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MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Marine conservation zone screening report

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Image of an offshore wind farm

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited
Benthic ecology	Benthic ecology encompasses the study of the organisms living in and on the sea floor, the interactions between them and impacts on the surrounding environment.
Biogenic reef	Reefs made up of hard matter created by living organisms.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Morgan Offshore Wind Project: Generation Assets.
Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.
Geomorphological	Relating to the form or surface features of the earth.
Inter-array cables	Cables which connect the wind turbines to each other and to the offshore substation platforms. Inter-array cables will carry the electrical current produced by the wind turbines to the offshore substation platforms.
Interconnector cables	Cables that may be required to interconnect the Offshore Substation Platforms in order to provide redundancy in the case of cable failure elsewhere.
Intertidal	Area of a shoreline that is covered at high tide and uncovered at low tide.
Landfall	The area in which the offshore export cables make contact with land and the transitional area where the offshore cabling connects to the onshore cabling.
Marine Conservation Zone (MCZ) Assessment	An assessment of the potential for the Morgan Generation Assets to affect the protected features of a MCZ, and any ecological or geomorphological processes on which the protected feature is dependent on.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for a DCO to apply for 'deemed marine licences' as part of the DCO process.
MCZ Screening	The process of determining whether section 126 of the Marine and Coastal Access Act 2009 should apply to a project's application for marine licences.
Mean High Water Spring	The most inshore level location reached by the sea at high tide during mean high water spring tide. This is defined as the average throughout the year, of two successive high waters, during a 24 hour period in each month when the range of the tide is at its greatest.
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, scour protection, cable protection and offshore substation platforms (OSPs) forming part of the Morgan Generation Assets will be located.
Morgan Potential Array Area	The area that was presented in the Morgan Generation Assets Preliminary Environmental Information Report (PEIR) as the area within which the wind turbines, foundations, meteorological mast, inter-array cables, interconnector cables, offshore export cables and OSPs forming The Morgan Generation Assets. This area was the boundary consulted on during statutory consultation and subsequently refined for the application for Development Consent.
Morgan Array Scoping Boundary	The Preferred Bidding Area that the Applicant was awarded by The Crown Estate as part of Offshore Wind Leasing Round 4.

Term	Meaning
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
Offshore Substation Platform (OSP)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Subtidal	Area extending from below low tide to the edge of the continental shelf.
Suspended sediments	Particles that are suspended in the water column.
Tidal excursion	Horizontal distance that a particle moves during one tidal cycle of ebb and flow.
Underwater sound	Sound waves made underwater.
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.

Acronyms

Acronym	Description
Cefas	Centre for Environment, Fisheries and Aquaculture
DCO	Development Consent Order
Defra	Department of Environment, Food and Rural Affairs
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
EWG	Expert Working Group
JNCC	Joint Nature Conservation Committee
MCZ	Marine Conservation Zone
MEEB	Measures of Equivalent Environmental Benefit
MMO	Marine Management Organisation
MPA	Marine Protected Area
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
SNCB	Statutory Nature Conservation Body
SSC	Suspended Sediment Concentrations
TWT	The Wildlife Trust
ZoI	Zone of Influence

Units

Unit	Description
km	Kilometre
m	Metre
mg/l	Milligrams per litre
mm	Millimetre
MW	Megawatt
nm	Nautical mile
º	Degrees
%	Percentage

1 Marine Conservation Zone screening report

1.1 Introduction

1.1.1 Overview of the Morgan Offshore Wind Project: Generation Assets

1.1.1.1 Morgan Offshore Wind Limited (hereafter referred to as the Applicant), a joint venture of bp Alternative Energy Investments Ltd (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW), is developing the Morgan Offshore Wind Project Generation Assets (hereafter referred to as the Morgan Generation Assets). The Morgan Generation Assets is a proposed wind farm located in the east Irish Sea.

1.1.1.2 The Morgan Generation Assets will consist of up to 96 wind turbines. The final capacity of the Morgan Generation Assets will be determined based on available technology and constrained by the design envelope presented in Volume 1, Chapter 3: Project description of the Environmental Statement (Document Reference F1.3). The offshore infrastructure will also include up to 60 km of interconnector cables and 390 km of inter-array cables.

1.1.1.3 The Applicant intends to commence construction of the Morgan Generation Assets in 2026 and for it to be fully operational by 2030 in order to help meet UK and Welsh Government renewable energy targets. The Morgan Generation Assets will have a lifetime of 35 years.

1.1.2 Purpose of the report

1.1.2.1 As the Morgan Generation Assets is an offshore generating station with a capacity of greater than 100 MW located wholly in English waters, it is a Nationally Significant Infrastructure Project (NSIP) as defined by Section 15(3) of the Planning Act 2008 (as amended) (the 2008 Act). As such, there is a requirement to submit an application for a Development Consent Order (DCO) to the Planning Inspectorate to be decided by the Secretary of State for the Department for Energy Security and Net Zero. A marine licence is required before carrying out any licensable marine activity under the Marine and Coastal Access Act 2009. For the Morgan Generation Assets, marine licences will be deemed under the DCO for licensable activities in English waters.

1.1.2.2 This Marine Conservation Zone (MCZ) screening assessment has been prepared in support of both the DCO and deemed marine licences applications. Section 126 of the Marine and Coastal Access Act 2009 places specific duties on the regulating authority (i.e. the Secretary of State in relation to the DCO application) when determining applications for consent that require the authority to consider the potential impact of a project on MCZs.

1.1.2.3 This MCZ screening assessment report is intended to inform the assessment required to be undertaken by the regulating authority when considering whether there is or may be a significant risk of the Morgan Generation Assets (i.e. the act) hindering the achievement of the conservation objectives stated for any MCZ.

1.1.2.4 The MCZ screening has been undertaken based on the Morgan Generation Assets information detailed within Volume 1, Chapter 3: Project description of the Environmental Statement (Document Reference F1.3).

1.1.2.5 This MCZ screening report should be read alongside the following technical reports and chapters of the Environmental Statement, all of which have been drawn upon and referred to throughout this document:

- Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1)
- Volume 4, Annex 2.1: Benthic subtidal ecology technical report of the Environmental Statement (Document Reference F4.2.1)
- Volume 2, Chapter 1: Physical processes of the Environmental Statement (Document Reference F2.1)
- Volume 2, Chapter 2: Benthic subtidal ecology of the Environmental Statement (Document Reference F2.2)
- Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3)
- Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4)
- Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5).

1.1.3 Structure of the report

1.1.3.1 The structure of this MCZ screening assessment report is as follows:

- Section 1.1 – introduction to the Morgan Generation Assets and purpose of this report
- Section 1.2 – relevant consultation undertaken to date with respect to the MCZ screening
- Section 1.3 – legislative framework for MCZ assessments and the requirements of the Marine Coastal and Access Act 2009
- Section 1.4 – methodology, including description of the staged approach to the MCZ assessment following the relevant published guidelines
- Section 1.5 – MCZ screening
- Section 1.6 – conclusion
- Section 1.7 – references.

1.2 Consultation

1.2.1.1 A summary of the key matters raised during consultation activities undertaken to date specific to the MCZ screening assessment is presented in Table 1.1 below.

Table 1.1: Summary of key consultation topics raised during consultation activities undertaken for the Morgan Generation Assets relevant to the MCZ screening.

Date	Consultee and type of response	Comment	Response to comment raised and/or where considered in this report
14 July 2022	Natural England – Morgan Environmental Impact Assessment (EIA) Scoping Opinion	The Environmental Statement should include a full assessment of the direct and indirect effects of the development on the features of special interest within these sites and should have identified such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.	This MCZ screening report considers the potential for direct and/or indirect effects from the Morgan Generation Assets to affect (other than insignificantly) the protected features of any MCZ.
		The Environmental Statement should include information on the impacts of the Morgan Generation Assets on MCZ interest features, to inform the assessment of impacts on habitats and species of principal importance for this location.	For each of the receptor groups screened in (see section 1.5), MCZs with relevant features have been identified. The conclusions regarding the potential impact or lack of impact on these sites are summarised in Table 1.2.
14 July 2022	Marine Management Organisation (MMO) - Morgan EIA Scoping Opinion	The MMO defers to Natural England as the Statutory Nature Conservation Body (SNCB) on the suitability of the scope of the assessment with regards to Marine Protected Areas (MPAs).	The Applicant acknowledges the response from the MMO and has considered the comments from Natural England throughout the evidence plan process in regards to the screening of MCZs. The conclusions regarding the potential impact or lack of impact on these sites are summarised in Table 1.2.
29 November 2022	MMO, Natural England, Joint Nature Conservation Committee (JNCC), Natural Resources Wales (NRW), Centre for Environment, Fisheries and Aquaculture (Cefas), The Wildlife Trust (TWT) and Isle of Man Government - Benthic ecology, fish and shellfish and physical processes Expert Working Group (EWG) Meeting 2	Discussion on the preliminary MCZ screening presented in the Morgan Generation Assets Scoping Report which concluded that no MCZs would be affected.	The Applicant recognised that no comments were made regarding the MCZ screening, therefore the results and conclusions of the MCZ screening remain as presented in sections 1.5 and 1.6 respectively.
14 March 2023	MMO, Natural England, NRW, Cefas, JNCC, TWT and the Isle of Man Government - Benthic ecology, fish and shellfish and physical processes EWG Meeting 3	A discussion on MCZ screening took place in the meeting. It was highlighted that the preliminary screening undertaken for the Morgan Generation Assets Scoping Report has been updated with the outputs of the project-specific physical processes modelling and underwater sound modelling to refine the MCZ screening process.	The Applicant recognised that no comments were made by the stakeholders regarding the MCZ screening, and the updated physical processes and underwater sound modelling have been added to section 1.5.

