Offshore Wind Power Limited

West of Orkney Windfarm Offshore EIA Addendum

Benthic Subtidal and Intertidal Ecology Additional Information

West of Orkney Windfarm

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West of Orkney Windfarm

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Executive Summary

Offshore Wind Power Limited (OWPL) ('the Applicant') submitted an application for consent of the offshore elements of the West of Orkney Windfarm ('the offshore Project') in September 2023, supported by an Offshore Environmental Impact Assessment (EIA) Report ('the Offshore Application').

Following the review of the Offshore Application and upon receipt of representations from consultees, Marine Directorate – Licensing Operations Team (MD-LOT) issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024. The following key topics were relevant to benthic subtidal and intertidal ecology:

- Annex I Reef:
  - Confirmation of values of Annex I reef in the national (Scottish and UK) context;
  - Clarification on the presence of *Sabellaria spinulosa* aggregations not meeting reef classification criteria;
  - Revision of narrative around reef resilience and recoverability to account for potential changes in reef morphology with specific reference to sensitivities assessments included in MarLin[1];
  - Review of the justification provided for the magnitude scoring for impacts to Annex I stony reef; and
  - Revision of the assessment including magnitude score for impacts to Annex I reef stony reef habitat to better reflect the scale of boulder and bedform clearance.
- Priority Marine Feature (PMF) Offshore subtidal sands and gravels:
  - Presentation of the distribution of all observations of the PMF in a map and review of the justification provided for magnitude scoring for impact to Offshore sands and gravels.
- PMF *Arctica islandica*;
  - Provide confirmation on the number of juveniles, adults and shells observed in the survey, and for these to be mapped.
- PMF Tide swept coarse sands with burrowing bivalves:
  - Presentation of the distribution of all observations of the PMF in a map and the provision of an assessment of impacts to PMF Tide swept coarse sands with burrowing bivalves.
- Invasive Non-Native Species (INNS):
  - Revision of the Magnitude Score from 'Negligible' to 'Low' for all receptors; and
  - Commitment made with regards to appropriate INNS mitigation and monitoring.
- Clarification on contingency rock quantities:
  - Further information on the impacts associated with Electromagnetic Fields (EMF) have been requested (as per the Fish and Shellfish Ecology Additional Information Requests).

This document is an addendum to chapter 10: Benthic subtidal and intertidal ecology and provides the additional information in response to the Additional Information Requests and other relevant specific clarifications points from consultees. Stakeholder consultation, in the form of meetings and written correspondence, has been undertaken to inform the additional information provided within this document.

With regards to the area to be used as an estimate for the national and UK extent of Annex I reef, the assessment has been updated using the 'best value' estimates obtained from 2019 Article 17[2] reporting documentation for

[1] https://www.marlin.ac.uk/sensitivity/sensitivity_rationale.

[2] *Reports by the United Kingdom under Article 17 - Supporting documentation for the conservation status assessment for the habitat 1170 Reefs. These two reports include best value estimates for Annex I reef across Scotland and UK respectively.*

Scotland and UK wide. Clarification is provided that no *S. spinulosa* biogenic reefs were identified during Project-specific surveys.

Further consideration of the potential effects on Annex I reef is provided in this addendum, including further discussion on the resilience and recovery of Annex I reef to changes in reef morphology and a review of magnitude scoring. Boulder clearance was originally considered to result in temporary habitat loss / disturbance within the Offshore EIA Report, however, this addendum reassesses any habitat loss / disturbance associated with boulder clearance as a long-term effect. Therefore, the sensitivity is updated from 'Medium' to 'High' (i.e. in line with the sensitivity originally assessed in chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report for the 'Long term loss or damage to benthic habitats and species' impact). This does not change the overall consequence of effect and the evaluation of significance presented in chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report and no significant effects have been identified.

The distribution of PMF habitats and PMF *Arctica islandica* did not materially alter the original baseline characterisation presented in chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. Furthermore, further consideration of the magnitude scoring for PMF Subtidal Sands and Gravels and has not resulted in any changes to the conclusions reached within chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report and a new assessment of effects on PMF Tide Swept Coarse Sands and Burrowing Bivalves has not identified any likely significant effects.

In line with NatureScot's advice, the magnitude of impact associated with the introduction and spread of INNS has been increased from negligible to low, however, no likely significant effects have been identified as a result of this change. Further detail has also been included on the management and monitoring of INNS.

Further information on the planned cable protection estimates has been provided within this addendum to provide assurance that a sufficient contingency has been applied to account for the high proportion of hard substrate present at the offshore Project area.

Overall, as no significant effects have been identified to result from the additional information presented within this addendum to chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report, no additional monitoring or mitigation is proposed beyond the embedded mitigation measures presented in the Offshore EIA Report. As discussed in the Offshore EIA Report, a benthic monitoring plan will be produced for the Project, as part of the Project Environmental Monitoring Programme (PEMP) during the post-consent phase through consultation with NatureScot and MD-LOT and take account of the ongoing ScotMER review of benthic monitoring designs to provide recommendations in the context of offshore renewable developments in Scottish Waters.

The Habitats Regulations Appraisal (HRA) process for the offshore Project screened out any Likely Significant Effects (LSE) on European sites designated for Annex I Habitats (as documented within the original Report to Inform Appropriate Assessment (RIAA)). No other additional information has been requested on the conclusions of the RIAA in relation to these elements and while additional information is provided on the EIA, none of the information provided will change the conclusions of the HRA process and the RIAA.

1 INTRODUCTION

Offshore Wind Power Limited (OWPL) ('the Applicant') is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located at least 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney.

The Applicant submitted an application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to Scottish Ministers in September 2023 ('the Offshore Application') for the offshore components of the Project seaward of Mean High Water Springs (MHWS) ('the offshore Project'). The offshore Project will consist of Wind Turbine Generators (WTGs) and all infrastructure required to transmit the power generated by the WTGs to shore.

In accordance with relevant EIA Regulations[3], an Offshore Environmental Impact Assessment (EIA) Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) as part of the Applicant's Offshore Application. Chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report provides the assessment of potential effects from the offshore Project on Benthic ecological receptors, both from the offshore Project alone and also cumulatively with other projects, plans and activities, and whole Project perspective.

Following the review of the Offshore Application, and upon receipt of representations from consultees, MD-LOT issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024, covering the following key topics for benthic subtidal and intertidal ecology:

- Annex I Reef;
  - Confirmation of values of Annex I reef in the national (Scottish and UK) context;
  - Clarification on the Presence of *Sabellaria spinulosa* aggregations not meeting reef classification criteria;
  - Revision of narrative around reef resilience and recoverability to account for potential changes in reef morphology with specific reference to sensitivities assessments included in MarLin;
  - Review of the justification provided for the magnitude scoring for impacts to Annex I stony reef; and
  - Revision of the assessment including magnitude score for impacts to Annex I reef stony reef habitat to better reflect the scale of boulder and bedform clearance.
- Priority Marine Feature (PMF) Subtidal Sands and Gravels;
  - Presentation of the distribution of all observations of the PMF in a map and review of the justification provided for magnitude scoring for impact to offshore sands and gravels.
- PMF *Arctica islandica;*
  - Provide confirmation on the number of juveniles, adults and shells observed in the survey, and for these to be mapped.
- PMF Tide Swept Coarse Sands with Burrowing Bivalves;
  - Presentation of the distribution of all observations of the PMF in a map and the provision of an assessment of impacts to PMF Tide Swept Coarse Sands with burrowing bivalves.
- Invasive Non-Native Species (INNS);

[3] *The relevant EIA Regulations include the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Marine Works (Environmental Impact Assessment) Regulations 2007.*

  - Revision of the Magnitude Score from 'Negligible' to 'Low' for all receptors; and
  - Commitment made with regards to appropriate INNS mitigation and monitoring.
- Clarification on contingency rock quantities;
- Further information on the impacts associated with Electromagnetic Fields (EMF) have been requested (as per the Fish and Shellfish Ecology Additional Information).

This document is an addendum to chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report and provides the additional information in response to the Additional Information Request and other relevant specific clarifications points from consultees. It has been prepared by Xodus Group Limited. Additional seabed survey data analysis has been undertaken by Ocean Infinity (OI).

The relevant documents previously submitted as part of the Offshore EIA Report that should be read alongside this document are:

- Offshore EIA Report Volume 1 - Chapter 10: Benthic subtidal and intertidal ecology;
- Offshore EIA Report Volume 2 - Supporting Study 4: Benthic subtidal and intertidal baseline report;
- Offshore EIA Report Volume 2 - Supporting Study 5: Benthic environmental baseline report; and
- Offshore EIA Report Volume 2 - Supporting Study 6: Intertidal survey habitat assessment.

The Habitats Regulations Appraisal (HRA) process for the offshore Project screened out any Likely Significant Effects (LSE) on European sites designated for Annex I Habitats (as documented within the original Report to Inform Appropriate Assessment (RIAA)). No other additional information has been requested on the conclusions of the RIAA in relation to these elements and while additional information is provided on the EIA, none of the information provided will change the conclusions of the HRA process and the RIAA.

Stakeholder consultation was undertaken throughout the Offshore EIA process in relation to benthic subtidal and intertidal ecology as outlined within section 10.3 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. Further consultation has been carried out following the submission of the Offshore Application and in the process of development of this Additional Information document. Written correspondence was sent to NatureScot presenting the proposed approach to addressing the requests made (W01-WOW-CON-CN-LT-0003). NatureScot provided a response to the letter by email (6th March 2024) confirming they were satisfied by the proposed approach to the Additional Information. The proposed approach is documented in section 3 and the findings and conclusions presented in section 4. A further meeting was held with NatureScot (26th July 2024) to discuss the content and overall conclusions of this addendum to chapter 10: Benthic subtidal and intertidal of the Offshore EIA Report. Overall, NatureScot agreed with the content proposed for the addendum to chapter 10: Benthic subtidal and intertidal of the Offshore EIA Report.

2 STRUCTURE OF THIS DOCUMENT

This document has been structured as follows:

- Section 3 – summary of the Additional Information Request and other relevant specific clarification points from consultees;
- Section 4 – additional information in response to the requests outlined in section 3;
- Section 5 – summary and conclusions;
- Section 6 – references; and
- Section 7 – acronyms.

3 REQUEST FOR ADDITIONAL INFORMATION

On the basis of NatureScot responses to the Offshore Application, MD-LOT requested that additional information is provided with regards to the benthic subtidal and intertidal ecology assessment.

A summary of the key matters raised in the MD-LOT Additional Information Request and any other relevant specific clarification points from consultees is included in Table 3-1, alongside the Applicant's responses, where suitable, or cross-references to where further information is provided within this document.

Table 3-1 MD-LOT request for additional information relevant to benthic and intertidal ecology

MD-LOT REQUEST	RELEVANT SECTION WHERE ADDITIONAL INFORMATION IS PROVIDED
Annex I Reefs	
Confirmation of values and references used to quantify impacts to Annex I reef in national and UK context	The assessment has been updated using the 'best values' estimate obtained from 2019 Article 17[4] reporting documentation for Scotland and UK wide. See section 4.1.1. NatureScot confirmed via written correspondence in March 2024 that they were content with the use of the 'best values' of Annex I reef.
Clarification on what the applicant is inferring i.e. that the *S. spinulosa* does not meet the criteria to be classed as a reef – or another meaning?	Further clarification has been provided to explain that no *S. spinulosa* biogenic reefs were observed within the survey area and were not considered further in the impact assessment. See section 4.1.2. NatureScot confirmed via written correspondence in March 2024 that they were content with the explanation provided.
Revision of the narrative around resilience and recoverability to reflect anticipated changes in reef morphology associated with different development activities. This should include appropriate referencing to sensitivity assessments (e.g. FeAST or MarLIN) for predominant EUNIS reef habitat classes present.	Further discussion on the resilience and recovery of Annex I reef to reflect changes in reef morphology has been provided in section 4.1.3.1. The narrative has been revised to reflect more of a long term impact of seabed morphology in the direct vicinity of the seabed clearance activities. It has been concluded that Annex I stony reef has a high sensitivity to long term impacts from boulder clearance.
Review of the justification provided for the magnitude scoring for impacts to Annex I stony reef	The magnitude of impact score for long-term habitat disturbance/loss has been reconsidered without the embedded mitigation of matching cable protection with the existing seabed habitat. Upon further consideration boulder clearance represents the main impact pathway for long term habitat disturbance/loss to

[4] Reports by the United Kingdom under Article 17 - Supporting documentation for the conservation status assessment for the habitat 1170 Reefs. These two reports include best value estimates for Annex I reef across Scotland and UK respectively.

MD-LOT REQUEST	RELEVANT SECTION WHERE ADDITIONAL INFORMATION IS PROVIDED
habitat or a commitment to the mitigation proposed.	Annex I stony reef. Boulder clearance has been considered holistically with the subsequent installation of infrastructure to provide a full consideration of the potential disturbance/loss impacts to Annex I stony reef. See section 4.1.3.2. Further information on the position relating to the proposed mitigation is provided in section 4.8. The magnitude of impact score has remained as low for Annex I reef, and further justification has been provided to support this.
Revision of the assessment including magnitude score for impacts to Annex I reef stony reef habitat to better reflect the scale of boulder and bedform clearance which accounts for the uncertainty around recoverability. **This is an aspect that could be subject to monitoring if the proposal is consented as part of a benthic mitigation plan.**	A revision of the assessment of boulder and bedform clearance on Annex I reef has been re-considered and discussed with regard to recoverability (see section 4.1.3.1) and impact magnitude (see section 4.1.3.2). The Applicant has committed to ensure that a benthic monitoring plan will be in place for the offshore Project that will help to corroborate the Offshore EIA conclusions (see section 4.8).
Annex I stony reef (low through to medium and potential classes) should be mapped on Figure 10-10.	All 'low' through to 'medium' and 'potential' reef habitat, have been mapped along with JNCC predicted Annex I Reef habitat layers (Figure 4-1). See section 4.1.1.
PMF – Offshore subtidal sands and gravels	
Review of the justification provided for the magnitude scoring for impacts to "Offshore subtidal sands and gravels" PMF or a commitment to the mitigation proposed.	The magnitude of impact score was reconsidered without the embedded mitigation of matching rock protection with the existing seabed habitat. The magnitude of impact score has remained as low for the subtidal sands and gravel PMF habitat and further justification has been provided to support this. See section 4.3.
Distribution of PMF "Offshore subtidal sands and gravels" should be mapped on Figure 10-10.	The broad scale PMF distribution Offshore subtidal sands and gravels has been mapped (Figure 4-4). See section 4.2.1.
PMF – Tide swept coarse sands with burrowing bivalves	
Provide an assessment of potential impacts on the 'Tide-swept coarse sands with burrowing bivalves' PMF. **Please note that the PMF includes examples of the community where**	A full assessment has been undertaken on the relevant impacts to this habitat. The magnitude of impact to this habitat is considered low on the basis of its comparatively wide distribution across the offshore Project area and the resilience to temporary disturbance of the associated infaunal communities. See section 4.4.1 (temporary habitat loss/disturbance), section 4.4.2 (increased suspended sediment concentrations and sediment deposition), section 4.4.3 (long term loss or damage) and 4.5.5 (effects from increased risk of INNS).

