertea.

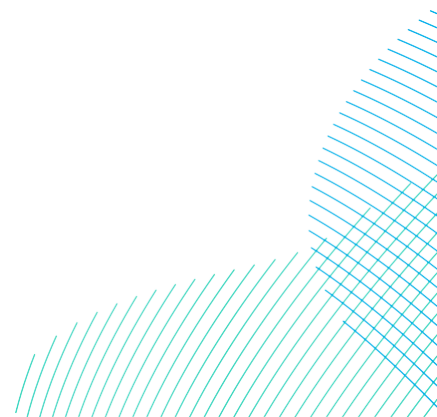
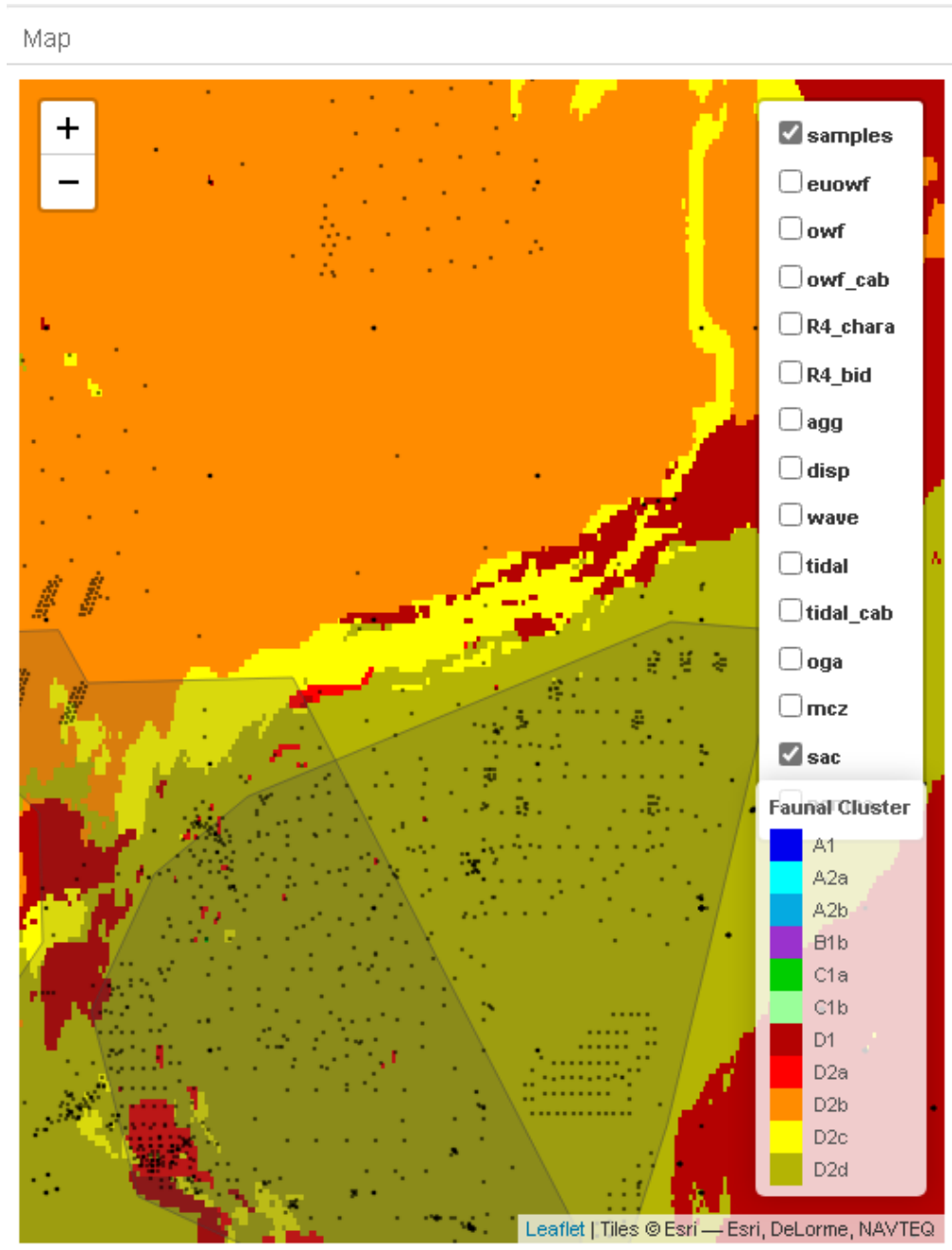