1.3 Legislative framework

1.3.1.1 In English territorial (i.e. within 12 nm) and offshore waters, MCZs are designated under the Marine Coastal and Access Act 2009 and, together with other international and national designations, contribute to an ecologically coherent network of MPAs.

1.3.1.2 Section 126 of the Marine and Coastal Access Act 2009 places specific duties on regulatory bodies relating to MCZs and marine licence decision making. This is because section 126 applies where:

- *(a) A public authority has the function of determining an application (whenever made) for authorisation of the doing of an act, and*
- *(b)The act is capable of affecting (other than insignificantly) -*
  - *(i) The protected features of an MCZ and/or*
  - *(ii) Any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependent.*

1.3.1.3 The authority must not grant authorisation for activities licensed under the Marine and Coastal Access Act 2009 unless the Applicant seeking the authorisation satisfies the authority that there is no significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ.

1.3.1.4 The SNCBs have responsibility under the Marine and Coastal Access Act 2009 to give advice on how to identify the activities that are capable of affecting the designated features and the processes which they are dependent upon.

1.3.1.5 If the Applicant seeking the authorisation is not able to satisfy the authority that there is no significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ, that Applicant must satisfy the authority that:

- There is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of those objectives and
- The benefit to the public of proceeding with the act clearly outweighs the risk of damage to the environment that will be created by proceeding with it and
- The person seeking the authorisation will undertake, or make arrangements for the undertaking of, measures of equivalent environmental benefit to the damage which the act will or is likely to have in or on the MCZ.

1.4 MCZ assessment methodology

1.4.1 Overview

1.4.1.1 This MCZ screening has been informed by guidance published by the MMO which describes how MCZ Assessments could be undertaken in the context of marine licensing decisions (MMO, 2013). These MMO guidelines recommend a staged approach to the assessment, with three sequential stages:

1. Screening
2. Stage 1 assessment
3. Stage 2 assessment.

1.4.1.2 These stages are shown in Figure 1.1 and are described in detail in sections 1.4.2 to 1.4.4.

1.4.1.3 In the absence of published Planning Inspectorate guidance or advice on MCZ Assessments for DCO applications, the MMO (2013) guidance is considered appropriate to inform the assessment for the Morgan Generation Assets.

1.4.2 Screening

1.4.2.1 According to the MMO (2013) guidance, all marine licence applications must be screened to determine, in the first instance, whether section 126 of the Marine and Coastal Access Act 2009 applies. Section 126 applies if it is determined through the course of screening that:

- The licensable activity is taking place within or near an area being put forward or already designated as an MCZ and
- The activity is capable of affecting (other than insignificantly) either:
  - (i) the protected features of an MCZ
  - (ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependent.

1.4.2.2 The MMO (2013) guidance recommends the use of a risk-based approach to determine the 'nearness' of an activity to MCZs, including applying an appropriate buffer zone to the MCZ protected features under consideration as well as a consideration of risks for activities at greater distances from protected features of the MCZ(s).

1.4.2.3 In determining 'insignificance', the MMO (2013) guidance states that consideration should be given to the likelihood of an activity causing an effect, the magnitude of the effect should it occur, and the potential risk any such effect may cause to either the protected features of an MCZ or any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependent.

1.4.2.4 A preliminary MCZ screening exercise was undertaken for the Morgan Generation Assets in the Morgan EIA Scoping Report (Morgan Offshore Wind Project Ltd, 2022) which concluded that the Morgan Generation Assets may have the potential to directly or indirectly affect the interest features of the West of Walney MCZ and the West of Copeland MCZ. The preliminary MCZ screening considered the following criteria:

- MCZs with physical overlap with the Morgan Array Area (Figure 1.2)
- MCZs within the Zone of Influence (ZoI) for individual topics:
  - Benthic ZoI comprising a buffer of one mean tidal excursion from the Morgan Array Area to capture indirect effects such as those from increased suspended sediment concentrations (SSC) and associated deposition
  - Fish ZoI comprising a buffer of one mean tidal excursion from the Morgan Array Area to capture the area most likely to be affected by underwater sound.

1.4.2.5 Following the preliminary screening undertaken in the Morgan EIA Scoping Report (Morgan Offshore Wind Project Ltd, 2022), more detailed information presented within the offshore chapters of the Environmental Statement has been reviewed. This has been undertaken to further validate the screening buffers for benthic features and fish features and also to fully define the screening buffer for other highly mobile species (i.e. marine mammals and birds). This more detailed review has also been undertaken to confirm whether the Morgan Generation Assets is taking place within or near an area being put forward or already designated as an MCZ and whether the licensable

activities are capable of significantly affecting (other than insignificantly) either i) the protected/proposed features of those sites within the screening buffers, or ii) any ecological or geomorphological processes on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant. This included a review of outputs from Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1) and Volume 2, Chapter 2: Benthic subtidal ecology of the Environmental Statement (Document Reference F2.2) to identify potential far field effects (e.g. increases in SSC), and changes to the tidal and wave regime due to the operation of the Morgan Generation Assets. This also included a review of outputs from Volume 3, Annex 3.1: Underwater sound technical report of the Environmental Statement (Document Reference F3.3.1), Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3) and Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F2.4) to identify potential far field effects from underwater sound due to the construction of the Morgan Generation Assets.

1.4.2.6 Where robust evidence is available from the Environmental Statement to further justify screening out MCZs, this evidence has been referenced and justification presented within section 1.5 below.

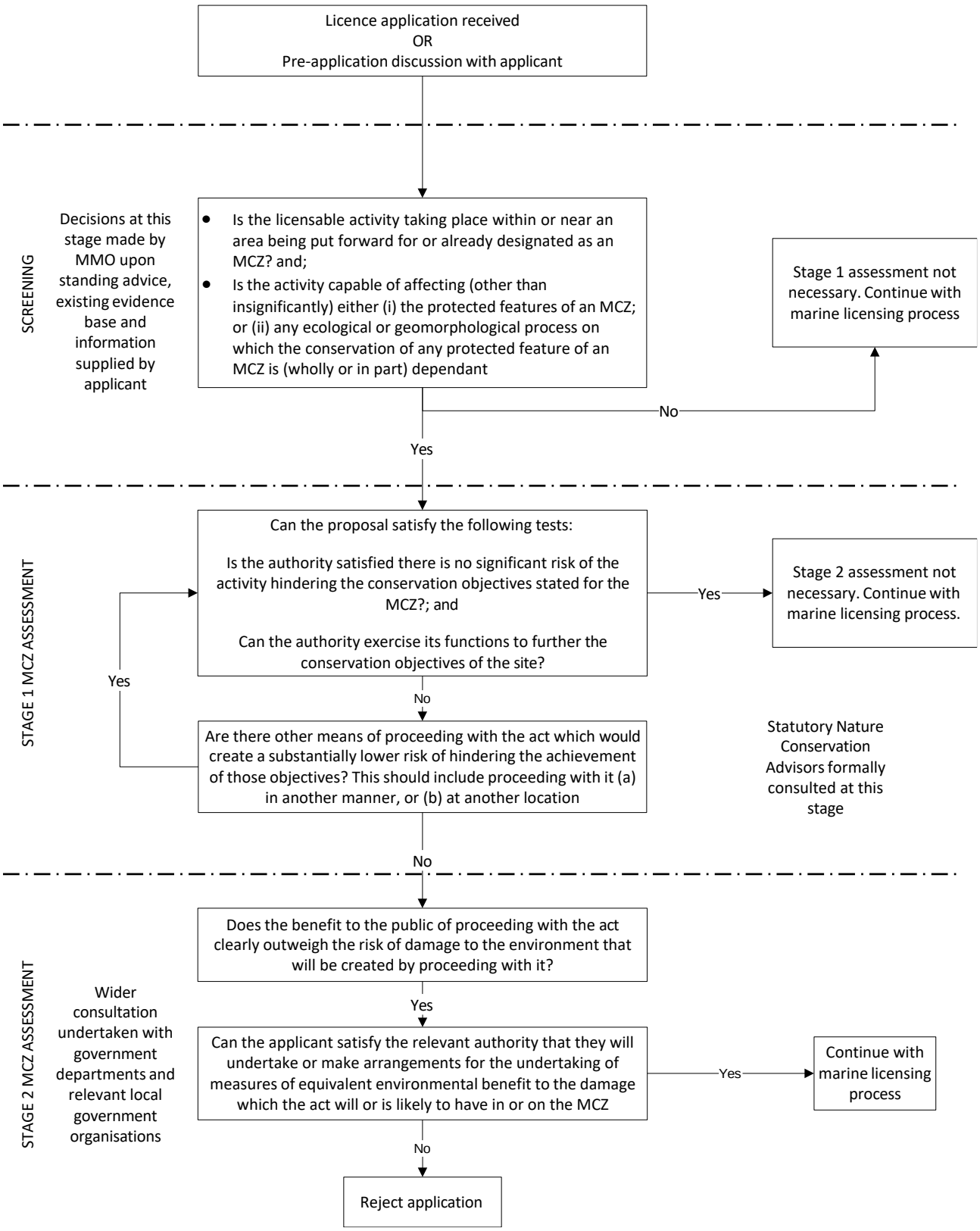

Figure 1.1: Summary of the MCZ assessment process to be used by the MMO in marine licence decision making (MMO, 2013).

