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Morlais Demonstration Zone

Further Environmental Information Benthic_Annex 1 habitats

Document Title: Further Environmental Information Benthic_Annex 1 habitats			
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Introduction:

The following note has been prepared by MarineSpace Ltd, on behalf of Menter Mon. It aims to provide additional information and clarifications on benthic / Annex I habitat issues raised by Natural Resources Wales (NRW) via written correspondence and also via discussion in a benthic meeting held on 09.10.20.

The note provides additional information on:

- the 2018 EIA characterisation survey undertaken by Ocean Ecology Ltd;
- the approach to assessing impacts on Annex I habitats;
- Micro-siting and potential additional mitigation;
- Cumulative impacts.

NRW Comments (TWAO Statement of Case)	Response
NRW considers that the habitat characterisation surveys undertaken to inform the ES are inadequate to enable accurate assessment of the potential effects on marine benthic ecology. Therefore, it is not possible to assess with any certainty the full extent of potential marine benthic habitat loss and/or alteration as a result of the proposal. Furthermore, there is high uncertainty over the validity of proposed mitigation measures (i.e. micro-siting) to avoid loss and alteration of sensitive habitats as this information has not been accurately presented in the ES.	The objectives and methodologies of the 2018 EIA characterisation survey were discussed further in the NRW/Menter Mon (MarineSpace/AECOM) call on benthic issues on 09.10.20. The following response is largely based on discussions during this meeting. Marine Space stated that the 2018 survey was not intended to provide a formal baseline but rather to characterise the site to enable EIA to be undertaken. A standard approach was taken, and in line with EIA characterisation surveys undertaken for other marine energy projects, including Perpetuus Tidal Energy Centre (PTEC), Gywnt y Mor Offshore Wind Farm (OWF) and Burbo Bank Extension OWF. NRW reiterated their concerns over the number of failed grabs and the small number of DDV ground-truthing locations (42 stations). Marine Space clarified that 42 ground-truthing stations were sampled but that this number was judged by the highly experienced survey contractor (Ocean Ecology Limited (OEL)[1]) to be sufficient to identify the spatial distribution of all seabed habitats and to characterise the site for EIA purposes and it was confirmed that the number and location of these were based on the following:

[1] OEL have previously been commissioned by NRW to help produce the following guidance documents: *Benthic habitat assessment guidance for marine developments and activities - Guidance for undertaking benthic marine habitat survey and monitoring Guidance note: **GN030**; and Benthic habitat assessment guidance for marine developments and activities A guide to characterising and monitoring Sabellaria reefs Guidance note: **GN030d**.*

NRW Comments (TWAO Statement of Case)	Response
As above (cont'd)	(a) an initial diamond grid of stations based on relevant guidance documents; (b) revision of this original grid following an initial interpretation of sidescan sonar (SSS) and multibeam echosounder (MBES) backscatter data that existed in this region. These revisions resulted in additional stations being added and located at potential transitions between substrates, at key areas of development (along the cable corridor and Abraham's Bosom), and within a 1 km buffer zone up- and down-stream of the development; and (c) further review of updated SSS and MBES backscatter data collected in the first phase of the 2018 survey (Partrac, 2018) to sense check the proposed survey design. From the 42 stations sampled, a total of 277 still images were collected along with over 220 minutes of video footage – see attached Figure 1.
Surveys confirmed that the subtidal environment within and surrounding the MDZ constitutes a complex assortment of subtidal biotope mosaics, including Annex I stony reef, biogenic reef and bedrock reef. These three habitats are protected under the Habitats Directive, the Environment (Wales) Act 2016, and the OSPAR Convention. NRW will argue that a lack of data on the distribution of these habitats within the MDZ means that it is not possible to assess accurately the full extent of potential habitat loss and/or alteration as a result of the proposal.	As stated in the preceding response, the primary objective of the 2018 benthic/Annex I habitat survey was to characterise the site such that EIA could be undertaken. To ensure a worst-case scenario assessment was presented within the Morlais ES, the areas identified as potential Annex I stony, biogenic and bedrock reef were grouped into two Valued Ecological Receptor (VER) categories; VER 9 - High energy infralittoral and circalittoral rock/ coarse sediment with Annex I stony/bedrock reef; and VER 10 (Circalittoral *Sabellaria* reefs – Annex I biogenic reefs). The impact assessment undertaken assumed that all the subtidal habitat loss occurred within these 2 VER habitat groups (judged to be the most sensitive to habitat loss). Assumption of all loss in the 2 VER habitat groups is highly conservative but was adopted to purposefully avoid claims that the assessment was attempting to downplay potential impacts on those habitats. In practice, the actual loss of those habitat will be less than assessed by the EIA as some of the habitat loss will instead occur in non-Annex I habitats, i.e. non VER 9 / 10 habitats.

