

1. Introduction

This document provides responses to comments provided by the Joint Nature Conservation Committee, received in June 2023. The comments are in relation to a Marine Licence Application submitted to Natural Resources Wales (NRW) with ref: CML2315. The works include the installation and removal of suction bucket foundations within the proposed Mona offshore wind farm array area.

2. Responses JNCC Comments

2.1. JNCC request that a methodology be provided demonstrating the developers approach to identifying and avoiding species and habitats of conservation importance

The Mona Array Area has been extensively surveyed to inform the proposed offshore windfarm development, including geophysical, geotechnical and benthic subtidal surveys completed in 2021 and 2022 (detailed in Table 3.1). Further geophysical surveys are currently underway, as well as additional geotechnical works under Marine Licence RML2285.

The specifications of the 2021-2022 geophysical and benthic surveys were discussed with JNCC, Natural England and NRW as summarised in Section 7.3 and Table 7.5 of [Mona PEIR, Chapter 7 Benthic Subtidal and Intertidal Ecology](#).

Surveys were undertaken in order to:

- a) inform the environmental baseline of the projects;
- b) inform ongoing engineering workstreams, including development of detailed geotechnical surveys as is covered in this application; and
- c) assess the wider potential impacts of the offshore wind project.

2.1.1. Methodology

2.1.1.1. Screening of suction bucket foundation location

As noted by JNCC, the exact locations of the suction bucket foundation trials have not yet been decided. However, suction bucket trial locations will be adjacent to geotechnical sample locations undertaken during the 2021-2023 surveys and screened with 2023 geophysical survey data. The locations will also be informed by extensive seabed characterisation data as presented within [Mona PEIR, Chapter 7 Benthic Subtidal and Intertidal Ecology](#). A summary of the extent of these surveys is presented in Table 2.1 below, including drop down video (DDV) and sediment sampling across the Mona Array Area.

As such, the Applicant has confidence that screening the potential trial locations using these data is suitable to avoid interaction with species of conservation importance.

2.1.1.2. Mitigation in the event of interaction with habitats or species of conservation importance

Borehole operations to determine the suction bucket trial locations will be undertaken under Marine Licence RML2385. Should any species or habitat of conservation importance be disturbed during these works, no further disturbance will occur at that location, or within 20 meters of that location.

JNCC listed *Arctica islandica* (ocean quahog) among the sensitive species within their response. Although this species has not been encountered to date, any *Arctica islandica* encountered during borehole sampling or suction bucket trials will be carefully returned to the seabed.

3. Supporting Information for Screening of Suction Bucket Trial Locations

The following section outlines the site specific surveys and survey data that will be used for the screening of suction bucket foundation trials.

Table 3.1 Summary of site-specific survey data.