1.4.3 Stage 1 assessment methodology

1.4.3.1 For MCZs identified through the screening stage, the Stage 1 assessment considers whether the conditions in section 126(6) of the Marine and Coastal Access Act 2009 can be met. The decision-maker must be satisfied there is no significant risk of the activity hindering the achievement of the conservation objectives stated for the MCZ. In doing so the MMO (2013) guidelines suggest the decision-maker uses the information supplied by the applicant with the licence application, advice from the SNCBs and any other relevant information. If the condition in section 126(6) of the Marine and Coastal Access Act 2009 cannot be met, the Stage 1 assessment also considers whether the condition in section 126(7)(a) can be met. In doing so the decision maker must determine whether:

- There is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of the conservation objectives stated for the MCZ. This should include proceeding with it (a) in another manner, or (b) at another location.

1.4.3.2 In undertaking a Stage 1 assessment, the decision-maker must formally consult with SNCBs for a period of 28 days (under sections 126(2) and (3) of the Marine and Coastal Access Act 2009) unless the SNCB notifies the decision-maker that it need not wait, or the decision-maker determines that there is an urgent need to grant authorisation (in accordance with section 126(4) of the Marine and Coastal Access Act 2009).

1.4.3.3 In the Stage 1 assessment, the conservation objectives for the MCZ features must be considered. While conservation objectives for individual MCZs or certain features are often site-specific, the two overarching conservation objectives defined for MCZs are:

- To maintain a feature in favourable condition if it is already in favourable condition
- To bring a feature into favourable condition if it is not already in favourable condition.

1.4.3.4 Within the Stage 1 assessment, the MMO (2013) guidance advises that ‘hinder’ would be any act that could, either alone or in combination:

- In the case of a conservation objective of ‘maintain’, increase the likelihood that the current status of a feature would go downwards (e.g. from favourable to degraded) either immediately or in the future (i.e. they would be placed on a downward trend)
- In the case of a conservation objective of ‘recover’, decrease the likelihood that the current status of a feature could move upwards (e.g. from degraded to favourable) either immediately or in the future (i.e. they would be placed on a flat or downward trend).

1.4.3.5 The MMO (2013) guidance states that when considering whether an activity can hinder the conservation objectives of a site, consideration should be given to direct impacts of an activity upon a feature as well as any applicable indirect impacts. Such an indirect impact could include the changing effectiveness of a management measure put in place to further the conservation objectives.

1.4.3.6 The Applicant should also be able to demonstrate, for the purposes of the condition in section 126(7)(a) of the Marine and Coastal Access Act 2009, that any ‘other means’

of proceeding reduces the risk such that the act no longer has a significant risk of hindering the conservation objectives of the site.

1.4.3.7 In the event that mitigation to reduce the impacts to an acceptable level cannot be secured, and there are no other means that substantially lower the risk of hindering the achievement of the conservation objectives, then a Stage 2 assessment would be required (see section 1.4.4).

1.4.4 Stage 2 assessment methodology

1.4.4.1 The Stage 2 assessment, if required, considers whether the conditions in sections 126(7)(b) and (c) of the Marine and Coastal Access Act 2009 can be met. The MMO (2013) guidance advises that the decision maker should use information supplied by the applicant, advice from the SNCBs and any other relevant information to determine whether:

- The benefit to the public of proceeding with the act clearly outweigh the risk of damage to the environment that will be created by proceeding with it; and, if so, then whether
- The applicant can satisfy the MMO that they will undertake or make arrangements for the undertaking of Measures of Equivalent Environmental Benefit (MEEB) to the damage which the act will or is likely to have in or on the MCZ.

1.4.4.2 The above determinations should be addressed in sequence, that is, if the public benefit test is not 'passed' then a consideration of MEEB would not be made as the application would be rejected (MMO, 2013).

1.4.4.3 In determining 'public benefit', the decision maker should consider benefits at a national, regional or local level.

1.4.4.4 The MMO (2013) guidance suggests that the types of compensatory measures, if deemed necessary, that might be considered under the Habitats Directive may also be appropriate when determining MEEB, although consideration will not be confined to those measures alone.

1.5 MCZ screening for the Morgan Generation Assets

1.5.1 Overview

1.5.1.1 This section documents the MCZ screening for the Morgan Generation Assets. The screening considers all MCZs located within the relevant study areas as shown in Figure 1.2:

- Benthic receptors – the regional benthic subtidal ecology study area as defined in Volume 2, Chapter 2: Benthic subtidal ecology of the Environmental Statement (Document Reference F2.2)
- Fish receptors – the Morgan fish and shellfish ecology study area as defined in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3)
- Marine mammals – the regional marine mammal study area (i.e. the Irish Sea and wider Celtic Sea) as shown in Figure 4.4 of Volume 2, Chapter 4: Marine mammals of the Environmental Statement (Document Reference F4.4)

- Birds – a 100 km buffer of the Morgan Generation Assets as defined in Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement (Document Reference F2.5).

1.5.1.2 As outlined in paragraph 1.4.2.1, the MMO (2013) guidelines suggest that section 126 would apply if it is determined through the course of screening that 'the licensable activity is taking place within or near an area being put forward or already designated as an MCZ'. The following sections use the information presented in the Environmental Statement to define the ZoI for the Morgan Generation Assets. These ZoI have been used to determine the 'nearness' of the activities associated with the Morgan Generation Assets and therefore to identify whether the Morgan Generation Assets is likely to have the potential to directly or indirectly affect the interest features of any MCZ.

1.5.1.3 Features protected by MCZs include benthic habitats and species, and highly mobile species (i.e. fish, marine mammals and birds). The impact pathways and associated ZoI considered within this screening assessment are those that specifically relate to these receptors and draw on technical outputs of the reporting undertaken for the Environmental Statement.