MD-LOT REQUEST	RELEVANT SECTION WHERE ADDITIONAL INFORMATION IS PROVIDED
it lies outside the typical depth range of the biotope.	
Records of the Tide Swept Coarse Sands with burrowing bivalves PMF should be mapped and included on Figure 10-10 (confined to 12 nm territorial waters but records appear relevant to OAA and ECC).	See section 4.2. Records of Tide swept coarse sands PMF (including locations identified during survey) have been mapped along with other PMFs (Figure 4-4).
PMF - *Arctica islandica*	
Confirmation of how many juveniles, adults and empty ocean quahog shells were found during the benthic survey campaign and the parameter(s) used to distinguish juveniles.	In summary, two adult specimens and 51 juveniles of *A. islandica* were identified during macrobenthic analysis of grab samples taken across the Option Agreement Area (OAA) and offshore Export Cable Corridor (ECC) survey area. The shell width used for the separation of juveniles and adults was 17 mm (NOAA, 1999). There was a total of 47 empty shells recorded across the survey area. See section 4.2.2. NatureScot confirmed via written correspondence in March 2024 that they were content the information provided in relation to numbers of *A. islandica* recorded.
Records of the PMF should be mapped and included on Figure 10-10 (confined to 12 nm territorial waters but records appear relevant to OAA and ECC).	A map showing the *A. islandica* PMF records as well as empty shells is provided in Figure 4-5, see section 4.2.2.
Further contingency	
Further consideration of contingency plans given there is a greater proportion of hard substrate in the offshore Project area, which may present issues for cable burial and have further implications for reef and sedimentary bedform habitats.	Further information on the planned cable protection estimates have been provided. Overall, the quantity of rock protection will be kept as low as possible while maintaining the technical requirements. The quantity of rock protection included in the Offshore EIA Report has remained unchanged and is still considered to represent a conservative estimate evidence for this is provided based on initial cable burial risk assessment work on the ECC that has progressed since the submission of the Offshore Application. See section 4.7. NatureScot confirmed via written correspondence in March 2024 that they were content with the additional information and that the assessment provided in the Offshore EIA Report is based on the worst case scenario with respect to protection measures.
Invasive Non-Native Species (INNS)	
Revision of the magnitude score to 'low' - this will raise the consequence from 'negligible' to	The effects of INNS on all receptors have been revisited based on an increase in magnitude score from negligible to low (section 4.5).

MD-LOT REQUEST	RELEVANT SECTION WHERE ADDITIONAL INFORMATION IS PROVIDED
'low', which is still insignificant in EIA terms.	In all cases the magnitude score has been increased from negligible to low and consequence increased from negligible to minor. However, the impact remains not significant in EIA terms.
Commitment to appropriate mitigation and monitoring in relation to INNS as part of the application submission.	Further information on the Project commitment to INNS mitigation and monitoring has been provided in section 4.9. NatureScot confirmed via written correspondence in March 2024 that they were content with the additional information provided on INNS mitigation and monitoring.
EMF	
Comments on EMF relevant to Benthic interests referred to advice on fish and Shellfish: ***Specifically, section 11.6.2.2 makes reference to a project-specific modelling study carried out by a cable manufacturing contractor, but the results are stated as confidential. Furthermore, the modelling was undertaken using a lower voltage than that proposed by the applicant. Therefore, we are not able to provide any specific comments in relation to the modelling undertaken. However, we wish to highlight that cable burial should only be considered as mitigation if significant burial depth can be achieved.***	Please see responses under Fish and Shellfish Ecology Additional Information. The Applicant is not in a position to share the EMF calculation report referred to in the Offshore EIA Report with NatureScot at this time. This is due to the report being marked Strictly Private and Confidential and at present the Applicant does not have the written approval from the report's author to disclose beyond OWPL. In order to provide the background to calculations of the predicated EMF fields, the Applicant has commissioned another set of calculations, and these are presented in an EMF calculation report, which was sent to NatureScot on 25th April 2024 (see Fish and Shellfish Ecology Additional Information). On 17th May 2024, NatureScot requested that a narrative is provided which places the updated EMF calculations into context with respect to the EMF assessments provided in chapter 10: Benthic subtidal and intertidal ecology and chapter 11: Fish and shellfish ecology and of the Offshore EIA Report. This narrative is provided within the Fish and Shellfish Ecology Additional Information. The updated modelling results utilise cable information in the public domain from reputable manufacturers to ensure that no manufacturer intellectual property is breached. There may be slight differences in the modelling inputs (e.g. previous cable calculation was based on larger core diameter) compared to what was presented in the Offshore EIA Report which results in marginal differences in the outputs. It is concluded that the updated results do not materially change the assessment of effects provided in chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report, and therefore, there is no change to the assessment conclusions.
Other queries raised by NatureScot	
There are errors and inconsistencies across the assessment materials. These include discrepancies in the numbers of samples taken and numbers of individual species reported.	The queries raised around errors and inconsistencies raised within NatureScot's response has been addressed throughout this Additional Information in line with the further requests made by MD-LOT and NatureScot.

MD-LOT REQUEST	RELEVANT SECTION WHERE ADDITIONAL INFORMATION IS PROVIDED
Missing appendices - Supporting Study 5 appendices A-H and J are missing	The appendices of Supporting Study 5: Benthic Environmental Baseline Report contained raw information that was not considered relevant to the impact assessment or information that was provided elsewhere within Supporting Study 4: Benthic intertidal and subtidal technical report.
Consideration of mitigation is limited at this stage	A benthic monitoring plan will be produced for the Project, as part of the Project Environmental Monitoring Programme (PEMP) during the post-consent phase through consultation with NatureScot and MD-LOT. Further information on Benthic Monitoring is provided in section 4.8.
For scour protection, a range of possible methods are proposed, including use of artificial fronds (polypropylene). We do not wish to see this method used due to the likelihood of introducing polypropylene (plastic) particles into the marine environment.	The Project will not employ any polypropylene (plastic) scour protection solutions.
Other queries raised by Orkney Islands Council (OIC)	
Orkney Islands Council (OIC) also raised that appropriate INNS protocols should be adhered to minimise introduction or spread of INNS.	Further information on the Project commitment to INNS mitigation and monitoring has been provided in section 4.9.

4 ADDITIONAL INFORMATION

For clarity, the provision of Additional Information for MD-LOT has been structured so that it clearly aligns back to the information requests made by both MD-LOT within the Additional Information Request and NatureScot's comments on the Offshore Application. The additional information has been organised according to the relevant key habitats / features, where relevant: Annex I reefs (section 4.1), PMF species and habitat distribution (section 4.2), PMF subtidal sands and gravels (section 4.3) and PMF tide swept coarse sand and burrowing bivalves (section 4.4).

In light of the advice received from NatureScot, the magnitude of risk of introduction of INNS during the Project construction phase has been revisited for each benthic receptor in the impact assessment (section 4.4). NatureScot note that, in spite of best practice, the risk of introduction of INNS cannot be completely negated. This impact has been revisited for each of the receptors initially assessed in section 10.6.1.3 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report, with the addition of the PMF tide swept coarse sands with burrowing bivalves habitat, as requested by NatureScot.

In addition, further consideration has been given to cumulative, transboundary and whole project effects (section 4.6), contingency measures (section 4.7) and mitigation and monitoring (section 4.8).

4.1 Annex I reef

4.1.1 Confirmation of values and references used to quantify impacts to Annex I reef in national and UK context

MD-LOT and NatureScot raised a query around the calculations, assumptions and reference material that were used in the impact assessment presented in section 10.5.6.4 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report when comparing the area of potential Annex I reef impacted in the offshore Project area compared with the existing reef within designated offshore sites in both Scottish waters and across the wider United Kingdom Continental Shelf (UKCS).

Overall, as reported in section 10.5.6.4 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report, the total area of protected Annex I reefs in Scotland was calculated as 8,938 km^2. And for the wider UK, including Scotland, this was calculated as 12,940 km^2. The references used to calculate these areas were taken from corresponding JNCC Standard Data Forms for designated Special Areas of Conversation (SACs) that included the feature Annex I reefs.

NatureScot make reference to the 2019 Article 17 reporting documentation for Scotland and the wider UK in their interim advice. Per the UK-wide information, the best single value estimate for the total surface area of Annex I reefs is 73,482.21 km^2 (JNCC, 2019a). Within Scotland, the best single value estimate is 12,203.95 km^2; this estimate excludes areas which are considered part of UK offshore waters beyond 200 nm west of the Scottish coast (e.g. reef within the Hatton Bank and North-West Rockall Bank SACs) (JNCC, 2019b). These areas of reef do not distinguish between bedrock, stony and biogenic reef and consequently cover all three types. The Scottish single best value estimate is taken forwards as a point of reference for further justification on the magnitude of impact. This approach was requested by NatureScot and was confirmed through written correspondence in March 2024 (see section 3).

NatureScot requested that Annex I stony reef (low through to medium and potential classes), as defined during the survey, be shown in relation to known areas of Annex I reef. Figure 4-1 shows the distribution of the Annex I reef classes across the Project area per the survey findings, noting that areas of stony reef are of low or medium resemblance, based on Irving (2009) criteria. In addition, areas of 'potential reef' identified from the site specific survey data were highlighted in green in Figure 4-1. These areas of potential reef were assigned in areas comprising a mosaic of mobile and non-mobile substrates as well as rocky substrates and was primarily based on interpretations of geophysical data. While it cannot be ruled out that areas of low and/or medium resemblance reef are present, this is likely to be less prominent than the delineated low/high areas and would require ground truthing to verify. The quantification of Annex I reef in the project area has taken into account all reef types including potential reef.

Low to medium resemblance stony reef identified during the Project specific surveys (orange shading in Figure 4-1) characterises much of the northern extent of the OAA. Medium resemblance stony reef (red shading in Figure 4-1) occurs predominantly in the centre and south of the OAA, interspersed with areas of potential stony reefs which were defined as areas that were delineated primarily from geophysical data and predicted to comprise of a matrix of sediments and rocky substrates (green shading in Figure 4-1). Overall, the distribution of reef is more comprehensive and continuous within the OAA. Reef presence is more patchy and less prominent throughout the offshore ECC.

In addition to the site specific survey data, the regional 'high confidence' or 'potential Annex I reef', based on JNCC distribution open data, are also shown for reference in grey and purple respectively in Figure 4-1. There are no known JNCC areas of high confidence or potential Annex I reef within the offshore Project area, with the exception of a strip of reef which occurs along the coastline and intersects the offshore ECC close to the landfall (purple shading in Figure 4-1). This corresponds to areas of bedrock reef which were identified during the Project nearshore survey.

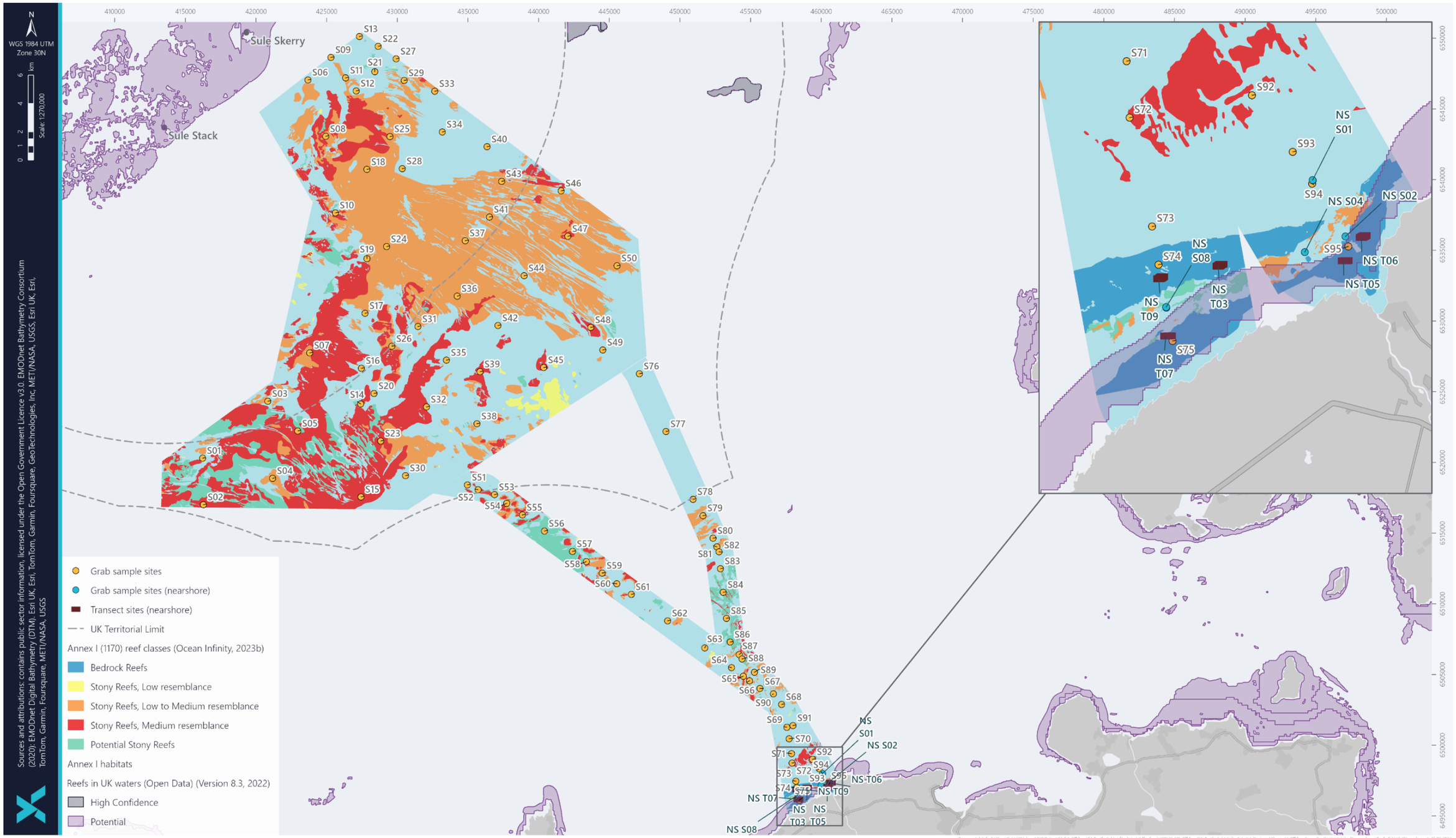

Figure 4-1 Annex I reef classes across the offshore Project area

4.1.2 Clarification on what the applicant is inferring i.e. that the *S. spinulosa* does not meet the criteria to be classed as a reef

MD-LOT and NatureScot requested clarification on why it was stated in the Offshore EIA Report that *Sabellaria spinulosa (S. spinulosa*) aggregations identified during the Project specific survey did not meet the criteria to be classed as a reef.