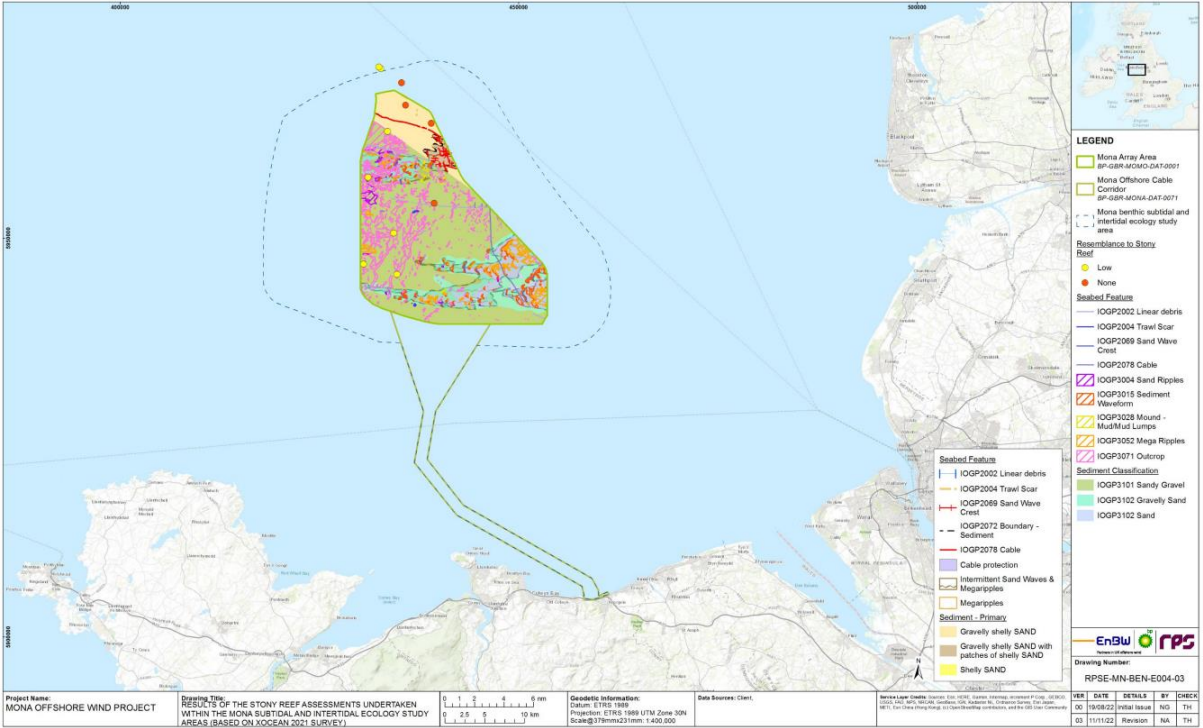
Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Geophysical survey	Mona Array Area	Geophysical survey to establish bathymetry, seabed sediment and identify seabed features.	XOcean Ltd	June 2021 - March 2022	XOCEAN (2022) and volume 6, annex 6.1: Physical processes technical report of the PEIR
Geophysical Survey	Mona Array Area	High resolution side scan sonar and multibeam bathymetry.	Gardline Ltd.	June - September 2021	Volume 6, annex 6.1: Physical processes technical report of the PEIR
Benthic Subtidal Survey	Mona Array Area	Grab samples and DDV sampling was undertaken at 66 sites, and an additional nine sample sites undertook DDV sampling only. A total of 22 sediment samples from across the Mona Array Area within the benthic subtidal and intertidal ecology study areas were analysed for sediment chemistry.	Gardline Ltd.	8 August 2021 - 20 September 2021	Volume 6, annex 7.1: Benthic subtidal and intertidal ecology technical report of the PEIR
Benthic Intertidal Survey	Across the intertidal area (i.e. between MHWS and MLWS) at the proposed landfall locations for Mona and Morgan-Morecambe Transmission Assets	Phase I intertidal walkover survey with on-site dig over macrofauna sampling to characterise the benthic environment at the landfall.	RPS Ltd.	16 May 2022 - 20 May 2022	Volume 6, annex 7.1: Benthic subtidal and intertidal ecology technical report of the PEIR

Mona Array Area Surveys

Seabed imagery collected in the 2021-2022 surveys indicated potential low resemblance stony reef across the Mona Array Area at 11 stations. As a result, an Annex I stony reef assessment was undertaken to determine if there was a resemblance to the protected habitat based on criteria set out by Irving (2009) and Golding (2020) considering sediment composition, elevation, extent and ecological communities. At most stations that were subject to assessment in the Mona Array Area, the resemblance was determined to be low where cobbles and boulders were found.

A total of 7 these survey stations within the Mona Array Area (Figure 1) were classified as low resemblance to Annex I stony reef (all other sample stations which were assessed had no resemblance to stony reefs), and this was often a reflection of a wider geophysical feature nearby as the quality observed was low.

