STRATEGY

ECC BENTHIC SAMPLING STRATEGY

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REPORT

Export Cable Corridor Benthic Sampling Strategy

Client: ScottishPower Renewables

Reference: PC3479-RHD-XX-OF-RP-Z-0001

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1 Introduction

This document has been prepared by Haskoning on behalf of ScottishPower Renewables (SPR) to outline the survey methodology and proposed benthic survey locations for MachairWind Offshore Windfarm's (hereafter referred to as 'the Project') Offshore Export Cable Corridor (ECC)). Samples gathered during this survey will be analysed to characterise the benthos and contaminants composition. The results of the survey will inform the Offshore ECC Environmental Impact Assessment (EIA) that will provide an assessment of the potential impacts from activities associated with installation of the Offshore ECC infrastructure which includes offshore export cables.

SPR was awarded the W1 Plan Option Area following a successful application in the ScotWind leasing round. The WDA is located within the W1 area and is approximately 15 km northwest of Islay and 12.4 km west of Colonsay (**Figure 1**). The WDA is approximately 448 km^2. A site investigation campaign of the WDA was undertaken in 2023 collecting geophysical and environmental data including seabed geology, ground conditions, bathymetry, eDNA, contaminants and benthic habitats. The Project's grid connection location was confirmed, following long delays, in August 2025 to be in the vicinity of Girvan, South Ayrshire. Given the uncertainty around the Project's grid connection location, consents and licences for the WDA and Offshore ECC are being sought separately (**Section 2**).

This Offshore ECC sampling strategy has considered a preliminary Offshore ECC. This has been partially informed by a desk-based constraints analysis undertaken by Cathie Associates for a previous ECC into Ballantrae in South Ayrshire. The Cathie Associates analysis identified a 'preliminary Offshore ECC' which, for the purposes of this document and to align with a new route into Girvan, has been extended north in the nearshore. This sits within a wider 'Offshore ECC area of search' (AoS) that was defined prior to refinement of the original preliminary Offshore ECC to a landfall near Ballantrae (**Figure 1**). Where appropriate, existing data covering the whole Offshore ECC AoS has been referenced in this sampling strategy to provide wider context

The preliminary Offshore ECC funnels out around Ailsa Craig and on approach to a landfall location in the vicinity of Girvan. Further constraints analysis will be undertaken to refine a route within this wider area in due course. This will be undertaken prior to the survey and therefore amendments to the survey locations in that area will be made. It is proposed that reapproval of this sampling strategy is not sought with MD-LOT following refinement of the Offshore ECC because of the time constraints associated with that consultation and the need for the Project to have a sufficiently defined scope for survey contractor procurement. However, the Project wishes to provide comfort that a new set of sample locations in the required areas, will be selected following the same approach as is set out in this report. The provisional locations have been provided as outlined in **Appendix 4**. The new sampling locations would be provided to MD-LOT and NatureScot for information once these are confirmed. The Project is seeking, through consultation on this report, to agree this approach with MD-LOT to avoid any potential delays in procurement of survey contractors (and subsequently Offshore ECC consent submission).