The encrusting *S. spinulosa* aggregations observed at survey sample stations S26, S53, S54, T45 and T52 were assessed against biogenic reef criteria as defined by Gubbay, 2007 and Collins, 2010 (Supporting Study 5: Benthic environmental baseline report). The results revealed that these features did not meet the assessment criteria of elevation, patchiness and extent for biogenic *S. spinulosa* reefs. This conclusion was the basis for the statement in the Offshore EIA Report (section 10.6.1.1.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report) that *S. spinulosa* aggregations did not meet the criteria to be classed as a reef.

Three of the five sample stations where *S. spinulosa* were observed (S53, S54 and T52) were classified as MC128 *Sabellaria* on Atlantic circalittoral rock. Site S26 was classified as MC42 Atlantic circalittoral mixed sediment and transect T45 was classified as MC12 Atlantic circalittoral rock. An example image of *S. spinulosa* aggregations is provided in Figure 4-2 below. However, it is worth highlighting that the associated substrates comprising boulders and cobbles on which *S. spinulosa* aggregations occurred did meet the assessment criteria for stony reefs in accordance with Irving (2009) stony reef assessment. As no *S. spinulosa* biogenic reefs were observed within the survey area, they were not considered further in the impact assessment.

NatureScot have confirmed that they are content with the explanation provided via written correspondence in March 2024.

Figure 4-2 Example of *Sabellaria spinulosa* on cobbles and boulders within the OAA

4.1.3 Revision of habitat loss/disturbance to Annex I reef in relation to resilience and recoverability from changes in reef morphology, and impact magnitude based on scale of boulder clearance

MD-LOT and NatureScot requested reconsideration of the impact magnitude score with regards to the scale of Annex I habitat loss/disturbance to better reflect the scale of disturbance from boulder clearance and in relation to the direct placement of infrastructure (e.g. scour protection and cable protection). MD-LOT and NatureScot also requested the consideration of the resilience and recovery of Annex I stony reef.

Chapter 10: Benthic and intertidal ecology of the Offshore EIA Report considered the direct disturbance/loss to Annex I reef habitat, through the following the impact pathways:

- Temporary habitat loss/disturbance (including impacts resulting from site preparation work such as boulder clearance) (see section 10.6.1.1.1 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report); and
- Long term loss or damage to benthic habitats and species, in relation to infrastructure placement (see section 10.6.2.2.1 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report).

In this re-assessment, the effects of boulder clearance and subsequent installation of infrastructure are considered holistically and discussed as an overall effect to this habitat.

Furthermore, this section also acknowledges that, at the current stage in the design process, the Project cannot fully commit to the previously stated embedded mitigation of rock habitat matching. The practicalities of mitigation involving matching the existing stony substrate as part of the rock protection are still being investigated and would require further analysis nearer the time of installation. Therefore, as per NatureScot's request, the justification provided for the magnitude scoring for impacts to Annex I stony reef habitat has been reviewed.

In reviewing the resilience, recoverability and magnitude of impact stony reef habitat, the following aspects have been taken into account.

- Pre-installation boulder clearance activities which will specifically target boulder fields (considered analogous to Annex I reef features). These will cover an area of up to 30.4 km^2 based on a cable corridor clearance width of 30 m and also incorporates clearance areas for infrastructure (e.g. WTGs and Offshore Substation Platforms (OSPs)). This assumes a scar plough method will be deployed for boulder clearance and relocation, rather than a more selective boulder grab across all cable routes (worst case considered);
- The cleared boulders, cobbles and pebbles will be relocated in adjacent areas within the Project area; and
- Certain areas of seabed cleared of boulders will subsequently be subjected to the installation of hard structures (infrastructure) of which the majority will be rock protection, covering an area of up to 7.34 km^2.

4.1.3.1 Revision of the narrative around resilience and recoverability to reflect anticipated changes in reef morphology associated with different development activities

MD-LOT and NatureScot requested further information and clarity on resilience and recoverability of Annex I stony and bedrock reef habitat. A revision of the narrative around resilience and recoverability to reflect anticipated changes

in reef morphology associated with different development activities has been provided here in relation to the impact assessment. It is recognised that the resilience and recoverability of the benthic habitat associated with the reef will vary according to the different development activities and that these activities will also have an impact on the morphology of the reef itself. The discussion below takes into account these considerations with respect to the habitat loss/disturbance.

With regards to boulder clearance, it is considered that reef morphology could be altered in the immediate vicinity of the Project area, particularly as any boulders being cleared are the principle rocky substrate of the Annex I stony reef. However, any impacts from this activity would be highly localised and are considered temporary on the basis that any disturbed epifauna would be able to recolonise the relocated boulders. Nonetheless, it is acknowledged that the morphological quality of the stony reef habitat within the boulder clearance corridors (up to 30 m corridor) will have diminished due to the boulder relocation and that the morphology in these areas will not recover (Natural England and JNCC, 2019).

As the morphology of the stony reef in the boulder clearance corridors won't recover, it is expected that the biological recovery and biodiversity in these areas will not return to pre-disturbance levels due to the reduced quality of the stony reef habitat. However, the relocated boulders, cobbles and pebbles are expected to fully recover and the remaining substrates in the clearance corridor will recolonise (where not subjected to placement of infrastructure).

It is generally considered that tide swept rocky habitats such as that found across the offshore Project area have high resilience and low sensitivity to physical disturbance to the substrata (Stamp *et al.*, 2023). The characterising epifauna of the tide-swept circalittoral rock habitat such as the bryozan *Flustra foliacea* have a high resilience and low sensitivity to such temporary abrasive disturbances (Readman *et al.*, 2023). Similarly, the soft coral *Alcyonium digitatum* has low sensitivity to abrasion and physical disturbance on account of its high recoverability owing, in part to its high fecundity (Budd, 2008). Other scour tolerant species which were noted as characterising the areas of Annex I stony and bedrock reef were *Securiflustra securifrons* and *Caryophyllia smithii*, and to a lesser degree, poriferans and hydrozoans (Supporting Study 5: Benthic environmental baseline report). It is expected that these species will still be able to recolonise the coarse material that is redistributed from boulder clearance activities, as the substrates will still remain within the Project area. However, it is assumed that the remaining cleared areas will no longer have the characterising stony seabed and will be reduced to sediment more akin to Offshore sands and gravels.

It is worth noting that all classes of reef identified in the Project specific surveys, including the areas of medium reef were characterised by the same type of epifaunal communities. The cleared boulders will be placed in/moved to areas out with the clearance corridors on adjacent seabed with the same underlying substrate, hydrodynamic conditions and water depth. Therefore, recoverability of these relocated boulder dominated are expected to be rapid.

While it is considered that the relocated stony material will recolonise and recover to pre-disturbance levels, it must also be considered that the cleared area will not be able to recover to pre-disturbance levels due to the change in substrate type to a more sediment dominated one, particularly in areas that are not subsequently subjected to infrastructure placement (such as cable protection). The Annex I reef habitats in the immediate vicinity of the disturbance are highly sensitive to a change in substrata from predominantly naturally occurring rock to a more sediment dominated habitat (Stamp *et al.*, 2023; Readman *et al.*, 2023).

The subsequent installation activities will introduce hard substrata (a large proportion consisting of cable protection), that will provide surrogate stony reef-like substrata but without the varied habitat complexity of natural stony reef

that is currently present. It cannot be committed to that cable protection will match the pre-existing stony habitat at this stage. There will be up to 7.34 km^2 of hard artificial substrata installed on the seabed most of which (~85%) will be associated with cable protection along the inter-array, interconnector and export cable routes, which will have been previously largely cleared of boulders. It is recognised that the installed cable protection will not replicate the pre-existing stony reef habitat that will have been cleared from the site. The colonisation of these hard substructures can be expected to some degree with the establishment of some of the hardy epifaunal species typical of the wider area such as hydroids and bryozoans will be expected. It is noted that these will not represent the same level of structural complexity as the pre-existing stony reef habitat (it will be uniform in nature), nor will these areas be expected to support the same diversity of species. Further discussion on the colonisation of hard structures is provided in section 10.6.2.3 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report.

Out with the areas of direct infrastructure placement, the remaining seabed within the 30 m boulder clearance corridors will most likely resemble a sediment dominated sands and gravel habitat rather than an Annex I stony reef. Due to this change in local seabed morphology across the (up to) 30 m cable corridor from a stony reef interspersed with sands and gravels, to a sands and gravels with artificial substrata, this receptor is considered to have High sensitivity.

As mentioned, the existing stony reef habitat will not be lost, rather it will be moved either side of the relocation corridor. Some of these boulders will be moved to sandy substrates although it can be expected that the nearby areas will already have prevalence of boulders. A summary of the recoverability resulting from changes in reef morphology from the different activities is provided in Table 4-1.

Table 4-1 Summary of expected recoverability/colonisation from planned activities

HABITAT	RECOVERABILITY
Relocated boulders, cobbles and pebbles	Moved to adjacent area immediately out-with 30 m clearance corridor. Full recovery to pre-disturbance levels expected. Still maintaining resemblance to Annex I stony reef.
Corridor that has been subject to boulder clearance (30.4 km^2)	Not expected to recover to pre-exiting condition due to lack of modified seabed morphology and reduction of hard substrata. Will essentially become part of surrounding sands and gravel matrix.
Installed anthropogenic artificial substrate (e.g. rock protection) (7.34 km^2) - (located within cleared 30.4 km^2 area)	Will likely be colonised by some benthic epifaunal species that are typical of stony reefs found in the area. However, this habitat will be impoverished compared to pre-existing stony reefs present.

Therefore, given the limited potential for recovery the sensitivity of the Annex I stony to habitat loss/disturbance as a result of boulder clearance is considered to be High.

On revisiting the recoverability of the Annex I sensitivity from boulder clearance to Annex I Stony habitat, the discussion around temporary disturbance in section 10.6.1.1.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report has been revised to reflect more of a long term impact of seabed morphology in the direct vicinity of the cleared area. Therefore, the sensitivity of the receptor remains as described in section 10.6.2.2.1 long term loss or damage to benthic habitats or species (Annex I stony and bedrock reef) of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report.

4.1.3.2 Review of habitat disturbance/loss impact magnitude to Annex I stony reef

NatureScot and MD-LOT requested reconsideration of the impact magnitude score to reflect the scale of disturbance from boulder clearance and bedform clearance. This has been considered holistically with the subsequent installation of infrastructure and discussed as an overall effect to this habitat.

The disturbance affecting the Annex I stony reef habitat will arise (among other activities see section 10.5.6.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report) from pre-installation preparatory works (such as boulder clearance which will essentially displace the larger boulders to adjacent areas). The bedform clearance activities relate predominantly to sediment bedforms, the clearing of sandwaves, sands and gravels bedforms such as megaripples. Due to the distribution of these habitats, these activities will primarily be focussed along the offshore ECC although some bedform clearance of sands and gravels will take place in the OAA. As sandwaves are primarily associated with sandy substrates rather than stony and/or rocky ground, the review of impact magnitude to stony reef that will be affected by the seabed preparation activities has not taken into account the area of sandwave clearance. It is considered that boulder clearance is the most relevant activity and is the focus of the discussion herein.

It was stated in section 10.5.5 Worst Case Scenario of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report that a corridor of up to 30 m would be cleared which correlated with a total boulder clearance area of up to 30.4 km^2 (excluding areas of sandwave clearance which do not target areas of stony reef). For clarity, the assumptions used for reconsidering the magnitude of the of the boulder clearance activity in relation to Annex I stony reef habitat is provided in Table 4-2.

Table 4-2 Overview of Annex I reef area affected by boulder clearance activities

	AREA OF STONY REEF CLEARED (BASED ON 30M CORRIDOR, KM^2)*	AREA OF LONG TERM INFRASTRUCTURE INSTALLED (KM^2)
Offshore export cables	9.6	-
Inter array cables	15.0	-
OSP interconnectors	4.5	-
Boulder clearance (WTG foundations)	1.2	-

	AREA OF STONY REEF CLEARED (BASED ON 30M CORRIDOR, KM^2)*	AREA OF LONG TERM INFRASTRUCTURE INSTALLED (KM^2)
Boulder clearance (OSP foundations)	0.09	-
Area of installed infrastructure (including cable protection, scour protection, WTG and OSP installation) (total)	-	7.34
Total area affected	**30.4**	**7.34**

** Excludes areas of seabed subjected to sandwave clearance.*

While the intention is to avoid boulders wherever possible through micro-siting, this may not be feasible in areas where a large number of boulders are present (i.e. in the higher density boulder field areas, as indicated in Figure 4-3). Therefore, boulder clearance in discrete areas will take place across the offshore Project area to ensure their presence does not impede cable lay and foundation installation.