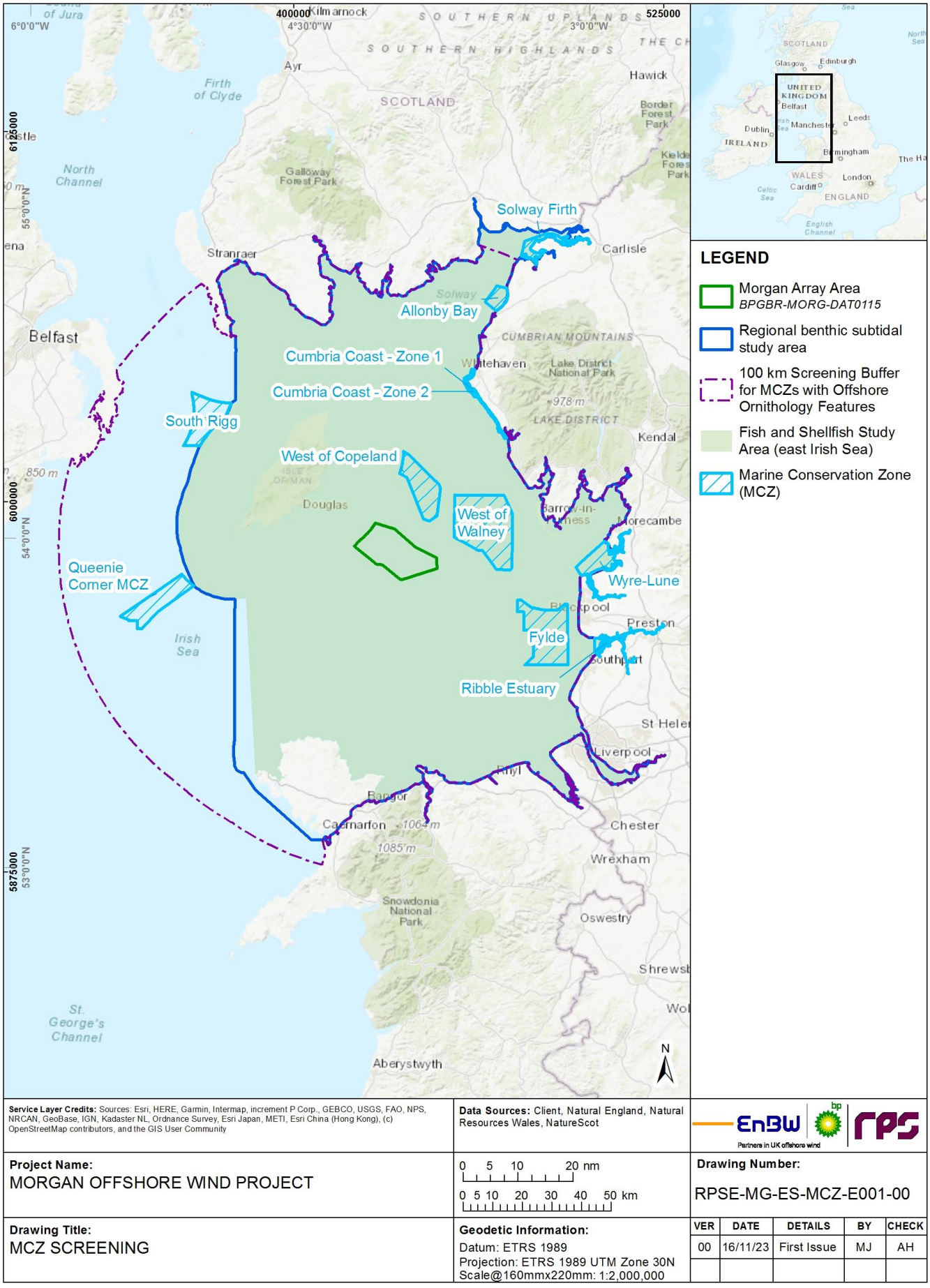

Figure 1.2: MCZs considered within the MCZ screening for the Morgan Generation Assets.

1.5.2 Screening criteria for benthic habitat features of MCZs

1.5.2.1 A total of seven MCZs located within the regional benthic subtidal and intertidal ecology study area are designated for benthic habitat features and have, therefore, been considered within this screening (see Table 1.2):

- Fylde MCZ
- West of Walney MCZ
- West of Copeland MCZ
- Cumbria Coast MCZ
- Queenie Corner MCZ
- South Rigg MCZ
- Allonby Bay MCZ.

1.5.2.2 To determine the 'nearness' of the activities associated with the Morgan Generation Assets, and the potential for associated activities to affect (other than insignificantly) either i) the protected habitat features of these sites or ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant, the following screening criteria has been used for MCZs with benthic features:

- Direct impacts to benthic habitats and species (e.g. those potentially arising from temporary habitat disturbance, long term habitat loss, colonisation of hard structures, electromagnetic fields (EMF), heats effects from cabling) will be confined to within the Morgan Array Area. There is no physical overlap between the Morgan Generation Assets and any benthic habitat or benthic species feature of an MCZ (see Figure 1.2). As such, no MCZs are screened in for this criteria
- Indirect impacts to benthic habitats and species of MCZs may potentially occur as a result of increases in SSC (including remobilisation of contaminated sediments), sediment deposition, and also from the physical presence of the Morgan Generation Assets infrastructure resulting in potential changes in physical processes. Physical processes modelling has been undertaken to inform the Environmental Statement and is presented in Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1). This has modelled the predicted increases in SSC and associated sediment deposition for construction activities including sandwave clearance, drilling for foundation installation and cable installation, which has defined the ZoI as follows:
  - During drilling for foundation installation, the scenarios modelled in Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1) considered a range of locations across the Morgan Array Area with two concurrent drilling operations at adjacent locations. The modelled drilled pile installations on the northeast and southeast boundary of the Morgan Array Area (i.e. those with the greatest potential to result in impacts to the MCZs) are anticipated to generate plumes with a peak suspended sediment level of approximately 50 mg/l, and average values of less than one fifth of this magnitude. The total plume envelope is predicted to extend up to approximately 22 km (i.e. ~12 km to the southwest

and ~10 km to the northeast) during drilling in the northeast of the Morgan Array Area and up to approximately 13 km (southwest to northeast, ~6.5 km in each direction) during drilling in the southeast of the Morgan Array Area. Following the cessation of drilling the turbidity levels reduce within a few hours as tidal currents reduce. Some of the finer material associated with the drilling process is re-suspended during successive tides as it is redistributed but turbidity levels remain low. The sedimentation beyond the immediate drilling location is indiscernible (less than 0.1 mm) and, as noted above, would be indiscernible within the West of Walney MCZ and the West of Copeland MCZ. This is due to the relatively slow drilling rate (0.89 m/hour), allowing the fine sediment to be widely dispersed while the larger material settles at the release point due to the limited current speed

- During inter-array and inter-connector sandwave clearance activities, the dredging phase plumes are predicted to result in increases in SSC which are lower than during the dumping phase, with concentrations of <50 mg/l
- During the dumping phase, increases in SSC concentrations of up to 3,000 mg/l above background levels are predicted at the release site (Figure 1.3). The extent of the plume generated during deposition is expected to be most extensive when the deposited material is redistributed on the successive tides, with average SSC levels of <500 mg/l above background levels predicted to occur within a plume envelope of approximately 20 km (i.e. up to 10 km in any direction from the point of release; Figure 1.3). Increases in SSC in the vicinity of the West of Walney MCZ and the West of Copeland MCZ are predicted to the in the region of <1 mg/l. Average sedimentation associated with the deposition of sandwave clearance material within the Morgan Array Area is predicted to be focussed to within 100 m of the site of release, and concentrations of typically less than 0.5 mm at this distance (Figure 1.4, with dispersion predicted on successive tides
- During inter-array cable installation, peak plume concentrations are highest at the release site (up to 500 mg/l for inter-array cables) with the sediment settling during slack water becoming resuspended in the form of an amalgamated plume. The greatest extent of increased SSC is predicted to occur within a total plume envelope width of approximately 33 km (i.e. total extent southwest to northwest across the modelled inter-array cable installation site). This is shown in Figure 1.5, which highlights the wide dispersal area of the trenching plume, however the predicted suspended sediment concentrations which may occur within the West of Copeland MCZ are less than 1 mg/l. Sedimentation levels of up to 50 mm are predicted to occur at the trench site with sediment depths reducing moving away from the trench (Figure 1.6)
- On the basis of modelling undertaken in Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1) as summarised above, increases in SSC were predicted to occur within a maximum plume envelope of approximately 22 km (i.e. 11 km in either direction), which corresponds with the tidal excursion. On the basis of the modelling outlined above, a precautionary buffer of 12 km has been adopted to screen sites within the ZoI of increased SSC, sediment deposition and changes in physical processes. Two MCZs fall within this 12 km ZoI and have been considered further: West of Walney MCZ and West of Copeland MCZ. Following detailed consideration of the magnitude of the increases in SSC and sedimentation within the 12 km ZoI and at the distances of these two

MCZs (i.e. 9.3 km and 8.8 km for the West of Walney MCZ and West of Copeland MCZ, respectively) any increases in SSC and sediment deposition at these distances from the Morgan Array Area would be so minimal that they would be imperceptible from natural background variation and would therefore not be capable of resulting in anything other than insignificant effects on protected features of an MCZ. On this basis, no MCZs are screened in for increased SSC or changes in physical processes impact pathways

- There is the potential during certain conditions, namely flood tides coupled with wind from the southwest, that during construction activities such as sandwave clearance or trenching in the east of the Morgan Array Area, sediment plumes may extend to the west edge of the West of Walney MCZ and south tip of the West of Copeland MCZ. However, prior to reaching the west edge of the West of Walney MCZ and south tip of the West of Copeland MCZ, significant dispersion will have occurred with the suspended sediment concentrations outside the MCZ boundary predicted to be well below 1 mg/l (Figure 1.3 and Figure 1.5)
- Modelling presented in Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1) indicated changes in tidal flows, as a result of the physical presence of foundations, will be limited to, and would be imperceptible beyond, the immediate Morgan Array Area. Under certain circumstances, namely at times of peak current speeds during flood tides with storms approaching from the southwest, changes in littoral currents may extend to the west boundary of the West of Walney MCZ and the West of Copeland MCZ. However these values amount to changes of less than ±0.022% of the preconstruction tidal current speed and would be indistinguishable from natural variations and the resulting influence on sediment transport characteristics would be very slight. There is also potential for changes in wave climate. Under certain circumstances changes in wave climate may extend to the periphery of the West of Walney MCZ and West of Copeland MCZ. During a 1 in 20 year storm from 270º a significant wave height of 5.5 m may be reduced by 4 mm (0.07%) at the south boundary of the West of Walney MCZ. For a 1 in 20 year storm from 210º the change in significant wave height at the south end of the West of Copeland MCZ is approximately 5 mm. In each case this represents a reduction of less than 0.1% from the preconstruction wave climate and would be indistinguishable from natural variations and the resulting influence on sediment transport characteristics would be *de minimis*. Under certain circumstances, with more extreme storms approaching from the southwest, changes in residual currents may extend to the west edge of the West of Walney MCZ and the south tip of the West of Copeland MCZ. However, these values amount to changes of less than ±1% of the preconstruction values for a 1 in 20 year storm from 270º and would be indistinguishable from natural variations. The resulting influence on sediment transport characteristics would be minimal. The West of Walney MCZ and the West of Copeland MCZ may be impacted indirectly, and the magnitude is considered to be negligible. These activities would therefore not be capable of affecting (other than insignificantly) either (i) the protected features of an MCZ or ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant. There is therefore no significant risk of the act hindering the achievement of the conservation objectives stated for any MCZ. Using this buffer, no MCZs are screened in for this criteria.