Figure 2-4 Extract from OneBenthic data layers showing benthic assemblages for the Dogger Bank area



2.3 Are the communities similar enough to assume an extension would provide like-for-like habitat?

2.3.1 Structure (physical and ecological)

23. The physical structure of the Dogger Bank clearly extends beyond the SAC boundary as discussed in section 2.1. Extension of the boundary north would therefore be in keeping with conservation of the wider structure of the bank. In terms of superficial sediments these are dominated by sands across the wider Dogger Bank, with gravels and occasional muddy patches and again these continue beyond the SAC boundary, grading gradually into slightly muddier sediments in waters deeper than 45-50m.
24. The biological structure of the communities of the Dogger Bank SAC (JNCC, 2022b) are described in terms of the four infaunal communities as initially described by Wieking & Krönke 2003, affirmed in Diesing *et al.* (2009) and the analysis of 2023 survey data, and corroborated in Eggleton *et al.* (2017) and OneBenthic data analysis. The “North-Eastern Community” was identified in the northern part of the SAC within the site boundary and is also found outside the boundary to the north (see **Figure 2-5**). This community is described as having a higher number of rare northern species and with highest diversity of all four communities represented within the SAC (JNCC, 2022b). Thus extension of the SAC northwards of the current boundary will provide like-for-like habitat representing the more diverse communities found within the SAC.

2.3.2 Function

25. The biological functioning of the sediment communities of the Dogger Bank is described in general terms for the sandy and coarse sediments present on the feature, rather than defined in detail for particular biological communities as identified from survey work. For example, JNCC (2022b) states:

Influential species are those that have a core role in the structure and function of the habitat. For example, species that are bioturbators which are benthic organisms that forage and burrow bottom tunnels, holes and pits in the seabed, help to cycle nutrients and oxygen between seawater and the seabed supporting organisms that live within and above the sediment. Grazers, surface borers, predators or other species with a significant functional role linked to the habitat can also be influential species.

26. Extension of the SAC to the north would provide equivalent area of one of the habitats already present within the SAC, so the functions of the habitat within the extension will be broadly the same as those already existing within that part of the SAC. The sandy sediments of the “North-East Community” with slightly higher mud content found across the northern part of the bank both within and outside the site boundary are likely to have slightly different ecological function (due to their slightly higher diversity of species) than the communities of the shallowest part of the bank within the SAC. The other ecosystem services described (i.e. nutrition, bird and whale watching and climate regulation) are highly generic and apply across the SAC and are not limited to particular communities.

2.3.3 Summary

27. Extension of the SAC beyond the current boundary would not decrease the overall structure and function of the SAC, it would merely encompass an equivalent (or greater) area of habitat to that lost, and in fact inclusion of greater area of more stable sediments to the north may increase the overall ecological function.

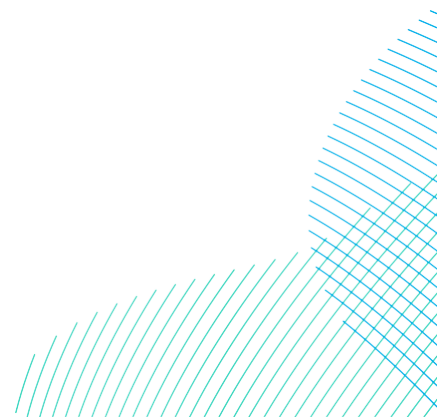
2.4 Are data from existing sources sufficient for justification?