Where boulders need to be cleared prior to cable installation, clearance will be achieved through use of a boulder clearance (SCAR) plough and/or grabs. For all cables, a corridor of up to 30 m per cable could be cleared (~15 m each side of the proposed cable route). Boulders and cobbles will likely only be moved a short distance to ensure technical and safety risks are minimised. Boulders will also be likely to be required to be moved ahead of foundation installation (WTGS and OSPs) for both the foundations themselves and installation vessels (e.g. jack-up vessels). A predicted maximum total boulder clearance area of up to 30.4 km^2 is estimated (approximately 4 % of the total offshore Project area), noting that the final extent of clearance activities will be dependent on the presence of boulders.

The assumptions and quantification of the Project footprint and impacts to Annex I reef habitats was detailed in sections 10.5.6.1 and 10.5.6.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. As discussed above, the disturbance associated with boulder clearance will affect an area of 30.4 km^2. Based on the Project specific survey data, it has been calculated that there is 279.8 km^2 of reef habitat within the OAA and 31.74 km^2 in the offshore ECC respectively; these estimates are highly conservative and are inclusive of potential (13%), low (2%), low to medium (40%) and medium (43%) resemblance reef (Figure 4-1). When taking into account the proportionate area affected by boulder clearance, the disturbance activities across the offshore Project area is about 10% of the total Annex I reef present across the site. The combined Annex I reef area across the offshore Project area is approximately 40% of the total offshore Project area. If this proportion of Annex I reef is taken into account, the actual area of Annex I reef affected by boulder clearance would be a much lower value of 12.16 km^2 (40% of the worst case value 30.4 km^2). However, as a worst case, and considering that boulder clearance targets areas representative of reef-like substrata, the worst case assumes that all boulder clearance areas would affect Annex I reef.

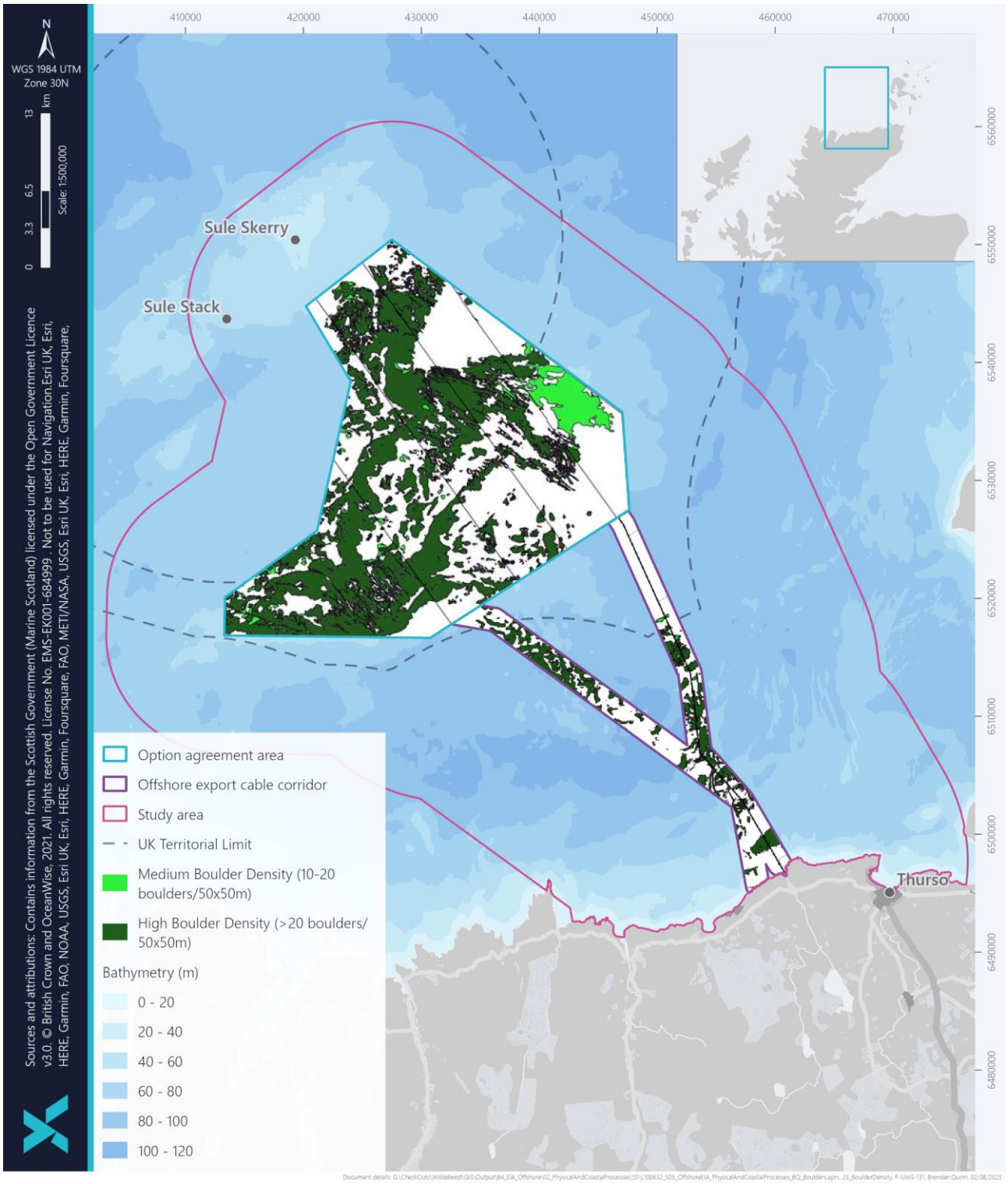

Figure 4-3 Boulder density across OAA and offshore ECC (based on Ocean Infinity 2023d)

The movement of boulders, cobbles and pebbles making up the stony reef feature inherently changes the characterisation of the cleared area to a more sediment dominated substrate (sands and gravels) in the immediate location. There will be a loss of stony reef habitat within the clearance corridors (that will limit recovery to pre-

disturbance levels). However, the Project has committed not to remove boulders from the offshore Project area. The stony habitat comprising boulders, cobbles and pebbles will not effectively be lost but rather relocated to adjacent areas, thus offering the potential for recolonisation and full biological recovery of the characterising epifaunal species associated with the Annex I stony reef habitat (as discussed in section 4.1.3.1). The relocated boulders will increase the reef-like quality of the adjacent areas, and overall the reef biodiversity and ecosystem function across the wider area is not expected to be compromised. This factor is an important aspect to take into account when considering the magnitude of impact. Given the ubiquitous presence of boulders, any boulders cleared during seabed preparations will be placed in environments with similar properties, e.g. also having a medium to high density boulder characterisation. The distribution of Annex I stony reef and sands and gravel habitats cross the offshore Project area is already patchy and is largely comprised of a complex matrix of mixed sediments. As stated previously, boulders are only likely to be moved a short distance, largely for the purposes of technical feasibility. While the immediate action of boulder removal will disturb areas within the clearance corridors, the ubiquitous presence of boulders throughout the offshore Project area (Figure 4-3), and the fact that they will only be moved a short distance, means that the relative scale of loss/disturbance of Annex I stony and bedrock reef will be minimal.

While the overall area which may be subject to boulder clearance is large, in reality the scale of disturbance and the associated effects on the ecological function of the Annex I stony reef habitat will be much more limited. In the unlikely scenario that the full 30.4 km^2 of boulder clearance is required, and will exclusively affect Annex I stony and bedrock reef habitat, this represents a very small area in the wider Scottish context. As stated in section 4.1.1, the total area of Annex I reef habitat in Scottish waters (excluding reef in waters >200 nm) is 12,203.95 km^2. If it was assumed that, as a worst case, 100% of the clearance areas in the entire offshore Project area was to exclusively impact reef habitat, the area of reef affected could be proportionately only 0.25% of the total area of reef in Scotland. It is worth noting that the total estimated area of reef in Scotland does not differentiate between the different types of reef, although the majority is expected to comprise stony and bedrock reef habitat. In the context of the estimated UK total area of reef (73,482.21 km^2), this proportion becomes smaller still at around 0.04%. This is a very low proportion of the overall area of nationally recognised Annex I reef.

There is further consideration of the disturbance of Annex I reef, and this relates to the introduction of hard structures that will potentially be installed in certain areas following the boulder clearance. The installation of infrastructure (hard substrate) will, if anything, create areas of elevated relief from the seabed and therefore may create new habitat for colonisation by epibenthic species which are likely to be similar to those already present on the existing rocky substrates. Furthermore, the epifaunal communities within the offshore Project area are expected to be well adapted to the dynamic, energetic environmental conditions present. Colonisation of structures is discussed in section 10.6.2.3 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report. Introduced cable protection and infrastructure will modify the geomorphology of the seabed by providing seabed relief that could have the potential to increase habitat complexity and provide species shelter from predation. It cannot be committed that cable protection will match the pre-existing stony habitat at this stage. Therefore, it is considered that the uniformity of the introduced rock berms is unlikely to offer much value to benthic biodiversity and are overall likely to be more species deficient than the surrounding stony habitats with a likely outcome that these will to some degree be colonised by organisms already found across the site such as bryozoan and hydroid turfs. Overall, colonisation of these introduced substrates was determined not to have a significant impact on existing habitats.

Where subsea infrastructure is installed, this will result in a long term modification to areas subject to clearance activities. As described in chapter 10: Benthic and intertidal ecology of the Offshore EIA Report (section 10.6.2.2.1), the reef identified within the Project area was lacking in the rich epifaunal assemblages reported from other analogous

areas of reef (e.g. within the nearby Solan Bank Reef SAC). The areas of low relief bedrock within the Solan Bank Reef SAC, which lies 25 km west of the OAA, were observed to be strongly affected by scour from the surrounding sediments and this resulted in the lower levels of faunal biodiversity (Whomersley *et al.*, 2010). These areas, characterised by impoverished biodiversity, were most closely comparable to the extent of medium / low reef habitat classes within the offshore Project area. Therefore, the Annex I reef in the offshore Project area is considered similar to the lower lying rocky areas of the Solan Bank Reef SAC that are subject to scour with a more impoverished biodiversity.

As described in section 8.6.2.1 of chapter 8: Marine physical and coastal processes of the Offshore EIA Report, changes to flows and waves during the operational phase of the Project due to presence of infrastructure will be minimal. Consequently, any change in sediment transport is unlikely to manifest in any noticeable change to the seabed. Overall, changes to wider physical processes will not have an effect on the seabed in a way such that there are any long term implications to benthic ecology, including Annex I reef. With respect to the comparable areas of reef within the Solan Bank SAC, scour is a key factor in characterising the areas of impoverished biodiversity. Introduction of scour due to Project infrastructure was found to be negligible (see section 8.6.2.2 of chapter 8: Marine physical and coastal processes, of the Offshore EIA Report). Therefore, the key physical processes which drive the levels of biodiversity characteristic of Annex I reef within the offshore Project area will remain unchanged by the operational presence of installed Project infrastructure.

The cleared boulders will remain on the seabed and the relative resilience of the species associated with Annex I stony reef means that these can expected to recolonise. While this is a one-off disturbance, it is considered that the areas where stony reef is essentially removed will not recover to pre-existing levels as the remaining substrate will be modified. While it is considered that there is a sizable area affected by boulder clearance activities, covering an area of up to 30.4 km^2 (as the worst case), this is still a relatively small area compared to the area of Annex I reef in the national context (representing ~0.25% of Reef in Scotland and 0.04% of reef in UK). Furthermore, when considering that this habitat will actually be relocated rather than altogether lost, and that new substrata will be installed that will (to a lesser degree) present some potential for the recolonisation by some epifaunal species associated with reef substrata, as well as considering the extensive area of unaffected rocky substrata across the site, the magnitude of impact is considered to remain Low. On revisiting the magnitude of habitat disturbance / loss impacts to Annex I Stony and Bedrock Reef habitat, the conclusion has not changed from the Offshore EIA Report (section 10.6.1.1.1 (temporary disturbance) and 10.6.2.2.1 (long term disturbance) of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report.

4.1.3.3 Conclusion of habitat loss/disturbance to Annex I reef

Having considered the recoverability of Annex I stony reef in response to the development activities (section 4.1.3.1) and the consideration of the magnitude of the boulder clearance activities and associated morphological effects (section 4.1.3.2), the overall habitat loss/disturbance to Annex I reef is considered to be of minor consequence. The magnitude of effect was considered on the basis of the area affected by boulder clearance and the extent to which there would be a change to baseline conditions, but these were not deemed to be material. The area affected (30.4 km^2) is still relatively small when compared to the total annex I reef habitat present across the offshore Project area and also in the national context. Furthermore, when it is considered that the reef habitat will not actually be removed but rather relocated to an area where it can be expected to recolonise to pre-existing conditions (as explained in section 4.1.3.1), it is not considered that this change will result in a fundamental change in the ecological function reef habitat. In addition, there will be hard substrata, largely in the form of rock protection will be applied to

the cleared areas, which represent surrogate artificial hard substrata in these areas that may offer additional opportunity for attachment of some characteristic species associated with Annex I habitats, although it is acknowledged that this will be limited in diversity when compared to pre-existing conditions. Overall, the proposed boulder clearance activities and installation of infrastructure on Annex I reef habitat is considered to be not significant in EIA terms.

This conclusion has not changed from the Offshore EIA Report (section 10.6.1.1.1 and section 10.6.2.2.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

Evaluation of significance

Taking the High sensitivity of the receptor and the low magnitude of the impact, the overall effect of temporary habitat loss/ disturbance during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
Impact significance – NOT SIGNIFICANT		

There was no change to the conclusion drawn in the Offshore EIA Report for temporary impacts to Annex I reef (section 10.6.1.1.1 and section 10.6.2.2.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.2 Additional information on PMF species and habitat distribution

NatureScot requested further detail on the distribution of certain PMF habitats across the Project area which are discussed in section 4.2.1. PMF species (excluding *A. islandica*) and habitats predicted across the OAA an offshore ECC have been mapped in Figure 4-4. The distribution of PMF *A. islandica* is discussed separately in section 4.2.2 and mapped in Figure 4-6.