1.5.2.3 In summary, the proposed activities are not capable affecting (other than insignificantly) either (i) the protected features of an MCZ or ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant. There is therefore no significant risk of the activities hindering the achievement of the conservation objectives stated for any MCZ. As such, no MCZs designated for benthic habitat features are taken forward for consideration in a Stage 1 assessment.

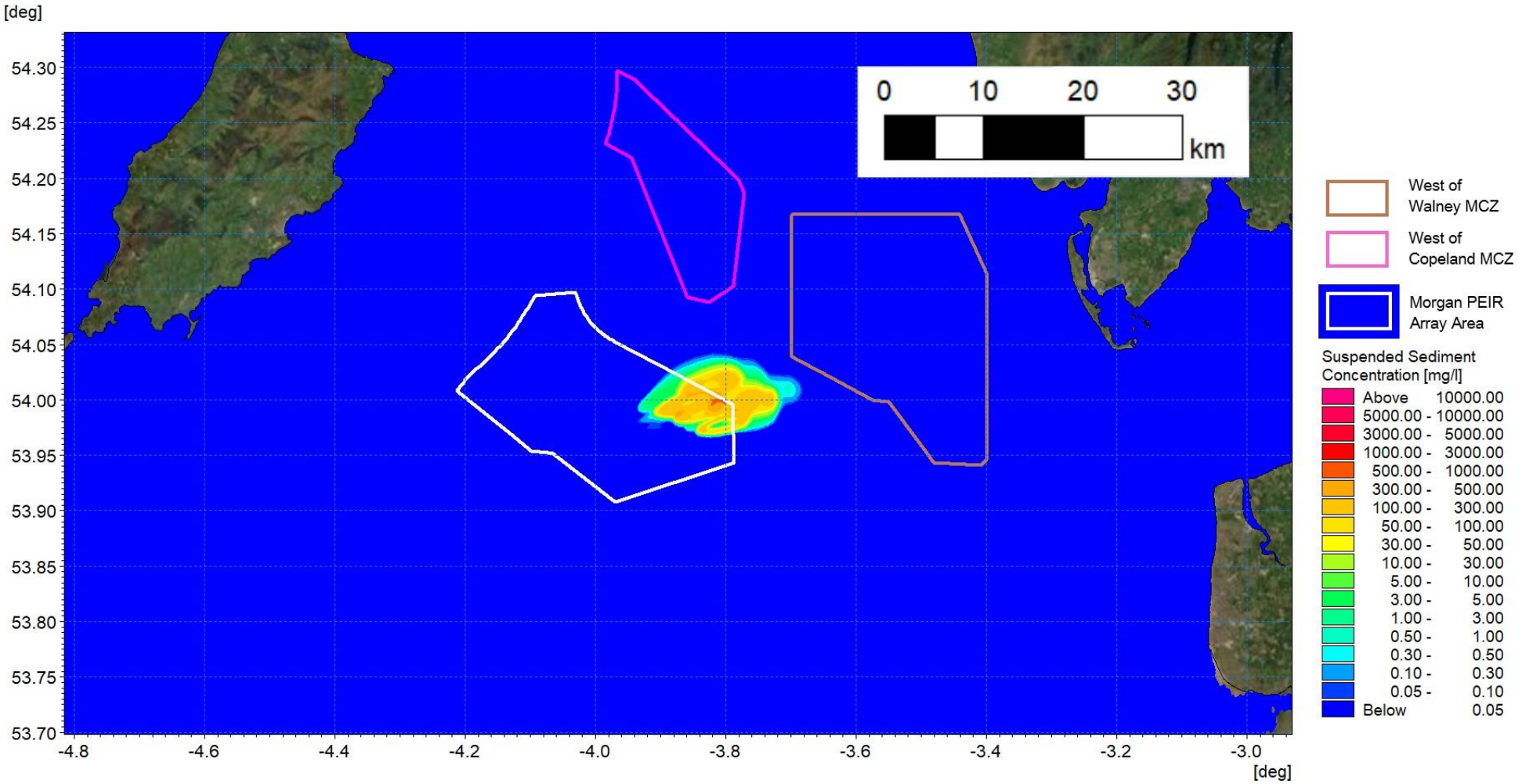

Figure 1.3: Average SSCs during inter-array cable sandwave clearance.

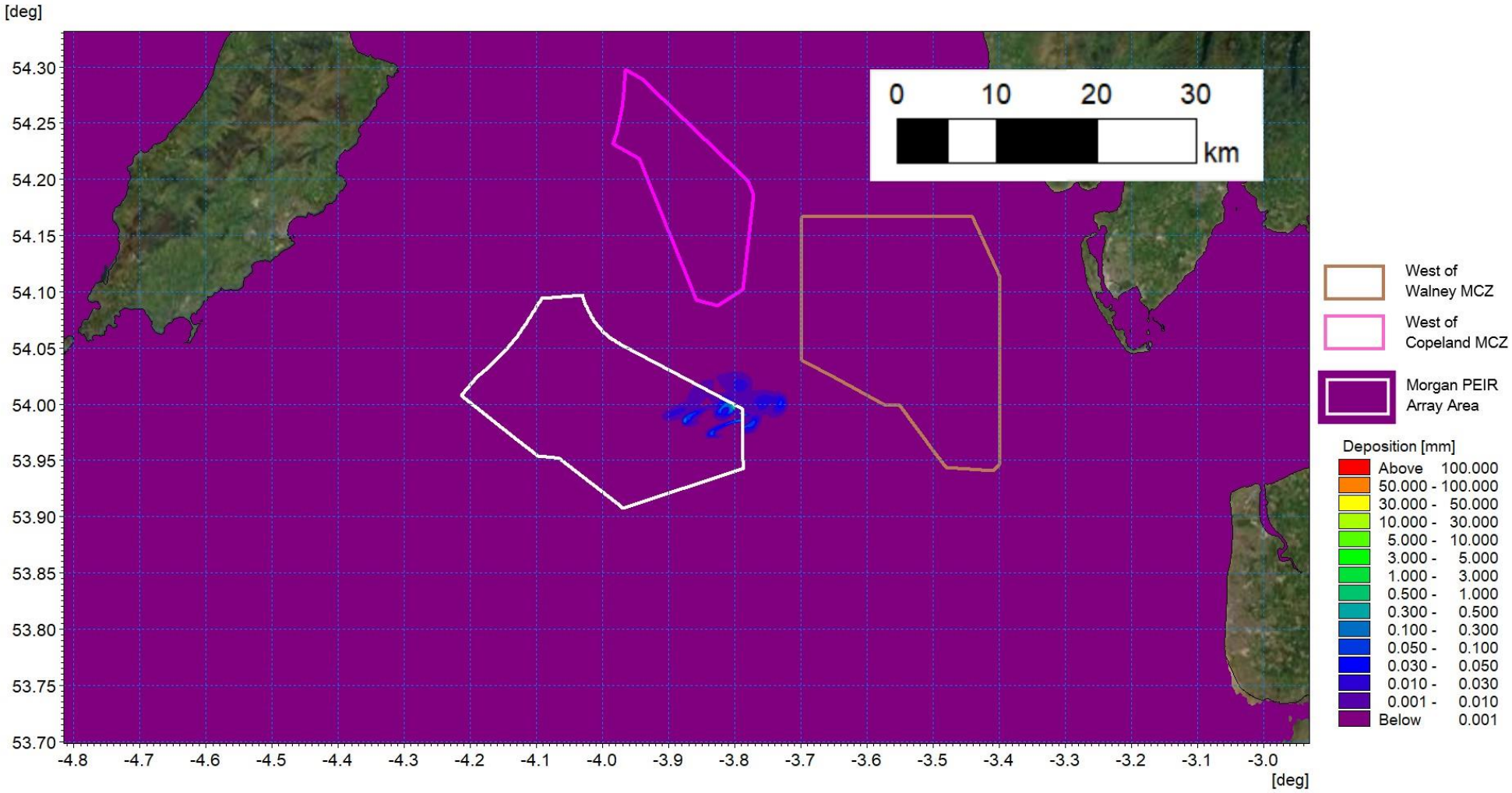

Figure 1.4: Average sedimentation during inter-array sandwave clearance.