28. The data used for designation of the SAC as summarised by the JNCC (2011b) are in some cases over 30 years old. However, the results of the 2023 survey accord well with both the more recent (e.g. Eggleton *et al.* 2017) and the historic data sets and suggest that there has been little change over time, for example:

*Analysis of the time series data available indicated that the benthic community as a whole does not exhibit any discernible temporal trend and suggests a level of temporal stability at the site (Eggleton *et al.* 2017).*

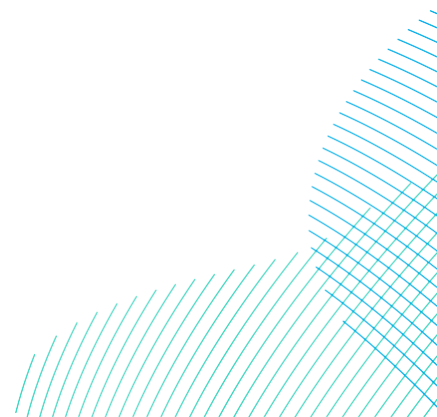
29. Given this information we can have a high degree of confidence that the communities outside the boundary are unlikely to have undergone any large change since previous data were collected. Therefore, we can be confident that it remains a valid assumption that inclusion of sandy sediment communities to the north of the current SAC boundary would provide equivalent habitat to that present within the site. Data from new and existing sources on physical habitat distribution is sufficient to justify the extent of the Dogger Bank structure and presence of sufficient area of equivalent habitat to the north of the current SAC to compensate for habitat loss within the SAC.

30. Data on fishing activity within and to the north of the SAC from 2014-2020 (Barnfield *et al.* 2021) indicate that there are areas of sandbank habitat just to the north of the current boundary where fishing activity has been either absent or less intensive than on areas within the SAC. Whilst SACs should be identified based on scientific criteria alone, these areas of habitat were likely to be in better condition than fished areas within or outside the SAC. Although there has been insufficient time elapsed to be able to judge with confidence, there is no indication from the 2023 benthic survey of large scale change in communities present inside and outside the SAC since the 2022 prohibition of benthic trawling within the SAC, and the likely consequent increase in fishing effort outside the SAC boundary. Once data on fishing effort post-closure are available, locating the extension in areas previously and recently less-fished would be likely to improve the ecological coherence and functioning of the site.



3 Summary

31. We consider that there is scope to extend the Dogger Bank SAC within areas which were previously considered by the JNCC for inclusion within the site boundary. We consider that the inclusion of these areas would meet all the criteria for SAC designation and are likely to actually improve the ecological coherence of the site (and by implication the national site network).
32. We consider that the extension can be justified using a combination of the 2023 survey and existing data. The area available for an extension is clearly orders of magnitude greater than the area estimated to be required for compensation for the Projects (even when including areas of temporary disturbance as well that subject to permanent habitat loss). Given that the area of ecologically equivalent habitat adjacent to Dogger Bank SAC is extensive, this option will also enable compensation to be delivered for sandbank habitat loss or disturbance at a strategic level.
33. In order to delineate a boundary, examination of data on fishing effort pre and post-closure of Dogger Bank SAC to trawling will be needed to enable identification of appropriate areas of 'least disturbed' sandbank habitat to provide additional evidence to stakeholders on the potential for and justification of the extension.



References

Barnfield, T., Johnston, E., Dixon, T., Saunders, K. and Siegal, E. (2021) Dogger Bank Special Area of Conservation (SAC) MMO Fisheries Assessment 2021. Available at: https://consult.defra.gov.uk/mmo/formal-consultation-mmo-mpa-assessments/supporting_documents/Dogger%20Bank%20SAC%20MMO%20Assessment%202021.pdf

Cooper, K. M., Downie, A.-L. and Curtis, M. (2022). North Sea Net Gain (NSNG). Cefas Project Report for The Crown Estate, 57 pp. OneBenthic data layer: https://rconnect.cefas.co.uk/onebenthic_layers/ [accessed 11/12/23]

Defra (2021) Best Practice Guidance for developing compensatory measures in relation to Marine Protected Areas. Consultation document 22 July 2021. Available at: <https://consult.defra.gov.uk/offshore-wind-and-noise/mpa-compensation-guidance-consultation/>