4.2.1 PMF habitat distribution

The site specific survey report indicated that the PMF habitat Offshore subtidal sands and gravels and Scottish Biodiversity List (SBL) habitat Subtidal sands and gravels were identified across large parts of the OAA and the majority of the offshore ECC (Ocean Infinity, 2023a, 2023b). This is the most common subtidal habitat around the British Isles and includes a wide variety of sediments across a wide depth range. A number of subtype habitats were identified and interpreted to qualify as Offshore subtidal sands and gravels (Ocean Infinity, 2023b). The wider distribution of offshore sands and gravels habitat around the OAA and offshore ECC is presented in Figure 4-4 as black triangles and blue transparent hexagons).

NatureScot noted that the PMF habitat Tide-swept coarse sands with burrowing bivalves (biotope code SS.SCS.ICS.MoeVen – EUNIS code MB3233) was recorded in the Project specific survey (Ocean Infinity, 2023b) and

pointed out that examples of this community can be found outside the typical biotope depth range and proximity (<12 nm) to the coast (Tyler-Walters *et al*., 2016). As represented by the blue dots in in Figure 4-4, the Tide-swept coarse sands with burrowing bivalves habitat was widely distributed across the OAA and was also found closer to shore along the offshore ECC, in conditions that more closely resemble the more typical biotope depth range and coastal distribution. Additional discussion of this particular habitat has been provided below, with subsequent impact assessment specific to this habitat is undertaken in section 4.4.

It is recognised that SS.SCS.ICS.MoeVen, as well as a variant of this habitat with low abundance of *Asbjornsenia pygmaea, was* identified and can therefore be considered (Ocean Infinity, 2023b). Typically, *A. pygmaea* is a 'frequent' feature of this biotope (JNCC, 2024). This was classified as the habitat 'Moerella spp. with venerid bivalves in Atlantic infralittoral gravelly sand' (Ocean Infinity, 2023b). In total, there were twenty three accounts of the PMF Tide swept coarse sands with burrowing bivalves, of which twelve samples matched the qualifying species descriptors of SS.SCS.ICS.MoeVen (S01, S03, S06, S12, S14, S20, S28, S35, S69, S70, S71 and S73) and a further eleven locations were classified as the variant of this habitat with low abundance of *A. pygmaea* (S05, S07, S13, S17, S21, S34, S44, S46, S58, S82 and S91) (Ocean Infinity, 2023b). Of these occurrences 16 occurred within the OAA while seven occurred within the offshore ECC (Five of which were close to the landfall) across a total of 76 sample locations. As described above, the PMF Tide-swept coarse sands with burrowing bivalves, and its variations, are relatively widespread across the offshore Project area (Figure 4-4). There are distinct areas in the north of the OAA and across the centre and south-western extent of the OAA where the habitat occurs. Within the offshore ECC, there is a distinct area of the habitat close to the coast.

With regards to the variant habitat characterised by low abundance of *A. pygmaea*, it should be noted that although the species composition was similar, no replicate samples were acquired, however the multivariate analyses indicated enough difference for a distinction to be made between these variants (Ocean Infinity, 2023b).

The recorded distribution from public records for Tide-swept coarse sands with burrowing bivalves is very limited, with the majority of Scottish records occurring in Shetland, Orkney and some instances on the west coast of Scotland and the Outer Hebrides in shallow water – the nearest recorded location of this habitat to the Project is on the east coast of Orkney (outside the viewing range of Figure 4-4). The biotope is sparsely distributed around the rest of the UK therefore Scottish records are considered to be of national importance. Tyler-Walters *et al.* (2016) note that, whilst many components of this dynamic habitat are moderately robust, the larger bodied, slow growing bivalves are sensitive to physical disturbance.

Overall the additional information provided provides a clearer indication of the extent and distribution of PMF habitat Offshore subtidal sands and gravel and the PMF habitat Tide-swept coarse sands with burrowing bivalves which will help to inform the discussion around the magnitude of impacts on these habitats which are discussed in sections 4.3 and 4.4 respectively.

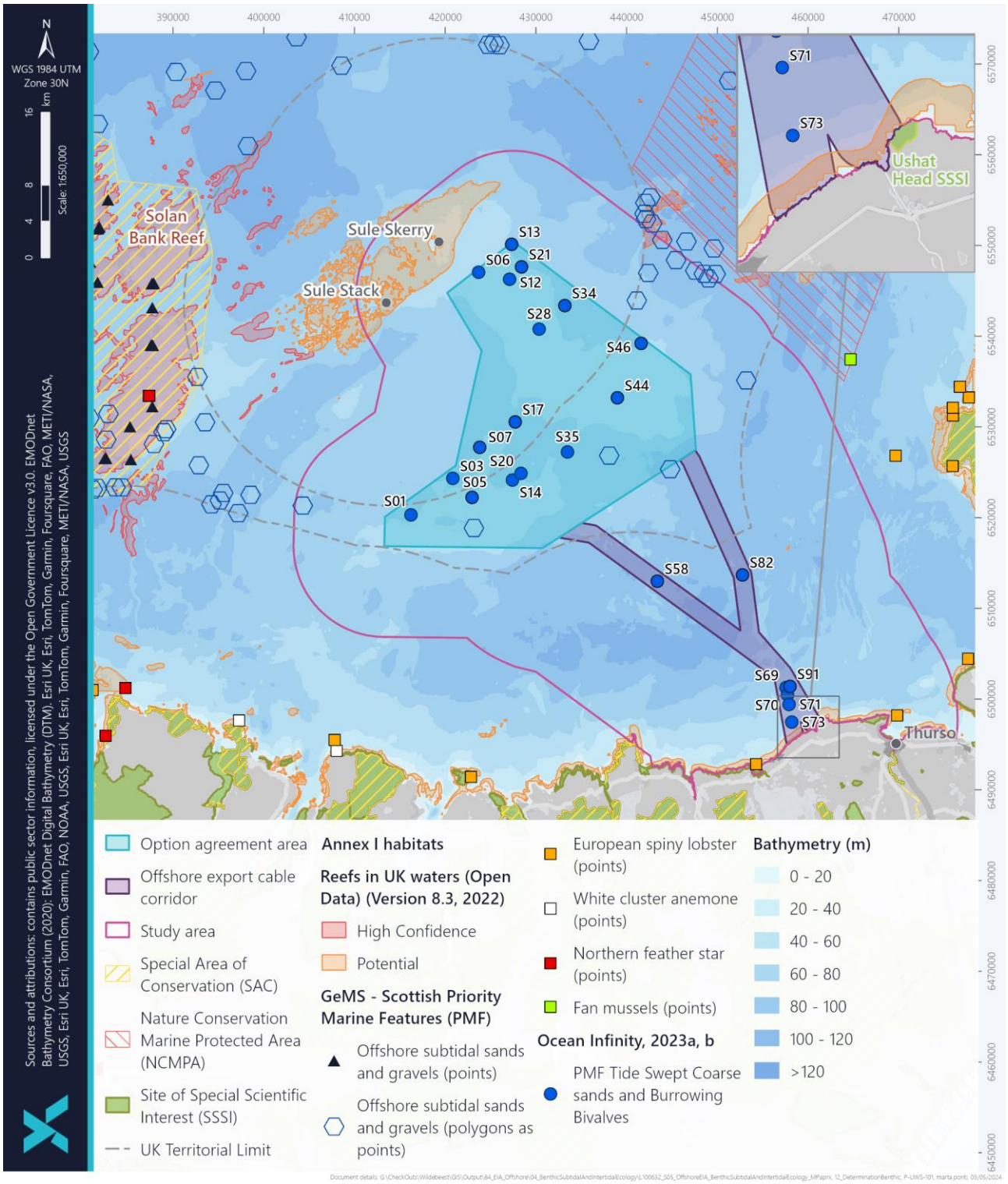

Figure 4-4 Distribution of designated sites and conservation features in and around the offshore Project area (excluding PMF A. islandica – illustrated in Figure 4-6)

4.2.2 PMF *Arctica islandica* distribution

MD-LOT and NatureScot requested confirmation of the number of juveniles, adults and empty *A. islandica* shells found during the benthic survey campaign, and the parameter(s) used to distinguish juveniles. Orkney Islands Council also raised in their response to the Offshore Application that *Artica islandica* are present in the Orkney Islands Marine Region.

Two adult specimens and 51 juveniles of *A. islandica* were identified during macrobenthic analysis of grab samples taken across the OAA and offshore ECC survey area. The shell width used for the separation of juveniles and adults was 17 mm, which can be expected to represent individuals of around 14-16 months (NOAA, 1999)[5]. Figure 4-5 shows the number of adults and juveniles found in each grab sample taken across the offshore Project area where *A. islandica was identified*. A maximum of 10 juveniles were found in one sample (S40). These sample locations correspond to those shown on Figure 4-6.

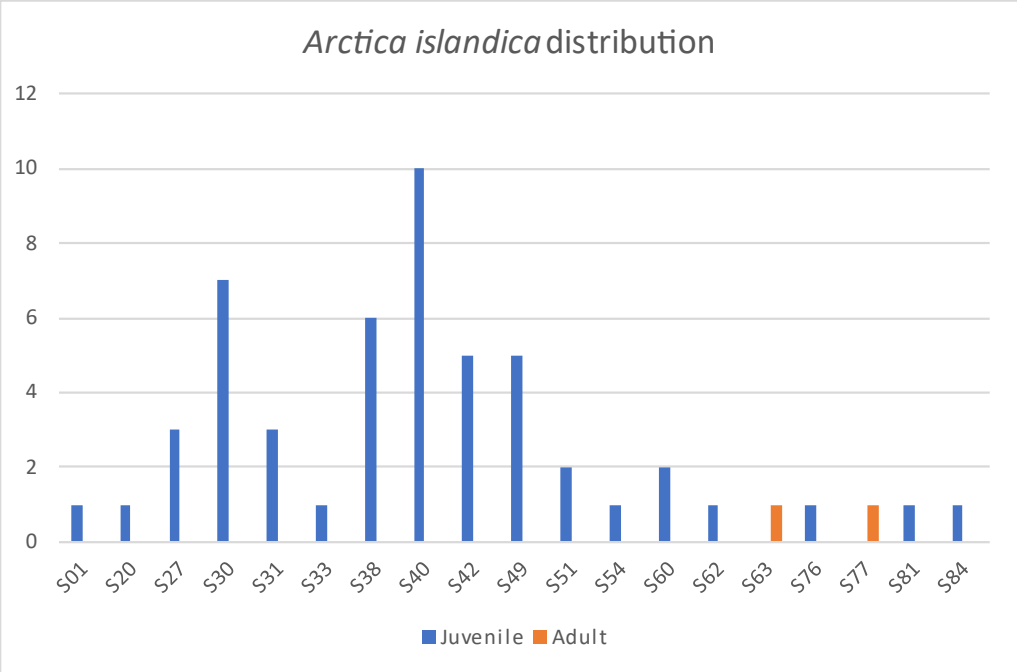

Figure 4-5 Distribution of A. islandica (live) in survey samples (using data from Supporting Study 5: Benthic environmental baseline report) (Ocean Infinity, 2023b)

To fully address the NatureScot queries, the survey contractor, Ocean Infinity, reviewed both the seabed imagery and images taken of sieved grab samples when being processed during the survey. Ocean Infinity recorded the presence / absence of *A. islandica* shells (whole or fragmented) across all survey locations which were physically sampled. These results are shown on Figure 4-6. For visual simplicity, all results which noted potential *A. islandica* shells from camera

[5] *NOAA (1999) report 7.5 month old specimens measure 1 - 3.9 mm in diameter and grow approximately 18.5 mm per year for first two years. A 17 mm specimen would be expected to be < 18 months old.*

images or whole or fragmented empty shells from sieved samples have been plotted as '*A. islandica* Shells' (denoted by green dots) in Figure 4-6. When incorporating this additional information, *A. islandica* presence be widespread across both the OAA and offshore ECC, although the only confirmed recordings of live adult specimens occurred at two stations (S63 and S77), both within the offshore ECC. Figure 4-6 also shows the known distribution of *A. islandica* PMF from published public records (turquoise diamonds) from the Geodatabase of Marine features adjacent to Scotland (GeMS) in the vicinity of the offshore Project area and the site specific survey results showing adult, juvenile and observed shells.

As can be seen on Figure 4-6, the presence of fragments of whole shells does not clearly correspond to areas where live specimens were identified in grab samples. However, one of the two adult *A. islandica* individuals was present in a sample close to an area of previously recorded PMF distribution.

The Hamon grab that was used for all macrobenthic sampling in the Project survey has a penetration depth of 15 cm and is generally more suitable in coarse sediments compared with alternative equipment such as a day grab or van Veen grab. The suitability of the acquired grab samples for *A. islandica* is supported by available information on the ecology of this species from the MarLIN which states that *A. islandica* lives buried vertically in the top few centimetres of the sediment and alternates between periods of being present at the surface and several centimetres deep (Morton, 2011). In addition, Strahl *et al*. (2011) noted that *A. islandica* burrowing behaviour varied with season and that in February 2004, they were found 4 to 12 cm deep in the sediment, but only 0 to 10 cm in June 2003. As the survey was conducted in the summer, it is considered to be likely that the majority of individuals would be present within the top 10 cm of the sediment and would be retained in the sampling regime. Therefore, overall, it is considered that the data acquired presents a reliable representation of *A. islandica* abundance across the OAA and offshore ECC.

NatureScot confirmed via written correspondents in March 2024 that they were content with the additional information provided on *A. islandica* abundance across the OAA and offshore ECC.