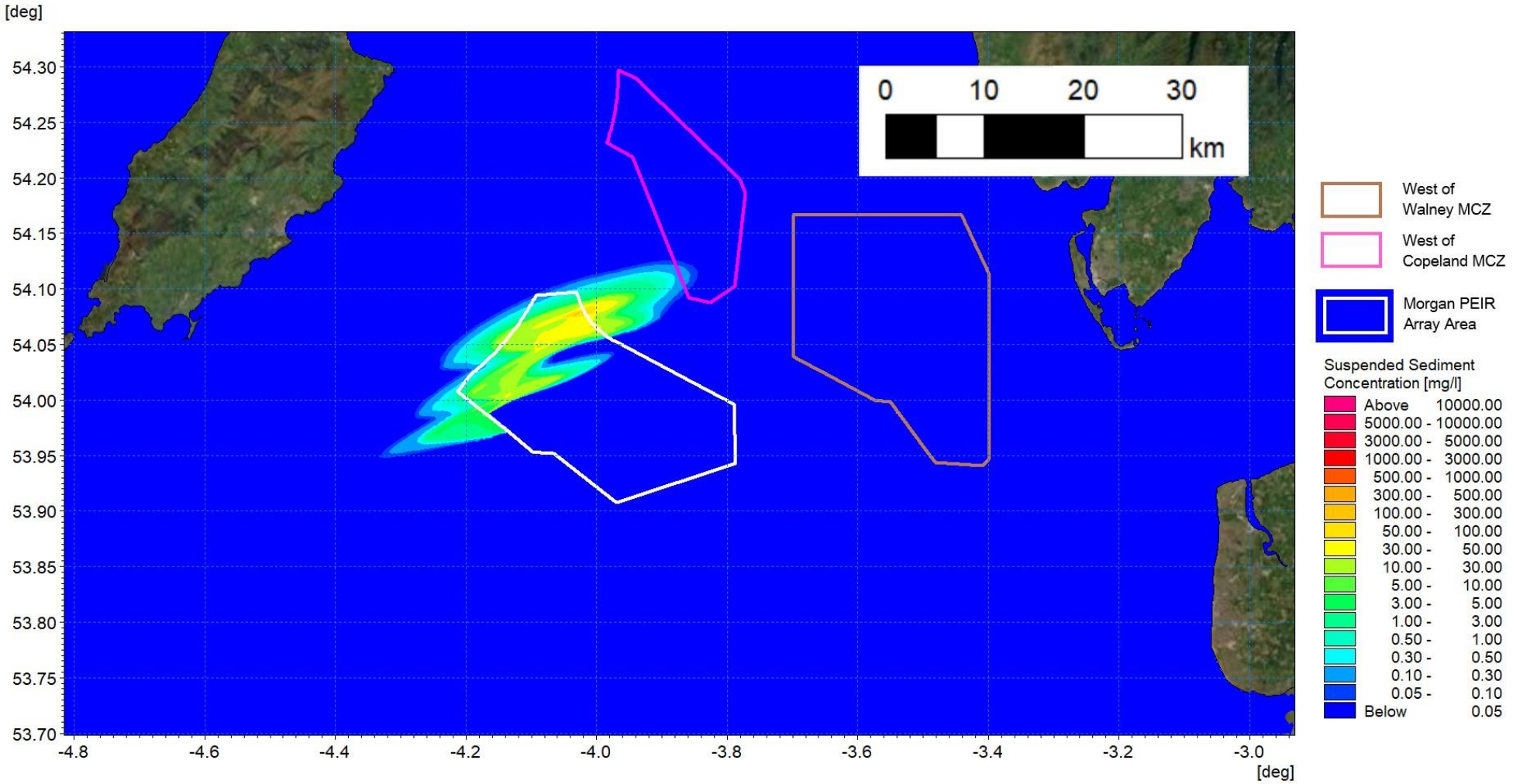

Figure 1.5: Average SSCs during trenching for the installation of inter-array cables.

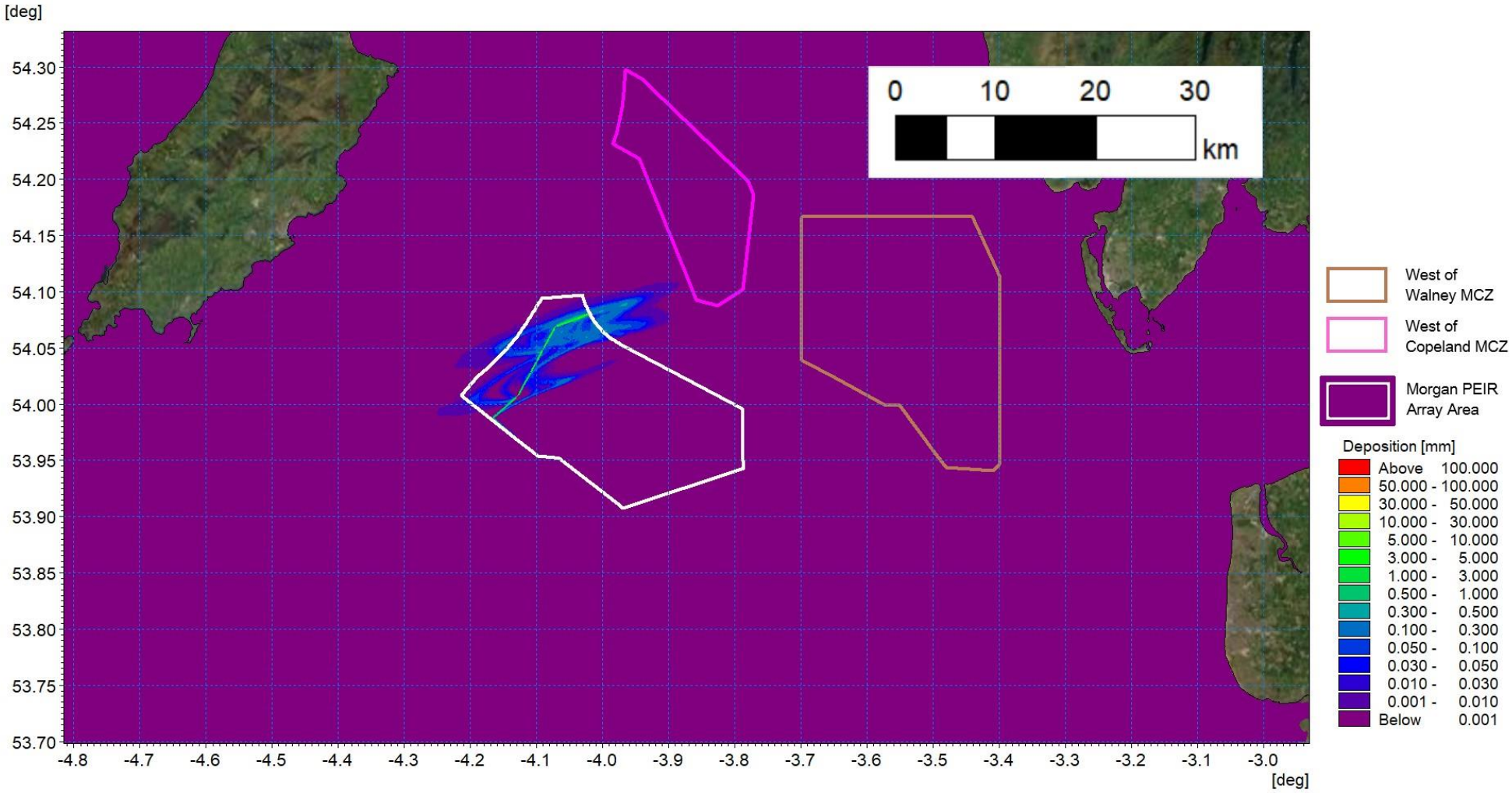

Figure 1.6: Average sedimentation during trenching for the installation of inter-array cables.

1.5.3 Screening criteria for fish features of MCZs

1.5.3.1 A total of three MCZs within the regional fish and shellfish ecology study area are designated for mobile fish species and have been considered within this screening. All three MCZs are located on the northwest coast of England:

- Ribble Estuary MCZ
- Wyre Lune MCZ
- Solway Firth MCZ.

1.5.3.2 All three sites are designated for smelt *Osmerus eperlanus* (see Table 1.2). To determine the 'nearness' of the activities associated with the Morgan Generation Assets, and the potential for associated activities to affect (other than insignificantly) the protected smelt features of these sites, the following screening criteria have been used:

- Direct impacts to fish features of MCZs (e.g. potentially arising from temporary habitat disturbance, long term habitat loss, colonisation of hard structures and EMF) will be confined to the area within the boundary of the Morgan Array Area. As discussed in section 1.5.2, there is no spatial overlap between the Morgan Generation Assets and any MCZ (see Figure 1.2). As such, no MCZs are screened in for this criteria
- Direct impacts to fish features of MCZs (i.e. smelt) may potentially occur as a result of increased underwater sound. Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3) provides a comprehensive assessment of the potential for behavioural effects in fish resulting from underwater sound during construction. The assessment in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement uses the modelling outputs in Volume 3, Annex 3.1: Underwater sound technical report of the Environmental Statement (Document Reference F3.3.1) and concludes that, even for the most precautionary maximum hammer energy, noise levels resulting in significant behavioural disturbance to fish features of MCZs are not predicted to extend to the northwest coast of England (Figure 1.7). Smelt are known to congregate in large shoals in lower estuaries and migrate into freshwater where they spawn in spring (Department of Environment, Food and Rural Affairs (Defra), 2019a). Given the coastal distribution of smelt, and the fact that they are unlikely to travel offshore from the estuarine sites for which they are designated on the northwest coast of England (Figure 1.5), it is considered highly unlikely that their habitats would overlap with those areas which may be influenced by construction related underwater sound. As such, it is unlikely that they would be adversely affected by underwater sound potentially arising from the construction of the Morgan Generation Assets. Therefore, no fish features of MCZs are screened in for this criteria
- Indirect impacts to fish features of MCZs may potentially occur as a result of increases in SSC and associated deposition. The ZoI applied for SSC and sediment deposition, together with the justification, is as outlined used in section 1.5.2 (i.e. 12 km) and no MCZs are screened in on this basis.