Diesing, M., Ware, S., Foster-Smith, R., Stewart, H., Long, D., Vanstaen, K., Forster, R. & Morando, A. (2009) Understanding the marine environment – seabed habitat investigations of the Dogger Bank offshore draft SAC. Joint Nature Conservation Committee, Peterborough. JNCC Report No. 429, 89pp., 5 Appendices. Available at: <https://data.jncc.gov.uk/data/363acf33-ab4c-4d6c-8ab1-14d8bae305ea/JNCC-Report-429-FINAL-WEB.pdf>

Eggleton, J., Murray, J., McIlwaine, P., Mason, C., Noble-James, T., Hinchin, H., Nelson, M., McBreen, F., Ware, S. & Whomersley, P. (2016) Dogger Bank SCI 2014 Monitoring R&D Survey Report. JNCC/Cefas Partnership Report, No. 11. Available at: <https://data.jncc.gov.uk/data/87510dd6-33d2-4730-9997-b35f2edffe04/JNCC-Cefas-11-FINAL-WEB.pdf>

European Commission (2007a) Interpretation Manual of European Union Habitats (EUR27). Available at: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/2007_07_im.pdf

European Commission (2007b) Guidelines for the Establishment of the Natura 2000 Network in the Marine Environment. Application of the Habitats and Birds Directives. Available at: http://ec.europa.eu/environment/nature/natura2000/marine/docs/marine_guidelines.pdf

JNCC (2022a) Conservation Objectives for Dogger Bank Special Area of Conservation:. Joint Nature Conservation Committee, Peterborough. Available at: <https://hub.jncc.gov.uk/assets/26659f8d-271e-403d-8a6b-300defcabcb1#DoggerBank-3-SACO-v1.0.pdf>

JNCC (2022b) Supplementary Advice on Conservation Objectives for Dogger Bank Special Area of Conservation. Joint Nature Conservation Committee, Peterborough. Available at:

<https://data.jncc.gov.uk/data/26659f8d-271e-403d-8a6b-300defcabcb1/DoggerBank-3-SACO-v1.0.pdf>

JNCC (2022c) Habitats Directive Annex I marine habitat maps: 1110 Sandbanks which are slightly covered by seawater all of the time. Viewed on JNCC MPA Interactive Map.

<https://jncc.gov.uk/our-work/marine-habitat-data-product-habitats-directive-annex-i-marine-habitats/>

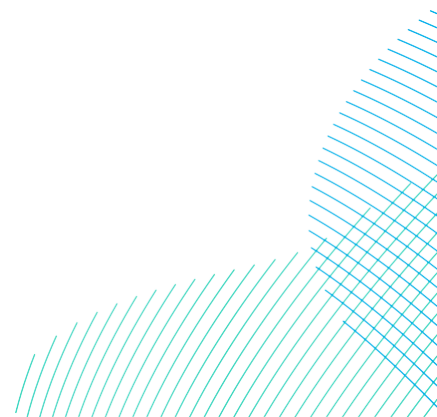
JNCC (2011a) Report to Secretary of State on the 2010 consultation on the selection of UK offshore Special Areas of Conservation: Dogger Bank. V1.0. Joint Nature Conservation Committee, Peterborough. Available at: <https://data.jncc.gov.uk/data/98f5e14d-7242-4b32-84fe-f110c5e37300/DoggerBank-ConsultationReport-v1.0-2011.pdf>

JNCC (2011b) Offshore Special Area of Conservation: Dogger Bank SAC Selection Assessment Document Version 9.0. Joint Nature Conservation Committee, Peterborough. Available at: <https://data.jncc.gov.uk/data/98f5e14d-7242-4b32-84fe-f110c5e37300/DoggerBank-SelectionAssessment-v9.pdf>

Klein, A. (2006) Identification of submarine banks in the North Sea and the Baltic Sea with aid of TIN modelling. In: Nordheim, H., Boedeker, D. & Krause, J.C. Eds. Progress in Marine Conservation in Europe: Natura 2000 sites in German Offshore waters. Springer: pp 97-110.

Spode, S. (2023) Dogger Bank South offshore wind farm SAC extension benthic survey – Draft Technical report for RWE. Ocean Ecology OEL_RWEDOG1222_TCR V01 3/8/2023.

The Crown Estate (2022) Record of the Habitats Regulations Assessment.



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