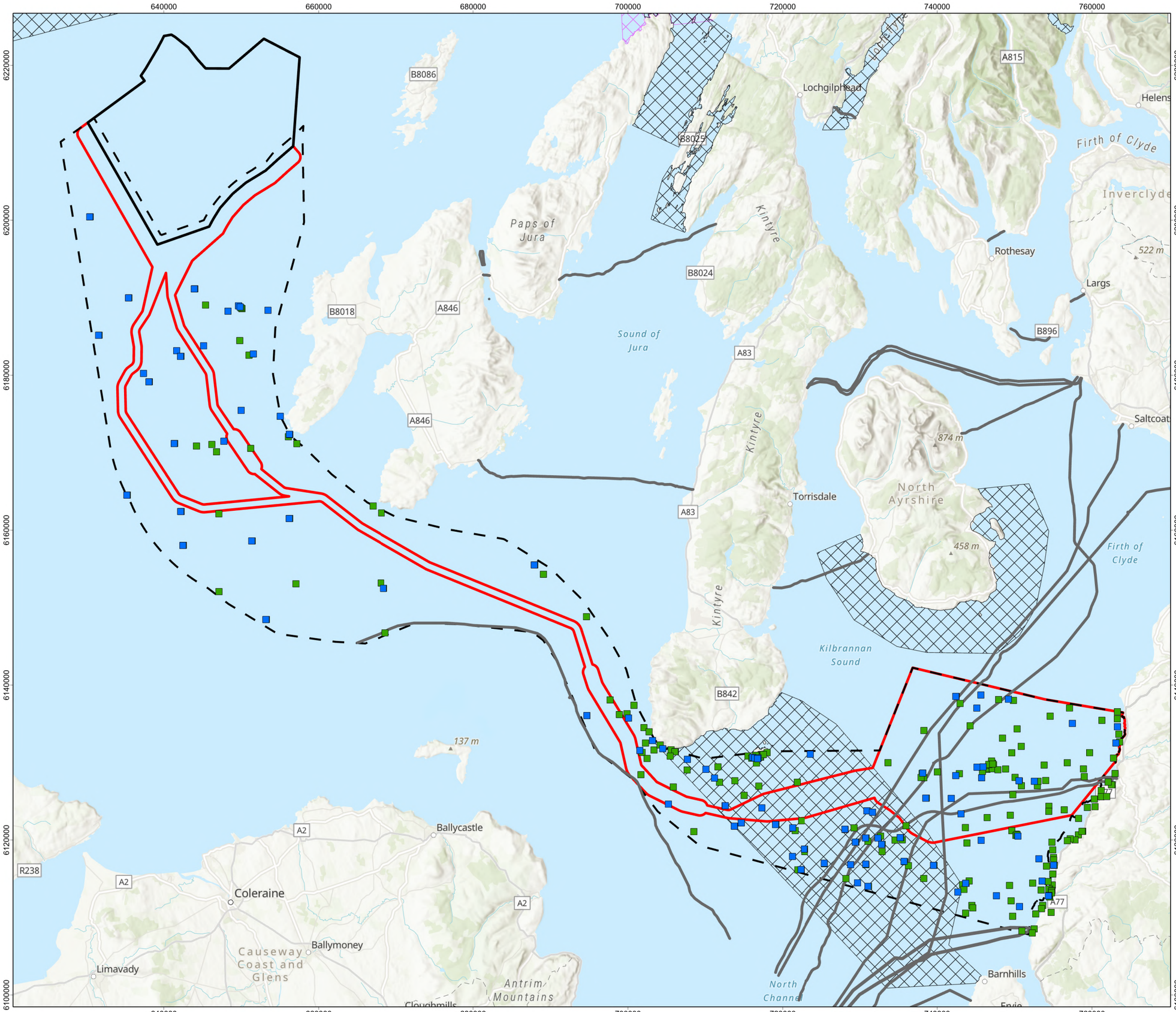
The preliminary Offshore ECC is approximately 180 km long covering 2,860 km² and transits from the southern tip of the WDA around Islay, past the southern tip of the Mull of Kintyre through the Clyde Sea Sill Marine Protected Area (MPA) (**Figure 1**).

The survey will focus on environmental sampling and data acquisition to inform consenting of the Offshore ECC. Data will be collected to inform on the physical, chemical and biological environment via benthic grab samples and seabed imagery using Drop-Down Video (DDV) for data provision on the benthic infauna and epifaunal communities and sediment characteristics. Analysis will be conducted for benthic fauna, Particle Size Analysis (PSA) and sediment chemistry (including contaminants) in the offshore and nearshore

environments. Environmental DNA (eDNA) analysis will also be conducted, however eDNA survey data will not be used to inform the baseline data due to there being no NatureScot guidance on its use within EIA, but the survey results will be submitted as supplementary information.

The benthic survey will be undertaken by a qualified subcontractor in 2026. An exact survey commencement and conclusion date is to be determined but will be communicated to all stakeholders once available.

The purpose of this document is to obtain agreement on the proposed sampling strategy with MD-LOT and NatureScot. Any stakeholder consultation feedback will be incorporated into the sampling strategy as applicable.



Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

Subsea Cables

Marine Protected Areas

Special Area of Conservation (SAC)

Wrecks (UKHO)

Wrecks (Canmore)

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000094		
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Figure 1: Project Development Areas and Protected Areas

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2 Project Background & Offshore ECC Consent Approach

The Project encompasses the offshore and onshore infrastructure that is required to transmit the generated electricity to an onshore grid connection location near Girvan, South Ayrshire. For the purposes of securing consent for the Project, separate consents will be sought for three Development Areas, as follows:

- The WDA;
- The Offshore ECC; and
- The Onshore Transmission Development Area (OnTDA).

Following delays stemming from the National Electricity System Operator's 2022 Holistic Network Design (HND) process, the grid connection location for the Project was confirmed in August 2025 to be in the vicinity of Girvan, South Ayrshire. Consequently, separate consent / marine licence applications will be sought for the Offshore ECC and OnTDA. It is anticipated that the Project will connect to a new High Voltage Direct Current (HVDC) switching station to be built by the Transmission System Operator (TSO) near Girvan. Due to the type of HVDC technology that will be used to transmit power generated from the Project to the grid network, the configuration and design of this infrastructure is in the early stages of development and will require refinement informed by discussions with the relevant Transmission Owners.

3 Existing Information

3.1 Publicly available data

A desk-based review of available benthic ecology data for the Offshore ECC AoS has been completed to inform this Offshore ECC Sampling Strategy. Relevant spatial data covering the Offshore ECC AoS has been collated and reviewed in Geographic Information Systems (GIS).

The UKSeaMap 2018[1] gives a broad-scale overview of the coverage of different physical seabed habitats in the UK to an approximate 100m resolution. It is classified according to three schemes:

- Marine Habitat Classification for Britain and Ireland v15.03;
- European Nature Information System (EUNIS) marine habitat classification system, with additional deep-sea zones; and
- Marine Strategy Framework Directive (MSFD) benthic broad habitat types.