1.5.3.3 In summary, the proposed activities are not capable affecting (other than insignificantly) either (i) the protected features of an MCZ or ii) any ecological or geomorphological process on which the conservation of any protected feature of an

MCZ is (wholly or in part) dependant. There is therefore no significant risk of the activities hindering the achievement of the conservation objectives stated for any MCZ designated for fish features. As such, no MCZs designated for fish features are taken forward for consideration in a Stage 1 assessment.

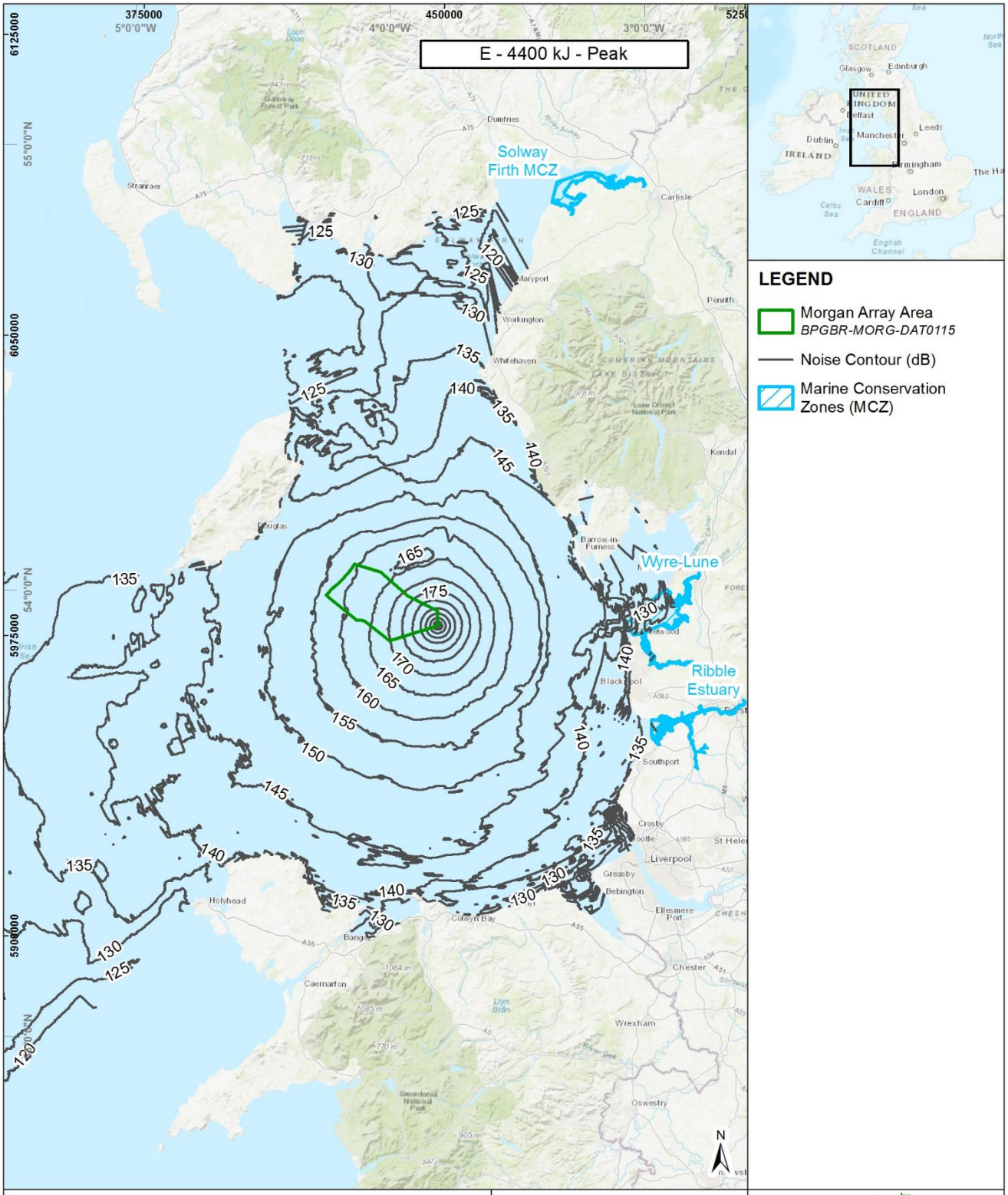

Figure 1.7: Pin-pile SPLPK noise contours in relation to the Solway Firth MCZ, Ribble Estuary MCZ and Wyre Lune MCZ.

1.5.4 Screening criteria for marine mammal features of MCZs

1.5.4.1 No MCZs with marine mammals as designated features have been identified within the regional marine mammal study area. As such, no MCZs for marine mammals require further consideration in this MCZ screening as no sites are likely to be affected by the Morgan Generation Assets.

1.5.5 Screening criteria for ornithological features of MCZs

1.5.5.1 As outlined in Table 1.2, a single MCZ designated for ornithological features is located within 100 km of the Morgan Array Area; the Cumbria Coast MCZ (Figure 1.2) is designated for razorbill *Alca torda* (Defra, 2019b) as well as benthic habitat features considered in section 1.5.2.

1.5.5.2 The coast of Cumbria, extending from south of Whitehaven, around the cliffs at St Bees Head, to the mouth of Ravenglass Estuary is particularly important for seabirds with an estimated 10,000 breeding seabirds thought to be present (Defra, 2019b). Although it should be noted that not all of these breeding seabirds will be razorbill. To determine the 'nearness' of the activities associated with the Morgan Generation Assets to MCZ for ornithological features, the following screening criteria have been used:

- Direct impacts to ornithological features of MCZs may potentially arise from collisions with rotating wind turbine blades. This impact will be confined to within the Morgan Array Area. For seabirds, collision risk varies between species in relation to a range of factors associated with flight behaviour but with flight heights being of fundamental importance in predicting the vulnerability to this effect (Johnston *et al*., 2014a, 2014b). Species, including auk species (i.e. razorbills), which fly at low heights and below the rotor swept area are not considered to be vulnerable to this effect pathway. As such, no MCZs are screened in for these criteria. This is supported by site specific collision risk modelling for the Morgan Array Area which showed that the risk to razorbill is negligible (see Volume 4, Annex 5.3: Offshore ornithology collision risk modelling technical report of the Environmental Statement (Document Reference F4.5.3))
- Direct impacts to ornithological features of MCZs may also potentially comprise disturbance and displacement from preferred foraging areas arising from the physical presence of infrastructure and vessels. Such effects may be most likely in relation to seabirds using the marine habitats within the Morgan Array Area (noting that the Morgan Array Area is within the foraging range for razorbill from the Cumbria Coast MCZ), although species are known to vary in their sensitivity to displacement. Results from the site-specific displacement and apportioning assessments (see Volume 4, Annex 5.5: Offshore ornithology apportioning technical report of the Environmental Statement (Document Reference F4.5.5) and Volume 4, Annex 5.2: Offshore ornithology displacement technical report of the Environmental Statement (Document Reference 4.5.2)) have shown that the risk of displacement to razorbill is very low. The razorbill colony within the Cumbria Coast MCZ, associated with the St Bees Head Nature Reserve, is located 47.9 km from the Morgan Array Area. For razorbill at the St Bees Head colony, the expected increase in mortality due to displacement was 0.02 adult birds per annum, for a population of 418 birds (see Volume 4, Annex 5.5: Offshore ornithology apportioning technical report of the Environmental Statement (Document Reference F4.5.5)). On this basis, the

increase in mortality of <1 adult bird per annum would be indistinguishable against the baseline mortality for the MCZ. As such, the Cumbria Coast MCZ is not screened in for this criteria

- For all other potential impact pathways (i.e. temporary habitat loss and increased SSC, barrier to movement and changes in prey availability) the likelihood of the Morgan Generation Assets resulting in significant effects on razorbill is low. This is due to the temporary and localised extent of the impacts associated with temporary habitat loss and SSC and the reversible nature of the effects. Similarly, effects on prey species will be temporary, and in the context of the large foraging ranges used by seabirds and the extent of marine habitats and prey available for foraging opportunities, significant effects are unlikely. As such, the Cumbria Coast MCZ is not screened in on the basis of these impact pathways.

1.5.5.3 In summary, the proposed activities are not capable of affecting (other than insignificantly) either (i) the protected features of an MCZ or ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant. There is therefore no significant risk of the activities hindering the achievement of the conservation objectives stated for any MCZ ornithological features. As such, no MCZs designated for ornithological features are taken forward for consideration in a Stage 1 assessment.