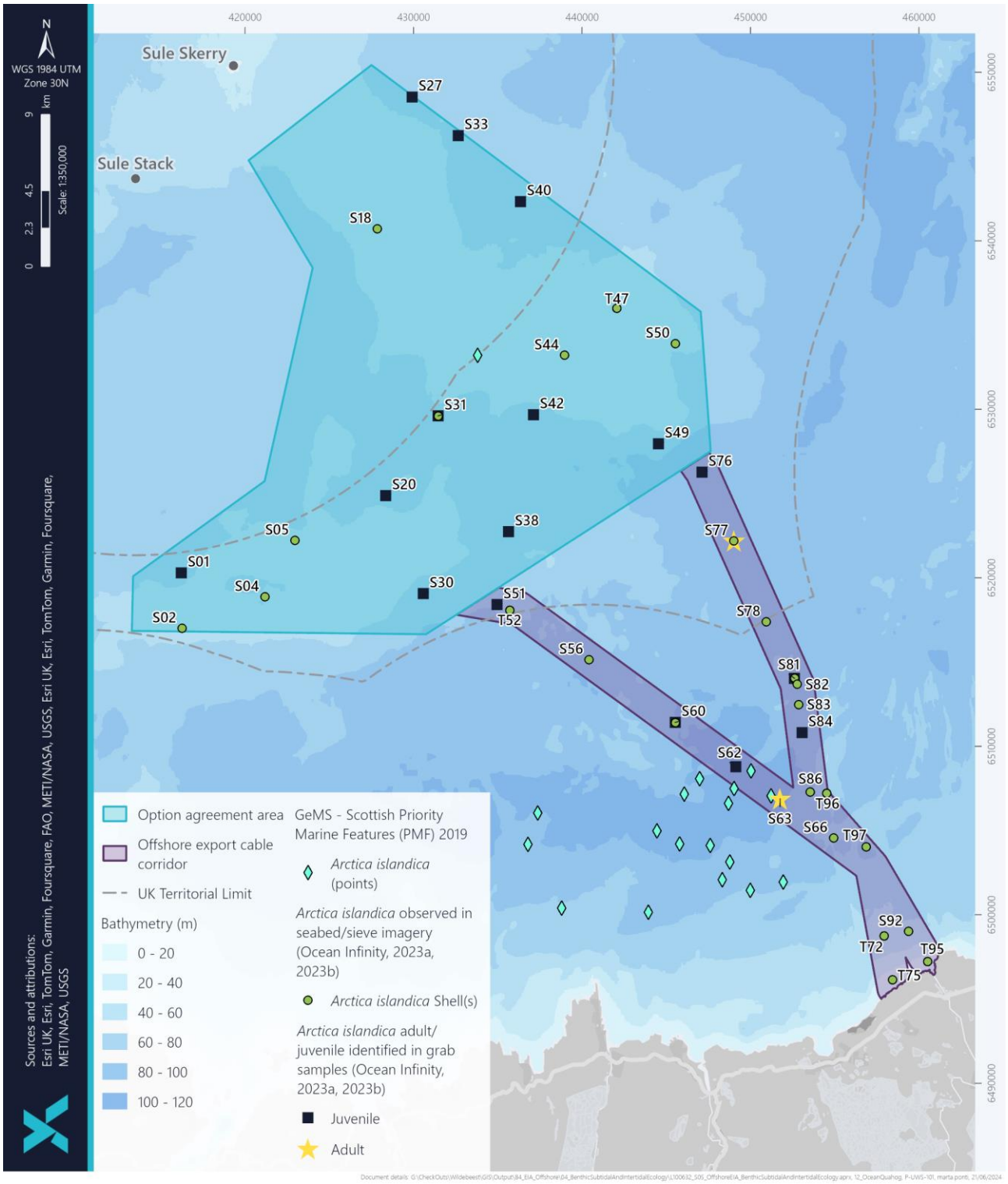

Figure 4-6 Presence of A. islandica across the OAA and offshore ECC (Ocean Ecology, 2023b)

4.3 PMF Offshore subtidal sands and gravels

4.3.1 Review of the justification provided for the magnitude of long term loss or damage PMF Offshore subtidal sand and gravels

MD-LOT and NatureScot has requested that further information be provided as justification for the magnitude scoring for impacts to Offshore subtidal sands and gravels. Further justification is provided below with regards to long term impact to this sediment habitat.

The most frequently encountered sedimentary biotopes which all fall within the umbrella of the PMF Offshore subtidal sands and gravels habitat were:

- *Flustra foliacea* and *Hydrallmania falcata* on tide-swept circalittoral mixed sediment (MC4214);
- *Echinocyamus pusillus*, *Ophelia borealis* and *Abra prismatica* in circalittoral fine sand (MC5211);
- Faunal communities of Atlantic circalittoral sand (MC521) / Atlantic offshore circalittoral mixed sediment (MC42); and
- *Lagis koreni* and *Phaxas pellucidus* in Atlantic circalittoral sandy mud.

As outlined in section 10.6.2.2.2 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report, all habitat types listed under Offshore subtidal sands and gravels have no resistance or very low resilience to habitat change and are therefore considered to have a high sensitivity. Collectively, these habitats exhibit no resistance to physical loss or change to the substrate and would be fundamentally altered by a change in the substrate (De-Bastos *et al.*, 2023; Readman *et al.*, 2023; Tillin and Watson, 2024), as would occur over the operational life of the Project due to the presence of infrastructure and rock protection. Thus, the introduction of the hard substrata and rock protection along areas of the inter-array cables and interconnector cables will essentially result in the long-term loss of the sediment habitats in the immediate vicinity with no possibility of future recovery. These sediment habitats will essentially be lost.

The sensitivity of the receptor remains as described in section 10.6.2.2.2 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report. When considering that the PMF Offshore subtidal sands and gravels habitat is a conservation priority, this receptor is considered to have High sensitivity.

The PMF Offshore subtidal sands and gravels has been widely reported off the north coast of Scotland across the Solan SAC and further north of the OAA (Figure 4-4). Furthermore, offshore circalittoral sand and coarse sediments are the prominent predicted broad scale habitat types found across the OAA and offshore ECC as well as large swathes of the North Sea. This was largely verified by the Project survey outputs which indicated the widespread presence of Offshore subtidal sands and gravels across the offshore Project area. As such these can be proposed to be prevalent and commonly occurring across the whole Scottish offshore area. There are approximately 377 km^2 of subtidal sands and gravel habitat across the OAA and 93 km^2 across the offshore ECC (total area of 470 km^2). It is predicted that 4.54 km^2 of sands and gravel habitat could be impacted long term by the construction operations in the OAA and the offshore ECC. Proportionately, this equates to 0.97% of the subtidal sands and gravel habitat within the offshore Project area. Furthermore, the area of impact will be spread across numerous biotopes such that the full scale of impact will not be exclusive to any single underpinning biotope of the PMF Offshore subtidal sands and gravels habitat.

Sand and gravel sediments are the most common subtidal habitat around the coast of the British Isles (Tyler-Walters *et al.*, 2016). The range of sand and gravel habitats found across the OAA and offshore ECC are therefore some of the most common subtidal habitats found in Scottish coastal and offshore waters. Furthermore, the proportion of long-term loss of this habitat is very small compared with the amount of sand and gravels habitats not directly impacted, both within the offshore Project area and within the wider national context. Given the small proportion of this common habitat that will be affected by the long term presence of the Project infrastructure, there is expected to be no significant effect to the overall ecosystem function of this habitat as a whole and therefore the impact magnitude is considered Low. On revisiting the magnitude of long term impact to Offshore subtidal sands and gravels habitat, the conclusion has not changed from the Offshore EIA Report (section 10.6.2.2.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of long-term loss or damage to benthic habitats and species during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor

Impact significance – NOT SIGNIFICANT

There was no change to the conclusion drawn in the Offshore EIA Report for long-term impacts to subtidal sand and gravel habitat (section 10.6.2.2.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.4 PMF Tide swept coarse sands and burrowing bivalves

MD-LOT and NatureScot requested an assessment of the potential impacts on the PMF Tide swept coarse sands with burrowing bivalves. This assessment is conducted with respect to temporary habitat loss or damage section 4.4.1. and long term loss/damage in section 4.4.2.

4.4.1 Temporary habitat loss/disturbance: PMF Tide swept coarse sands with burrowing bivalves

The seabed of the OAA and offshore ECC is characterised by a heterogeneous mosaic of sediment habitats which are dominated by sand and gravel sediment fractions. The environmental survey identified 15 specific biotopes in sedimentary habitats, the majority of which fall within the broad habitat of Offshore subtidal sands and gravels which covers a large proportion of the offshore Project area equating to approximately 57% of the OAA and 75% of the offshore ECC. The most frequently encountered sedimentary biotopes included:

- *Flustra foliacea* and *Hydrallmania falcata* on tide-swept circalittoral mixed sediment (MC4214);
- *Echinocyamus pusillus*, *Ophelia borealis* and *Abra prismatica* in circalittoral fine sand (MC5211);
- Faunal communities of Atlantic circalittoral sand (MC521) / Atlantic offshore circalittoral mixed sediment (MC42); and
- *Lagis koreni* and *Phaxas pellucidus* in Atlantic circalittoral sandy mud.

In addition to the above, the biotope *Moerella spp*. with venerid bivalves in Atlantic infralittoral gravelly sand (MB3233), which corresponds with the PMF Tide swept coarse sand with burrowing bivalves (inclusive of its variant habitats), was relatively widespread throughout the offshore Project area (Figure 4-4). This PMF, previously captured within the PMF Offshore subtidal sands and gravels, is independently assessed here per NatureScot's request.

With respect to surface and subsurface abrasion and disturbance, as would occur during pre-construction and construction activities, the FeAST tool defines Tide swept coarse sand with burrowing bivalves to exhibit low-medium sensitivity (largely based on depth of penetration). Venerid bivalves, which characterise this habitat, are generally shallow burrowers and may therefore be damaged by surface abrasion. Polychaetes have soft bodies and inhabit the top few centimetres of sediment exposing their sensory mouthparts (palps) at the surface whilst feeding and therefore will be damaged by subsurface abrasion. However, some evidence does suggest that communities on or in mobile and coarse sands are expected to have higher recovery to high frequency disturbance, owing to the changeable conditions they are accustomed to, whereas sessile long-lived bivalves are among the most sensitive to disturbance. Overall habitat tolerance is low-medium and recoverability is high (Marine Scotland, 2023a).

The habitat *Moerella spp*. with venerid bivalves in Atlantic infralittoral gravelly sand is analogous to the PMF Tide swept coarse sand with burrowing bivalves. Therefore, the sensitivity assessment, conducted by MarLIN for this habitat is applicable to the PMF. Tillin and Watson (2023) found that *Moerella spp*. with venerid bivalves in Atlantic infralittoral gravelly sand has a medium resistance and high resilience to abrasion / disturbance of the surface of the seabed and penetration of the seabed substrate subsurface. However, studies on disturbance to this habitat caused by fishing activity and aggregate extraction found that polychaete and amphipod species are likely to recover more rapidly than the bivalves which characterise the biotope. Therefore, biotope classification may naturally revert to a polychaete dominated biotope (Tillin and Watson, 2023). This is due to the biological characteristics of the associated bivalve species such as *Moerella spp*. which are a relatively long-lived genus (6-10 years) versus other species with opportunistic life strategies. While recruitment may be rapid, restoration of the biomass by growth of the colonising individuals is likely to take many years. In spite of this, the overall habitat sensitivity to temporary disturbance is considered low (Tillin and Watson, 2023).

The FeAST tool assessment presents a comparatively more conservative outlook although it does point to evidence that communities on coarse sands (such as those encountered in the offshore Project area) are expected to have higher recovery than finer sediment, lower energy habitats (Marine Scotland, 2023a).

As a PMF this habitat is a conservation priority and, based on the FeAST tool assessment, it is considered to have Medium sensitivity to sediment surface disturbance.

There is approximately 377 km^2 of subtidal sands and gravel habitat across the OAA and 93.27 km^2 across the offshore ECC. Of this area, a small proportion will represent the PMF Tide swept coarse sands with burrowing bivalves which could be distributed in patches throughout the offshore Project area (Figure 4-4). The total temporary habitat loss/disturbance footprint was calculated to be 38.71 km^2 within the OAA and 30.41 km^2 within the offshore ECC,

resulting in a total area of 69.12 km^2 being affected by pre-construction and construction activities (as outlined in section 10.5.6 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report). These areas represent 5.89% of the OAA and 24.3% of the offshore ECC respectively, and result in the total temporary footprint affecting 8.84% of the total offshore Project area (see section 10.5.6 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report).

It is predicted that approximately 44.92 km^2 of sands and gravel habitat could be temporarily impacted by the construction operations in the OAA and the offshore ECC. The seabed preparation activities and cable trenching will be mainly focussed on sands and gravel habitats; therefore it is assumed that the full footprint of direct temporary disturbance within the offshore ECC can be expected to affect this habitat. However, within that area of impact the impact on PMF Tide swept coarse sands with burrowing bivalves alone will be more limited, given that it does not occur in large contiguous areas and has a patchy distribution. It is recognised that bedform and boulder clearance activities will have an effect on the bivalve communities present and may potentially incur some local mortality. The proximity to extensive adjacent areas from which recruitment can occur (i.e. other Offshore subtidal sands and gravels biotopes) suggests that there is a good potential for recolonisation of the affected seabed. However, recruitment is dependent on settlement of spat and this can be sporadic (Tillin and Watson, 2023). Furthermore, it is considered that even if recruitment and recolonisation occurs rapidly, in some venerid bivalve species the slow growth rate and relatively long life span may mean that actual recovery could take several years. In the case of the venerid bivalves that are characteristic of this habitat, sexual maturity is expected to be reached in two years and spawn at least once a year (Tillin and Watson, 2023). Therefore, while there is a level of uncertainty around the actual rate of recovery, given the resilience and robust nature of the bivalves that are characteristic of this habitat, it is predicted that recolonisation will occur in the areas subject to temporary habitat loss/disturbance and that the temporary impacts are unlikely to affect the long-term ecological functioning of the seabed ecosystem upon which higher tropic levels depend. It is also considered that the disturbance associated with activities such as boulder clearance will not remove the habitat but essentially redistribute the surface sediments which may cause some mortality. The more robust species are likely to be able to withstand such a disturbance, particularly given that this PMF is a dynamic, Tide swept habitat characterised by robust infaunal community. Given that large areas of swept coarse sands with burrowing bivalves habitat are expected to remain undisturbed and that recovery is expected over time to areas that are temporarily disturbed, the impact is thus defined as being of **Low** magnitude.