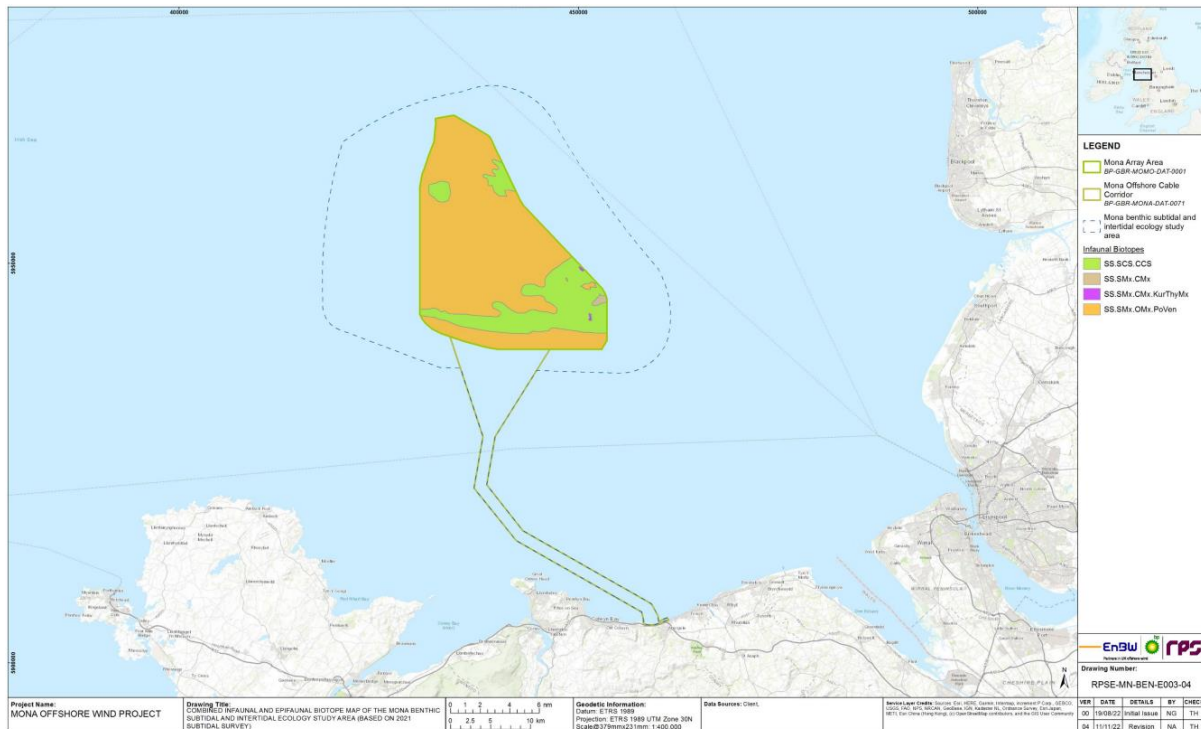
Figure 1: Results of the Annex I reef assessment within the Mona benthic subtidal and intertidal ecology study area.



Seabed sediments in Mona ranged from gravelly sand to muddy sandy gravel with most samples classified as gravelly sand. Benthic communities were dominated by Annelids and Crustaceans. The most abundant individuals generally belonged to Annelida with the polychaete *Scalibregma inflatum* being overall the most abundant species with a total of 896 individuals recorded. The biomass data reflected the dominance of Annelida with respect to the number of individuals and number of taxa, in 37% of stations Annelida contributed the most to biomass. Mollusca and Echinoderms contributed the second and third most to biomass (36% and 17% respectively).

A full description of the habitats and biotopes recorded in the site-specific benthic surveys (see Figure 2) in the Mona benthic subtidal ecology study area, including full descriptions of the biotope codes are provided in Volume 4, Annex 7.1: Benthic Ecology Technical Report of the PEIR.

Figure 2: Combined infaunal and epifaunal biotope map of the Mona Array Area within the Mona benthic subtidal ecology study area.



Full details of the surveys carried out can be found in the Mona PEIR, Chapter 7 Benthic Subtidal and Intertidal Ecology, specifically Section 7.4 (pages 11- 19), which is attached to this response and also found at the following link: [Mona Chapter 7 Benthic Subtidal and Intertidal Ecology](#). A list of biotope codes and full names can be found in Appendix 1

3.1.1. Evidence for the presence of habitats and species of nature conservation concern (including Annex I habitats)

In the Mona Array area, as discussed above, seabed imagery indicated potential low resemblance stony reef across the Mona Array Area at 11 stations. As a result, an Annex I stony reef assessment was undertaken to determine if there was a resemblance to the protected habitat based on criteria set out by Irving (2009) and Golding (2020) considering sediment composition, elevation, extent and ecological communities. At most stations that were subject to assessment in the Mona Array Area, the resemblance was determined to be low where cobbles and boulders were found. A total of 7 these survey stations within the Mona Array Area were classified as low resemblance to Annex I stony reef (all other sample stations which were assessed had no resemblance to stony reefs), and this was often a reflection of a wider geophysical feature nearby as the quality observed was low.