1.5.6 Summary of screening conclusions

1.5.6.1 A total of 10 MCZs were considered in the MCZ screening for the Morgan Generation Assets, which comprised those located within the regional benthic subtidal ecology study area, the Morgan fish and shellfish ecology study area, the regional marine mammal study area and a 100 km buffer for birds. The screening has concluded that the Morgan Generation Assets are not capable of affecting (other than insignificantly), the protected features of an MCZ, or any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant, as summarised in Table 1.2 below. There is no significant risk of the Morgan Generation Assets hindering the achievement of the conservation objectives stated for any MCZ.

Table 1.2: Screening conclusions for MCZs.

MCZ	Protected Features	Distance from the Morgan Array Area (km)	Potential Impact Pathway	Screening Conclusion and Justification
West of Walney MCZ	• Subtidal sand • Subtidal mud • Sea pen and burrowing megafauna communities	9.3	Potential pathways identified	**Screened out** – the West of Walney MCZ does not spatially overlap with the Morgan Generation Assets however it does fall within the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. This assessment has however determined that the impact of increased SSC and deposition at a distance of 9.3 km from the Morgan Array Area will be negligible compared to background levels and would therefore not be capable of resulting in anything other than insignificant effects on the protected features of the MCZ. The West of Walney MCZ has therefore been screened out and does not require a Stage 1 assessment.
West of Copeland MCZ	• Subtidal coarse sediment • Subtidal sand • Subtidal mixed sediment	8.8	Potential pathways identified	**Screened out** – the West of Copeland MCZ does not spatially overlap with the Morgan Generation Assets however it does fall within the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. This assessment has however determined that the impact of increased SSC and deposition at a distance of 8.8 km from the Morgan Array Area will be negligible compared to background levels and would therefore not be capable of resulting in anything other than insignificant effects on the protected features of the MCZ. The West of Copeland MCZ has therefore been screened out and does not require a Stage 1 assessment.
Fylde MCZ	• Subtidal sand • Subtidal mud	29.2	No potential pathways identified	**Screened out** – the Fylde MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. The Fylde MCZ has therefore been screened out and does not require a Stage 1 assessment.

MCZ	Protected Features	Distance from the Morgan Array Area (km)	Potential Impact Pathway	Screening Conclusion and Justification
Ribble Estuary MCZ	• Smelt (*Osmerus eperlanus*)	58.44	No potential pathways identified	**Screened out** – the Ribble Estuary MCZ does not spatially overlap with the Morgan Generation Assets. The site also falls outside the ZoI for significant behavioural disturbance to smelt, as determined by the assessment presented in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3) and the modelling outputs in Volume 3, Annex 3.1: Underwater sound technical report of the Environmental Statement (Document Reference F3.3.1). The Ribble Estuary MCZ also falls outside the 12 km ZoI identified for impact pathways associated with increased SSC that have the potential to affect fish features. The Ribble Estuary MCZ has therefore been screened out and does not require a Stage 1 assessment.
Wyre Lune MCZ	• Smelt (*Osmerus eperlanus*)	47.06	No potential pathways identified	**Screened out** – the Wyre Lune MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the ZoI for significant behavioural disturbance to smelt, as determined by the assessment presented in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3) and the modelling outputs in Volume 3, Annex 3.1: Underwater sound technical report of the Environmental Statement (Document Reference F3.3.1). The Wyre Lune MCZ also falls outside the 12 km ZoI identified for impact pathways associated with increased SSC that have the potential to affect fish features. The Wyre Lune MCZ has therefore been screened out and does not require a Stage 1 assessment.
Cumbria Coast MCZ	• High energy intertidal rock • Honeycomb worm (*Sabellaria alveolata*) reefs • Intertidal biogenic reefs • Intertidal sand and muddy sand • Intertidal underboulder communities	47.9	No potential pathways identified	**Screened out** – the Cumbria Coast MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. The risk of disturbance and displacement of the ornithological feature of the Cumbria Coast MCZ is very low and any increase in mortality would be indistinguishable from the baseline mortality for the MCZ. Collision risk

MCZ	Protected Features	Distance from the Morgan Array Area (km)	Potential Impact Pathway	Screening Conclusion and Justification
	• Moderate energy infralittoral rock • Peat and clay exposures • Razorbill (*Alca torda*)			modelling for the Morgan Array Area has shown that the risk to razorbill is negligible. The Cumbria Coast MCZ has therefore been screened out and does not require a Stage 1 assessment.
Queenie Corner MCZ	• Sea pen and burrowing megfauna communties • Subtidal mud	56.0	No potential pathways identified	**Screened out** – the Queenie Corner MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. The Queenie Corner MCZ has therefore been screened out and does not require a Stage 1 assessment.
South Rigg MCZ	• Moderate energy circalittoral rock • Subtial coarse sediment • Subtidal sand • Subtidal mud • Subtidal mixed sediment • Sea pen and burrowing megfauna communties	62.4	No potential pathways identified	**Screened out** – the South Rigg MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. The South Rigg MCZ has therefore been screened out and does not require a Stage 1 assessment.
Allonby Bay MCZ	• Low energy intertidal rock • Moderate energy intertidal rock • High energy intertidal rock • Intertidal biogenic reefs • Intertidal coarse sediment • Intertidal sand and muddy sand • Moderate energy infralittoral rock • Subtidal biogenic reefs • Subtidal coarse sediment	81.4	No potential pathways identified	**Screened out** – the Allonby Bay MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the 12 km ZoI identified for impact pathways (i.e. increased SSC and sediment deposition) that have the potential to affect benthic habitat features. The Allonby Bay MCZ has therefore been screened out and does not require a Stage 1 assessment.

MCZ	Protected Features	Distance from the Morgan Array Area (km)	Potential Impact Pathway	Screening Conclusion and Justification
	• Subtidal mixed sediments • Subtidal sand • Peat and clay exposures • Blue mussel (*Mytilus edulis*) beds • Honeycomb worm (*Sabellaria alveolata*) reefs			
Solway Firth MCZ	• Smelt (*Osmerus eperlanus*)	98.90	No potential pathways identified	**Screened out** – the Solway Firth MCZ does not spatially overlap with the Morgan Generation Assets and falls outside the ZoI for significant behavioural disturbance to smelt, as determined by the assessment presented in Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement (Document Reference F2.3) and the modelling outputs in Volume 3, Annex 3.1: Underwater sound technical report of the Environmental Statement (Document Reference F3.3.1). The Solway Firth MCZ also falls outside the 12 km ZoI identified for impact pathways associated with increased SSC that have the potential to affect fish features. The Solway Firth MCZ has therefore been screened out and does not require a Stage 1 assessment.

1.6 MCZ screening conclusions

1.6.1.1 No MCZs spatially overlap with the Morgan Generation Assets (see Figure 1.2) and the majority of the MCZs are outside the ZoIs identified for impact pathways that have the potential to affect benthic habitat, fish, marine mammal or ornithological features of MCZs in the region (see Table 1.2). Whilst the West of Walney MCZ and the West of Copeland MCZ are within the ZoI of increased SSC, the site-specific modelling undertaken for the Environmental Statement in Volume 4, Annex 1.1: Physical processes technical report of the Environmental Statement (Document Reference F4.1.1) has demonstrated that the magnitude of the impact of increased SSC and deposition on these sites will be negligible compared to background levels and would therefore not be capable of resulting in anything other than insignificant effects on the protected features of the West of Walney MCZ and the West of Copeland MCZ.

1.6.1.2 It is considered that the construction, operation and maintenance and decommissioning of the Morgan Generation Assets is unlikely to have the potential to directly or indirectly affect the interest features of any MCZ. On this basis, the regulating authority (i.e. the Secretary of State in relation to the DCO application) can be satisfied that section 126 of the Marine and Coastal Access Act 2009 does not apply as:

- The licensable activity is not taking place within or near an area being put forward or already designated as an MCZ and
- The activity is not capable of affecting (other than insignificantly) either (i) the protected features of an MCZ; or (ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant.

1.6.1.3 It is, therefore, concluded that there is **no significant risk** of the Morgan Generation Assets hindering the achievement of the conservation objectives stated for any MCZ and a Stage 1 MCZ assessment is not required for any MCZ for the Morgan Generation Assets.

1.7 References

Defra (2019b) Cumbria Coast Marine Conservation Zone: Factsheet. 31 May 2019. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/915627/mcz-cumbria-2019.pdf. Accessed March 2024.

Department for Environment, Food and Rural Affairs (Defra) (2019a) Wyre Lune Marine Conservation Zone: Factsheet. 31 May 2019. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/915506/mcz-wyre-lune-2019.pdf. Accessed March 2024.

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. (2014a) Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology 51, 31–41 doi: 10.1111/1365-2664.12191.

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. (2014b) Corrigendum. Journal of Applied Ecology, 51, 1126–1130 doi: 10.1111/1365-2664.12260.

Marine Management Organisation (2013) Marine conservation zones and marine licensing. April 2012.Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/410273/Marine_conservation_zones_and_marine_licensing.pdf. Accessed March 2024.

Morgan Offshore Wind Project Ltd (2022) Morgan Offshore Wind Project Generation Assets EIA Scoping Report. Available: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010136/EN010136-000039-Morgan%20Offshore%20Wind%20Farm%20-%20EIA%20Scoping%20Report.pdf. Accessed March 2024.