Evaluation of significance

Taking the medium sensitivity of the receptor and the low magnitude of the impact, the overall effect of temporary habitat loss/ disturbance during construction is considered to be **Minor** and **not significant** in EIA terms.

Sensitivity	Magnitude of impact	Consequence
Medium	Low	Minor

Impact significance – NOT SIGNIFICANT

The Offshore EIA Report accounted for the PMF Tide swept coarse sands and burrowing bivalves as part of the assessment on Offshore subtidal sands and gravels. This assessment results in no change to the conclusion drawn in

the Offshore EIA Report for temporary impacts to Offshore subtidal sands and gravel habitat (section 10.6.1.1.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.4.2 Increased suspended sediment concentration and sediment deposition.

4.4.2.1 Suspended sediment and associated deposition

The addition of fine material will alter the character of this habitat by covering it with a layer of dissimilar sediment and will reduce suitability for the species associated with Tide swept coarse sand with burrowing bivalves, this feature and the mobile infaunal communities which dominate light smothering caused by the settled re-suspended material. The resilience to suspended sediment and associated light siltation is regarded as high (Tillin and Watson, 2023). It is recognised that the effects of smothering will have the potential to interfere with feeding and respiration of the bivalves that are characteristic of the habitat and there will be a level of energetic cost may impair growth and reproduction, but this effect is unlikely to cause mortality (Tillin and Watson, 2023). As such, even though Tide swept coarse sand with burrowing bivalves habitats are listed as a PMF and therefore of conservation value, the habitat is considered to be of Low sensitivity to suspended sediments and associated deposition.

Furthermore, the very short duration of the sediment in suspension (up to 74 hours) coupled with the very minimal siltation depth (<2 mm), the disturbance from suspended sediments is considered both short term and unlikely to disrupt the ecological functioning of the Tide swept coarse sand with burrowing bivalves habitat. Therefore, the impact resulting from suspended sediment on Tide swept coarse sand with burrowing bivalves is defined as being of Low magnitude.

While it is recognised that the increased suspended sediments and associated deposition of fines can impair filter feeding efficiency in some species, it is expected that resilience to this pressure is high (MarLIN, 2023). Furthermore, the very short duration of the sediment in suspension (up to 74 hours) coupled with the very minimal depth (<2 mm), the disturbance from suspended sediments is considered both short term and unlikely to disrupt the ecological functioning of the Offshore subtidal sands and gravel habitats. Therefore, the impact resulting from suspended sediment on subtidal sand and gravel habitat is defined as being of Low magnitude.

Evaluation of significance

Taking the low sensitivity of the receptor and the low magnitude of the impact, the overall effect of suspended sediment and associated deposition on Tide swept coarse sand with burrowing bivalves habitat is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
Low	Low	Minor
Impact significance – NOT SIGNIFICANT		

The Offshore EIA Report accounted for the PMF Tide swept coarse sands and burrowing bivalves as part of the assessment on Offshore subtidal sands and gravels. This assessment results in no change to the conclusion drawn in the Offshore EIA Report for suspended sediment and associated deposition impacts to subtidal sand and gravel habitat (section 10.6.1.2.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.4.2.2 Sediment deposition (heavy smothering)

As part of this assessment, the impacts of heavy smothering from sediment deposition to Tide swept coarse sands and burrowing bivalves are considered. By definition, Tide swept coarse sands and burrowing bivalves are characterised by coarse sediments and low fines and typical of the high energy seabed environment found across the OAA and the nearshore area of the offshore ECC where these habitats were distributed. For heavy smothering (> 30 cm), the resilience of this biotope is assessed as Medium on the basis that the maximal overburden through which small bivalves that characterise the habitat (such as *Moerella spp.*) could migrate was approximately 50 cm in sand (Tillin and Watson, 2023). This overburden is an important factor when considering the sensitivity. As such, the PMF Tide swept coarse sands and burrowing bivalves is considered to have a Medium sensitivity to heavy smothering.

It is possible that a total of up to 25.03 km^2 could be subject to sediment deposition to a depth of ≥70 cm and a likelihood that some of the Tide swept coarse sands and burrowing bivalves habitat would be subject to this level of smothering. Nonetheless, the majority of the records of this PMF are concentrated in the OAA and nearshore ECC and therefore not likely to be in the immediate vicinity of the more extensive sediment deposition activities such as sandwave clearance along the ECC. As such, there will be extensive undisturbed adjacent areas are expected to be able to support recruitment and allow faunal recovery of these sediments, which are expected to be of similar composition of sand and gravel, so the level of disturbance in the long term is not expected to incur a fundamental shift in benthic ecology. Given the relatively localised areas affected compared with the extensive adjacent undisturbed areas, the resulting sediment deposition on the PMF Tide swept coarse sands and burrowing bivalves, is not expected to significantly impact the overall ecological functioning of the habitat. Overall, the impact from heavy smothering is defined as being of Low magnitude.

Evaluation of significance

Taking the medium sensitivity of the receptor and the low magnitude of the impact, the overall effect of heavy sediment deposition on Tide swept coarse sand with burrowing bivalves habitat is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
Medium	Low	Minor
Impact significance – NOT SIGNIFICANT		

The Offshore EIA Report accounted for the PMF Tide swept coarse sands and burrowing bivalves as part of the assessment on Offshore subtidal sands and gravels. This assessment results in no change to the conclusion drawn in the Offshore EIA Report for suspended sediment and associated deposition impacts to subtidal sand and gravel habitat (section 10.6.1.2.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.4.3 Long term loss or damage: PMF Tide swept coarse sands with burrowing bivalves

The PMF Tide swept coarse sands with burrowing bivalves shares much similarity with the PMF Offshore subtidal sands and gravels habitat. Initially, this was assessed under the umbrella of Offshore subtidal sands and gravels. However, NatureScot requested individual assessment of the habitat which is presented here.

The biotope *Moerella spp*. with venerid bivalves in Atlantic infralittoral gravelly sand (MB3233) corresponds to the PMF Tide swept coarse sand with burrowing bivalves and was found to be present in the offshore Project area from the results of the Project specific surveys. While species, such as *Moerella spp*., which characterise this habitat are typically robust, change to a different seabed would be permanent. A change to an artificial or rock substratum would fundamentally alter the character of the biotope leading to reclassification and the loss of the sedimentary community including the associated bivalves, polychaetes and echinoderms that live buried within the sediment. This habitat has no resistance in the face of such change, has very low resilience and an overall High sensitivity (Tillin and Watson, 2023).

The long-term disturbance associated with the Project will affect an area of 7.34 km^2, inclusive of the OAA and offshore ECC. PMF Tide swept coarse sands with burrowing bivalves was commonly observed across the Project survey samples; *Moerella spp*. with venerid bivalves in Atlantic infralittoral gravelly sand (inclusive of the variant habitat characterised by low abundance of *A. pygmaea*) was identified at 23 sample locations across the OAA and offshore ECC. The distribution of the habitat is relatively widespread across the offshore Project area, being recorded at just over a quarter of all survey sample locations (Figure 4-4). Although the habitat is relatively widespread in the offshore Project area, it is very patchy in its distribution and interspersed by sandy and coarse sediments and stony reef. When considering how widely distributed this habitat is across the OAA in particular and its apparent association with sands and gravel habitats more generally, it is expected that the PMF habitat Tide swept coarse sand with burrowing bivalves is a characteristic feature of the sands and gravel sediments across the wider area where there are similar water depth ranges, substrate type and currents. However, it is acknowledged that the offshore distribution of Tide swept coarse sands with burrowing bivalves in the offshore Project area is not typical of this particular biotope and other than the site specific survey data, there are no additional records to corroborate the assumption that there is a wider offshore distribution. The nearest records of Tide swept coarse sands with burrowing bivalves to the offshore Project area are from the east coast of the Orkney mainland, based on a survey undertaken by the Marine Nature Conservation Review (MNCR) in 1996 (NMPi, 2024).

There will be no other operational phase changes to the surrounding habitats, and the loss of the habitat will not be exacerbated by other compounding factors; for example, there will be no significant impact on physical processes such as scour, as described in section 8.6 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. Therefore, habitat loss will be exclusively limited in spatial extent to infrastructure footprints and installed rock scour and cable protection. While the WTG layout is yet to be determined, the footprints of infrastructure to be installed may coincide with pockets of the PMF Tide swept coarse sands with burrowing bivalves. However, habitat loss will not only affect this habitat but the patchwork of other commonly occurring benthic habitats found across the offshore Project area, including the PMF Offshore subtidal sands and gravels and Annex I stony reef habitats. When taking into account the relative frequency of occurrence of this habitat across the wider area, it can be assumed that some of this habitat will be directly lost due to the development infrastructure and there will be no recovery from the areas lost. However, it is anticipated that areas of this PMF that are outside the direct footprint of the new

infrastructure will be unaffected and therefore, the resultant long term impact will not significantly affect on the ecological function of the PMF Tide swept coarse sands with burrowing bivalves habitat. Therefore, the magnitude of impact is considered to be Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of long-term loss or damage to PMF Tide swept coarse sands with burrowing bivalves habitat during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
	Impact significance – NOT SIGNIFICANT	

The Offshore EIA Report accounted for the PMF Tide swept coarse sands and burrowing bivalves as part of the assessment on Offshore subtidal sands and gravels. This assessment results in no change to the conclusion drawn in the Offshore EIA Report for long term impacts to subtidal sand and gravel habitat (section 10.6.2.2.2 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report).

4.5 Re-assessment of the effects of INNS based on increase of magnitude score from 'negligible' to 'low'

MD-LOT and NatureScot has requested that a revision is made to the INNS magnitude of impact to 'low' which has increased the overall consequence of effect to 'minor' for all receptors. Although the consequence has been increased from 'negligible' to 'minor', there is no change to the conclusion drawn in the Offshore EIA Report for INNS that the impact from INNS is not significant in EIA terms (section 10.6.1.3 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report). An assessment of INNS on PMF Tide swept coarse sands and burrowing bivalves has also been included for completeness. Further information on INNS management and commitment to mitigation is provided in section 4.9.

4.5.1 Annex I reef

The sensitivity of the receptor remains as described in section 10.6.1.3.1 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. When considering that the stony and bedrock reefs are Annex I habitats and a conservation priority and also possibly vulnerable to such an invasive species, this receptor is considered to have High sensitivity.

There will be an elevated level of vessel presence during the construction and installation phase of the Project. Approximately 30 vessels may be present on site at any one time during construction and up to 101 different vessels will be used across the entire construction period. In addition, the placement of artificial structures in the marine environment comes with an inherent risk of introduction of possible areas for establishment of INNS throughout the

life of the development. However, the construction activities and the associated increase in vessel presence are considered to represent the most likely pathway to introduce INNS. The application of best practice tertiary mitigation (e.g. employment of an INNS management plan within the Environmental Management Plan (EMP) and use of an INNS risk assessment) would reduce the risk of introduction of INNS (see section 4.9). An outline INNS management plan was included within the Offshore Application in Annex A4 of Outline Plan 1: Outline EMP. The final INNS management plan will be developed post-consent in consultation with relevant regulatory bodies and stakeholders. The INNS management plan will outline the potential pathways for INNS introduction and/or spread, the biosecurity control measures to protect against negative INNS impact, and details on surveillance monitoring and reporting. The specific risks will be able to be confirmed following detailed design and contractor appointment. These risks will be outlined within the INNS management plan and relevant control measures identified (further information in section 4.9) At present it is expected that the main risk with regards to the potential introduction of INNS will be from vessel ballast water, however, other example pathways for INNS spread may include the installation / presence of man-made structures or operational cleaning of project infrastructure. Control measures will be identified based on the predicted risk of INNS introduction and spread and may include ensuring installed infrastructure does not originate from another marine environment, where possible, and use of biofouling paints. These principles also apply to the INNS risk for other receptors in addition to Annex I reefs. There are currently no plans to wet tow assets to site which will reduce the potential for the introduction of marine INNS attached to introduced structures. It is considered that the risk of INNS cannot be completely eliminated; therefore, the magnitude of impact has been amended from negligible to Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of INNS on stony and bedrock reefs during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor

Impact significance – NOT SIGNIFICANT

Although the consequence has been increased from 'negligible' to 'minor', there is no change to the conclusion drawn in the Offshore EIA Report that the impact from INNS is not significant in EIA terms.

4.5.2 PMF Offshore subtidal sands and gravels

The sensitivity of the receptor remains as described in section 10.6.1.3.3 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report. The sediments characterising this biotope are likely to be too mobile or otherwise unsuitable for most of the INNS currently recorded in the UK. However, consolidation of sediments through installation of artificial structures may enable colonisation or establishment of INNS. This could result in predation of species which characterise the Offshore subtidal sands and gravels supporting biotopes, by mobile INNS. Therefore, this PMF is thought to have a High sensitivity to INNS.

Acknowledging that the risk of INNS cannot be completely eliminated as explained in section 4.5.1, but that embedded mitigation in the form of the INNS management plan will be in place, the magnitude of impact is assumed to be Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of INNS on Offshore subtidal sands and gravels during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
Impact significance – NOT SIGNIFICANT		

Although the consequence has been increased from 'negligible' to 'minor', there is no change to the conclusion drawn in the Offshore EIA Report that the impact from INNS is not significant in EIA terms.

4.5.3 PMF Tide swept coarse sands and burrowing bivalves

The FeAST tool advises that this PMF habitat may be threatened by the direct or indirect introduction of the following INNS: Chinese mitten crabs (*Eriocheir sinensis*), American slipper limpets *(Crepidula fornicate)* and Pacific oyster (*Magllana gigas*). The introduction and subsequent spreading of these species may result in their out-competing of native species such as *Asbjornsenia pygmaea* (unaccepted name *Moerella pygmaea*). The FeAST tool has not yet assessed the sensitivity of the habitat to INNS (Marine Scotland, 2023a).