NRW Comments (TWAO Statement of Case)	Response
The applicant proposes that the baseline characterisation information would be supplemented by a post-consent/pre-construction Annex I reef survey and assessment. There is also an assumption that any outstanding issues, including a commitment to micro-site project infrastructure, would be dealt with via the marine licensing process. However, NRW will argue that it is not clear where micro-siting would be applied and whether it would be implemented for the tidal devices as well as the cable route. The applicant states that: "micro-siting of the cable route would be used to mitigate impacts to these receptors where possible" and "It is important to note that the ability to micro site Tidal Energy Converters (TECs) is more limited than for Offshore Wind Farms (OWFs)". Due to this limited scope to adjust the placement of the TECs and the potential scale of benthic habitat loss (c. 2.3km2) NRW will argue that, in the absence of detailed pre-consent habitat surveys, it is not possible to adequately assess whether this proposed mitigation would be feasible and effective in avoiding impact to the habitats of conservation importance identified.	Menter Mon can clarify that micro-siting could be applied to all project components, i.e. cables, TEC foundations, anchors etc. NRW's point about inability to potentially avoid Annex I habitats, even with micro-siting applied, is noted and accepted. However, it is important to highlight that the amount of habitat loss presented in the ES was a precautionary value, assuming maximum possible footprint that could result from use of gravity foundations and also included areas of seabed "swept" by the catenary of mooring chains, which are in reality likely to be affected to a much lesser degree. The total habitat loss figure also assumes that the entire area (m^2) of gravity base foundations would lead to habitat loss, whereas the design of many gravity base foundations includes relatively small contact points with the seabed (to maximise grip / downward force at point of contact) and so, habitat loss is expected to be much lower. Menter Mon can also make the commitment that the need to potentially micro-site and/or reduce impacts on seabed habitats can drive the final design of TEC foundation options if required, to minimise benthic impacts. Menter Mon will work closely with device developers to factor footprint into final foundation design for locations where impacts on sensitive habitats are predicted. The Morlais project will be developed in a series of phases, enabling pre-construction survey data on the distribution and status of Annex I habitats to be collected prior to each deployment, further enabling micro-siting, where required. Menter Mon note NRW's comment that even with phased deployment and continued gathering of information on seabed habitats, the ability to mitigate through micro-siting may still be limited. In such cases additional mitigation may be required (and would be agreed pre-consent). Through discussion at the 09.10.20 meeting, the potential role of biodiversity enhancement in the design of project components, in particular: TEC foundations; cable protection and anchor / mooring structures, was explored. Menter Mon will explore this approach with developers where required. The ongoing EcoStructures project (http://www.ecostructureproject.eu) was explicitly discussed as a source of information.

NRW Comments (TWAO Statement of Case)	Response
As above (cont'd)	Menter Mon propose the following wording to be captured in the draft Marine Licence conditions: *"Where it is not possible to avoid damage/loss of Annex I habitats via micro-siting, then further mitigation via biodiversity enhancement of seabed structures will be investigated and implemented in agreement with NRW"*.
NRW considers that undertaking additional pre-consent baseline characterisation surveys is required to understand better the location of potential sensitive habitats and the full extent of potential habitat loss and/or alteration as a result of the proposal. This additional survey work would provide a basis for more meaningful dialogue about feasible and sufficiently effective mitigation measures.	Menter Mon does not consider that a pre-consent survey will change the conclusions of the ES. Menter Mon is, however, committed to undertaking pre-construction surveys and has included such a condition in the draft Marine Licence conditions.
Further information has recently been submitted in relation to the Holyhead Port Expansion. Additional consideration should be given to the potential cumulative effects with the Holyhead Port proposal on benthic features.	Mentor Mon considers that the plans and projects assessed within the cumulative impact assessment are appropriate and the potential cumulative impacts of each have been adequately assessed and quantified. Within the 'Benthic and Intertidal Ecology' Chapter of the ES (Chapter 9) it was determined that cumulative effects may occur due to 'Modified hydrodynamic regime and sediment regime'. Following consideration of NRW comment the tidal current and sediment transport cumulative effects with Holyhead North is amended and now classified as 'negligible impact' rather than 'no pathway to impact'. Sediment transport modelling outputs produced by HR Wallingford predict that changes in residual sediment transport and bed level will occur within the immediate vicinity of the array. The nearest point of the disposal site (the southeast corner) is situated 795 m to the northwest of the MDZ. The effects footprints of the two activities are adjacent to each other with little overlap from a sediment transport perspective.

NRW Comments (TWAO Statement of Case)	Response
As above (cont'd)	Changes to tidal currents imposed by Morlais are predicted to extend towards the boundary of the Holyhead North disposal site. Here the changes to mean spring tide peak speeds are less than 0.1-0.2 m/s on both ebb and flood tides. Changes to waves due to Morlais do not extend into Holyhead North and so there would be no changes at the disposal site. Based on this information it is determined that there will be no significant cumulative impacts on metocean conditions and coastal processes with Holyhead Port, and therefore no significant cumulative effects on benthic receptors from modified hydrodynamic regime and sediment regime.

Figure 1 - Additional information on 2018 benthic EIA characterisation survey