A summary of the species for consideration within the JNCC response and its presence based on analysis of survey data is summarised in Table 3.2 below:

Table 3.2: Species and habitat evidence within Mona Array

Species and Habitats	Presence within the Array Area based on 2021-2022 benthic survey data
Annex I Biogenic Reef (Sabellaria Spinulosa)	None found in Mona array
Annex I Biogenic Reef (cold water corals)	None found in Mona array
Annex I Submarine structures made by leaking gases (MDAC, Methane Derived Authigenic Carbonate)	None found in Mona array
Arctica islandica (ocean quahog)	None found in the Mona array
Sea-pen and burrowing megafauna communities, OSPAR Threatened and/or Declining Species & Habitats Need to check PEIR benthic chapter for this	Across the Mona Array Area small pencil burrows were observed in the site-specific surveys. Although no seapens were observed JNCC guidance stipulates that 'sea pen and burrowing megafauna communities' habitat can occur without sea pens. As a result, further analysis was undertaken. This further analysis in combination with an absence of associated fauna and gravelly sediment, concluded that no sample station had anything other than a negligible resemblance to the 'sea pen and burrowing megafauna communities' habitat. Further information can be found in section 7.4.5.16 of the Mona PEIR

3.1.2. Data limitations

Data limitations are summarised below, and presented in detail in the PEIR Chapter for [Mona, Chapter 7 Benthic Subtidal and Intertidal Ecology](#), Section 7.4.9. However, it is important to note

that these limitations are not considered to be significant enough that an accurate characterisation of the benthic habitats in the array areas cannot be undertaken.

The desktop data used are the most up to date, publicly available information which can be obtained from the applicable data sources as cited (see PEIR Chapter [Mona, Chapter 7 Benthic Subtidal and Intertidal Ecology, Table 7.6](#)). To ensure an up-to-date baseline characterisation, the site-specific benthic subtidal ecology survey data have been validated with site-specific geophysical surveys undertaken in 2021 and 2022.

During the benthic surveys of the Mona Array area a number of stations were added based on the need to ensure adequate coverage of the survey area and its features. Further, from reviews of this additional data, additional stations were selected to cover features not already targeted. As a consequence, a further 18 stations, 13 of which are located within the Mona Array Area (ENV80-ENV89 to ENV95-ENV97) were added to the 64 original locations comprising three camera-only stations to target boulder areas and fifteen co-located camera and grab stations to target additional features of interest in the newly reviewed data.

Although the sampling design and collection process for the site-specific benthic subtidal ecology survey data provided robust data on the benthic communities, interpreting these data has limitations. It can be difficult to interpolate data collected from discrete sample locations to cover a wider area and define the precise extents of each biotope. Benthic communities generally show a gradual transition from one biotope to another and therefore boundaries of where one biotope ends and the next begins is an approximation; these boundaries indicate where communities grade into one another. The classification of the community data into biotopes is a best fit allocation, as some communities do not readily fit the available descriptions in the biotope classification system. The biotope map should be used to describe the main habitats which characterised the Mona and Morgan Array Areas. Due to the limitations described previously, the biotope map should not be interpreted as definitive areas. However, this does provide a suitable baseline characterisation which describes the main habitats and communities within the Mona and Morgan Array Areas.

Survey data is available within [Mona PEIR Chapter 7 Benthic Subtidal and Intertidal Ecology](#); and [Mona Array Technical Annex](#). This information is linked and attached for convenience.

Appendix 1: Biotope codes and full biotope names

Table A1: Biotope code.

Biotope Code	Biotope full name
SS.SCS.CCS	Circalittoral coarse sediment
SS.SMx.CMx	Circalittoral mixed sediment
SS.SMx.CMx.KurThyMx	<i>Kurtiella bidentata</i> and <i>Thyasira</i> spp. in circalittoral muddy mixed sediment
SS.SMx.OMx.PoVen	Polychaete-rich deep Venus community in offshore mixed sediments