However, Tillin and Watson (2023) have defined the resistance and resilience of the habitat against INNS. In particular, the habitat may be more suitable for colonisation by American slipper limpet *Crepidula fornicata* in wave sheltered areas of the biotope where water movement is meditated by tidal flow rather than wave action. This suggests that in more exposed areas such as that of the offshore Project area the biotope may be at less of a risk to the American slipper limpet.

Resistance is considered to be medium in examples of the habitat where wave action is high and subject to storms but low, in wave sheltered areas dominated by tidal flow i.e. conditions more aligned with the offshore Project area. Resilience is assessed as very low as removal of *C. fornicata* by artificial means would likely be required in order to restore the habitat in the wake of INNS colonisation. Hence, the overall sensitivity of the PMF Tide swept coarse sands with burrowing bivalves habitat to INNS is High.

Acknowledging that the risk of INNS cannot be completely eliminated as explained in section 4.5.1, but that embedded mitigation in the form of the INNS management plan will be in place, the magnitude of impact is assumed to be Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of INNS on Tide swept coarse sands with burrowing bivalves during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
Impact significance – NOT SIGNIFICANT		

There is no change to the conclusion drawn in the Offshore EIA Report that the impact from INNS is not significant in EIA terms.

4.5.4 PMF *Arctica Islandica*

The sensitivity of the receptor remains as described in section 10.6.1.3.4 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report. *A. Islandica* are protected under the OSPAR Convention's List of Threatened and Declining Species. No evidence exists which describes the sensitivity of *A. islandica* populations to the introduction of INNS (Tyler-Walters and Sabatini, 2017; Marine Scotland, 2023a; Marine Scotland, 2023b). Therefore, in the absence of available information, *A. islandica* are considered to have a High sensitivity to INNS.

Acknowledging that the risk of INNS cannot be completely eliminated as explained in section 4.5.1, but that embedded mitigation in the form of the INNS management plan will be in place, the magnitude of impact is assumed to be Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of INNS on *A. islandica* during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
Impact significance – NOT SIGNIFICANT		

Although the consequence has been increased from 'negligible' to 'minor', there is no change to the conclusion drawn in the Offshore EIA Report that the impact from INNS is not significant in EIA terms.

4.5.5 PMF Kelp and seaweed communities

The sensitivity of the receptor remains as described in section 10.6.1.3.2 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report. UK kelp habitats have a High sensitivity to INNS. In particular they are vulnerable to the introduction of the invasive Japanese kelp *Undaria pinnatifida*.

Acknowledging that the risk of INNS cannot be completely eliminated as explained in section 4.5.1, but that embedded mitigation in the form of the INNS management plan will be in place, the magnitude of impact is assumed to be Low.

Evaluation of significance

Taking the high sensitivity of the receptor and the low magnitude of the impact, the overall effect of INNS on Kelp and seaweed communities on Atlantic infralittoral rock during construction is considered to be Minor and not significant in EIA terms.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor
Impact significance – NOT SIGNIFICANT		

Although the consequence has been increased from 'negligible' to 'minor', there is no change to the conclusion drawn in the Offshore EIA Report that the impact from INNS is not significant in EIA terms.

4.6 Cumulative effects, transboundary and whole Project

Given that the assessment conclusions and overall EIA significance conclusions (provided within section 4.1 to 4.5) does not differ from the Offshore EIA Report, it is not considered that there would be any changes to the cumulative assessment presented in the Offshore EIA Report (section 10.7 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report). The impacts considering relevant cumulative developments (see section 10.7.1 of chapter 10: Benthic and intertidal ecology of the Offshore EIA Report) do not substantially increase from the offshore Project alone and as such as considered to be not significant in EIA terms.

The cumulative assessment and whole project assessments conclusions drawn within section 10.7 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report in relation to the PMF subtidal sands and gravels are considered applicable to the PMF Tide swept coarse sands and burrowing bivalves. This is in that the impacts considering relevant cumulative developments do not substantially increase from the offshore Project alone and as such as considered to be not significant in EIA terms.

Furthermore, there is also considered to be no changes to the whole project assessment (section 10.9), ecosystem effects (section 10.10) or transboundary effects (section 10.11) outlined in the Offshore EIA Report, chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report.

4.7 Contingency cable protection estimates

NatureScot indicated that further consideration of contingencies should be accounted for given that there is a high proportion of hard substrate which may present issues for cable burial and implication for reef and sediment habitats. Current estimates of cable protection have taken into consideration previous industry discussion around how cable protection should not be underestimated and has involved significant consideration of the current understanding of the existing substrate in the offshore Project area.

The assumption in the Offshore EIA Report was that up to 29% of the offshore export cable would require external protection, up to 20% of the total length of the inter-array cables may require external protection and up to 70% of the interconnector cables may require external protection (Table 10-15 of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report). To inform this envelope, it has been assumed that areas with gravelly sand or sandy gravel could require external protection due to the difficulties in penetrating through these sediments. However, it is expected that the actual cable protection requirements will be less than this, as burial could be achieved in gravelly sand or sandy gravel sediment types, subject to certain conditions.

Preliminary cable burial risk assessment work is ongoing and will continue up to the point of installation (post-consent). Further consideration of the offshore ECC has identified that for 17-22% of the export cable route burial may be feasible but may not reach target depth, and potentially require external protection. For the remaining 78-83% burial to the target depth is considered feasible.

The exact amount and location of cable protection required will depend on the mobility of the seabed around the cables and the depth of burial achieved. This will be determined post-consent, based on a cable burial risk assessment (CBRA), informed by Project-specific surveys and site investigations. While this work is not complete, the above estimates demonstrate the position that the predicted external protection for the export cable route has not been underestimated. It should also be noted that not achieving target burial depth does not necessarily mean cable protection will be required, it is dealt with on a case-by case basis considering several factors. Taking all this into account, the Offshore EIA Report has remained unchanged with regards to cable protection requirements.

NatureScot confirmed via written correspondence in March 2024 that they were content with the additional information and that the assessment provided in the EIA Report is based on the worst case scenario with respect to cable protection measures.

4.8 Benthic monitoring

A benthic monitoring plan will be produced for the Project, as part of the PEMP during the post-consent phase through consultation with NatureScot and MD-LOT. The approach to monitoring will be determined in discussion with NatureScot and other relevant stakeholders during the post-consent stage. The monitoring programme will provide pre-construction and post-construction environmental data which are expected to involve geophysical surveys and, environmental sampling using methods compatible with those used in the Project specific surveys (see Supporting Study 5: Benthic environmental baseline report). This approach was previously outlined in section 10.12 Summary of mitigation and monitoring of chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report. A focus of the monitoring surveys will be to define the extent and quality of key sensitive receptors e.g. Annex I stony reef. It is intended that the post-construction monitoring will help to corroborate the conclusions of

the EIA. In addition, OWPL are aware that ScotMER are currently developing a review of benthic monitoring designs to provide recommendations in the context of offshore renewable developments in Scottish Waters and this will be consulted when available and used to develop the benthic monitoring plan.

4.9 INNS management plan

NatureScot have requested a commitment to an appropriate mitigation and monitoring plan in relation to INNS. The requirement for a marine INNS Management Plan is expected to be a condition of consent, which will be an update of the outline plan submitted with the Offshore Application.

The Project is aware of legislation, policy, and guidance relevant to INNS, and this will be included in the final version of the INNS Management Plan (within the EMP):

- EU Regulation 11/43/2014 on the prevention and management of the introduction – The Invasive Non-Native Species (Amendment etc.) (EU Exit) Regulations 2019;
- The Animal Welfare and Invasive Non-Native Species (Amendment etc.) (EU Exit) Regulations 2020;
- The Wildlife and Countryside Act 1981;
- International Conversion for the Control and Management of Ships' Ballast Water and Sediments (adopted in 2004);
- The Merchant Shipping (Anti-Fouling Systems) Regulations 2009;
- Resolution MEPC.207(62) 2011 Guidelines for the Control and Management of Ships Biofouling to Minimize the Transfer of Invasive Aquatic Species;
- Marine Biosecurity Planning. Guidance for Producing Site and Operation-based Plans for Preventing the Introduction of Non-Native Species (Payne *et al.*, 2014); and
- Ballast Water Management Policy for Scapa Flow (Orkney Islands Council Harbour Authority).

In Scotland, INNS are covered by Section 14 of the Wildlife and Countryside Act 1981. This regulation was amended in 2012 when the INNS section of the Wildlife and Natural Environment (Scotland) Act 2011 came into force. In 2012, the Scottish Government published the Code of Practice on Non-Native Species (Scottish Government, 2012), which sets out a framework of responsibilities for bodies with powers relating to INNS. The Code provides practical guidance on how developers should act responsibly and within the law to ensure that INNS do not cause harm to the marine environment. This Code focuses on a three-tiered approach, including prevention, rapid response and control and containment.

Furthermore, Scottish Government (2020), which aims to protect and restore biodiversity, supporting healthier ecosystems, recognises INNS as a "significant threat to our marine biodiversity and industries such as aquaculture". It also highlights the need to "implement a rapid-response framework to prevent colonisation of new invasive species in Scotland's seas and islands", as they represent a significant threat to marine biodiversity (Scottish Government, 2020). If the Project is to make use of Scapa Flow, there is a Ballast Water Management Policy specific to this area.

The outline INNS Management Plan (within the EMP) will be updated post consent once relevant Project details are available. It will be informed by all relevant legislation and guidance and a risk assessment and include consideration of all aspects of the Project (construction, operation and maintenance and decommissioning) and vessel operations, identifying the measures necessary to prevent and/or reduce the risk of introducing and/or spreading INNS in the

marine environment and reflect the three-tiered approach outlined above. It is important to note that the INNS Management Plan will include a detailed assessment of the risks associated with the introduction and spread of INNS. The specific risks will be able to be confirmed following detailed design and contractor appointment. At present it is expected that the main risk with regards to the potential introduction of INNS will be from vessel ballast water or from the hull of vessels and structures that are towed from elsewhere. There are currently no plans to wet tow assets to site although this option has not been ruled out. If the assessment determines that the inherent risk requires INNS monitoring, then an appropriate INNS monitoring plan will be developed and agreed with the MD-LOT and implemented.

NatureScot confirmed via written correspondence that they were content with the additional information provided on INNS mitigation and monitoring.

5 SUMMARY AND CONCLUSION

Additional baseline and assessment information has been provided in response to the request for additional information by MD-LOT and their advisers. Key additional information includes:

- Clarification on the extent of Annex I reef in the national context;
- Re-mapping of Annex I Reef, PMF habitats and species;
- Clarification on the presence of *Sabellaria spinulosa* aggregations/possible biogenic reef and;
- Clarification on the presence and distribution of the PMF *Arctica islandica* including juveniles, adults and empty shells from the site specific surveys.
- Assessment of the following effects:
  - Temporary loss and disturbance to Annex I Reef, PMF Tide swept coarse sands and burrowing megafauna;
  - Long term loss or disturbance to Annex I Reef, PMF subtidal sands and gravels and PMF Tide swept coarse sands and burrowing megafauna;
  - Effects of the risk of INNS on all receptors (based on magnitude of effect increase from negligible to low); and
  - Consideration given to cumulative, transboundary and whole project impacts.

The re-consideration of *Sabellaria* classification, distribution of PMF habitats and PMF *Arctica islandica* did not materially alter the original baseline characterisation presented in chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report.

Further assessment of the impacts requested by MD-LOT and NatureScot have not resulted in any changes to the conclusions reached within the chapter 10: Benthic subtidal and intertidal ecology of the Offshore EIA Report and have not resulted in any significant effects being identified. Overall, there are no significant long-term impacts anticipated from the offshore Project on any of the benthic receptors assessed and no adverse effects are predicted on their ecological function or viability.

In conclusion, with reference to the features covered by this assessment, it can be concluded that there is no potential for significant adverse effects on benthic receptors. This finding is in relation to potential effects from offshore Project in any or all phases (construction, operation and maintenance and decommissioning) individually or cumulatively. Therefore, this report supports the conclusions of the original Offshore EIA Report. A benthic monitoring plan will be produced for the Project, as part of the PEMP during the post-consent phase through consultation with NatureScot and MD-LOT.

A meeting was held with NatureScot (26th July 2024) to discuss the content of this addendum to chapter 10: Benthic subtidal and intertidal of the Offshore EIA Report. Overall, NatureScot agreed with the content proposed for and overall conclusions of the addendum to chapter 10: Benthic subtidal and intertidal of the Offshore EIA Report.

The HRA process for the offshore Project screened out any LSE on European sites designated for Annex I Habitats (as documented within the original RIAA). No other additional information has been requested on the conclusions of the RIAA in relation to these elements and while additional information is provided on the EIA, none of the information provided will change the conclusions of the HRA process and the RIAA.

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7 ACRONYMS

ACRONYM	DEFINITION
CBRA	Cable Burial Risk Assessment
ECC	Offshore Export Cable Corridor
EEC	European Economic Community
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EMP	Environmental Management Plan
EU	European Union
EUNIS	European Nature Information System
FeAST	Feature Activity Sensitivity Tool
GeMS	Geodatabase of Marine features adjacent to Scotland
HRA	Habitats Regulations Appraisal
INNS	Invasive Non-Native Species
JNCC	Joint Nature Conservation Committee
km	Kilometres
LSE	Likely Significant Effects
m	Metres
MarESA	Marine Evidence based Sensitivity Assessment
MarLIN	The Marine Life Information Network
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High-Water Springs
MNCR	Marine Nature Conservation Review
NMPi	National Marine Plan Interactive
OAA	Option Agreement Area
OI	Ocean Infinity
OIC	Orkney Islands Council
OSPAR Convention	Convention for the Protection of the Marine Environment of the North East Atlantic
OSPs	Offshore Substation Platform
OWF	Offshore Wind Farm
OWPL	Offshore Wind Power Limited
PEMP	Project Environmental Monitoring Programme
PMF	Priority Marine Features
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List

ACRONYM	DEFINITION
UK	United Kingdom
UKCS	UK Continental Shelf
WTG	Wind Turbine Generator