The preliminary Offshore ECC is plotted over the UKSeaMap 2018 in **Figure 2** and **Figure 3** and predicts the existing environment within the preliminary export cable corridor to comprise predominantly of:

- Offshore circalittoral coarse sediment (SS.SCS.OCS) (40%);
- Circalittoral coarse sediment (SS.SCS.CCS) (25%);
- Offshore circalittoral mud (SS.SMu.OMu) (11%); and
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa) (10%).

The Geodatabase of Marine features adjacent to Scotland (GeMS) provides sparse information in the Offshore ECC AoS on the known recorded distribution of Scottish Priority Marine Features (PMFs),[2] indicating four PMF habitat types predicted to occur within the Offshore ECC (**Figure 2** and **Figure 3**):

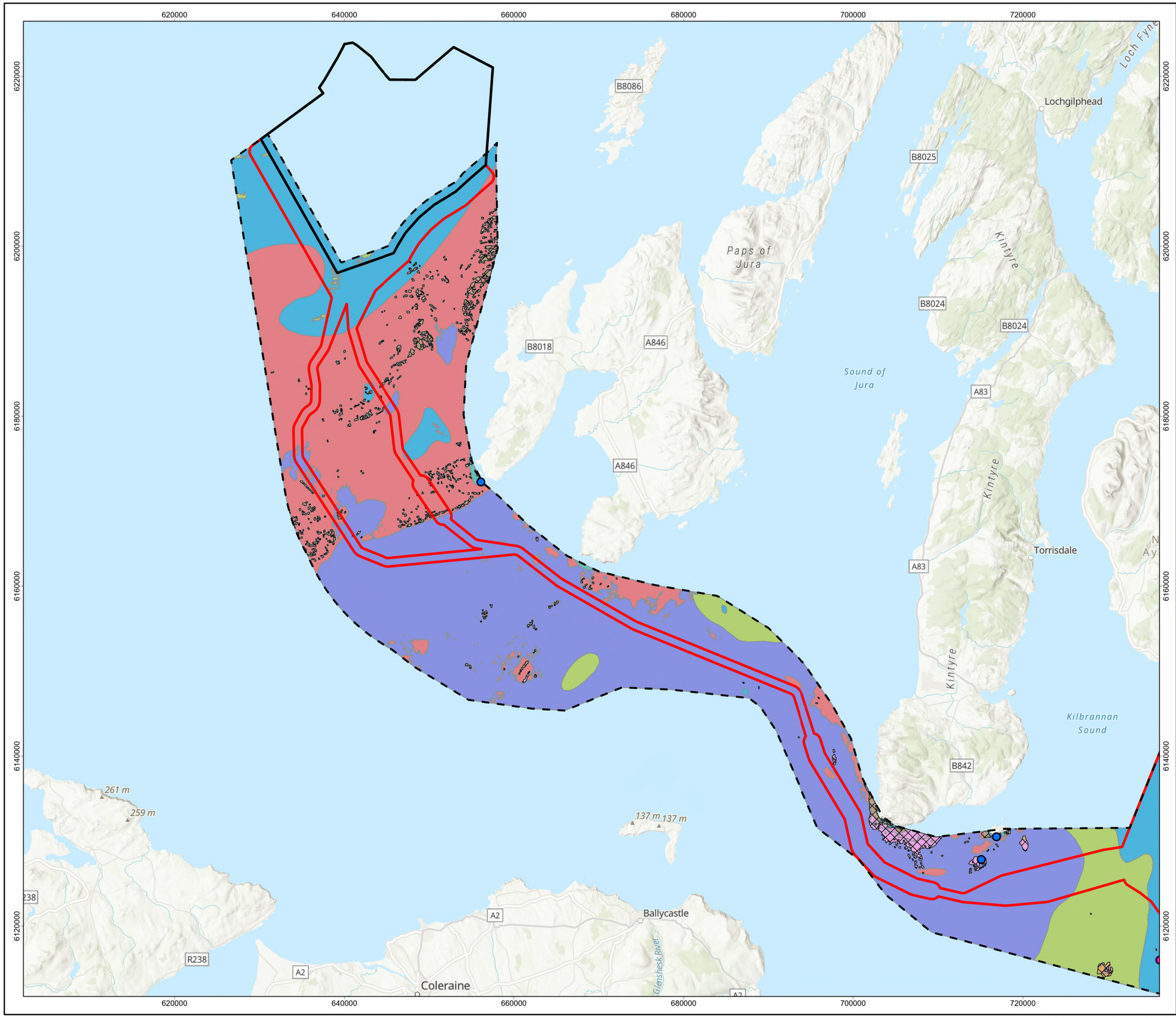
[1] https://jncc.gov.uk/our-work/marine-habitat-data-product-ukseamap/

[2] GeMS - Scottish Priority Marine Features (PMF) | Scotland's Marine Assessment 2020

- Kelp beds (x3);
- Burrowed mud (x2);
- Fan mussel (x1)
- Low or variable salinity habitats (x1) (although note this area would be avoided through the use of HDD to land the export cable); and
- Annex I reef.

Probability maps for the distribution of key benthic species are available from EMODnet, however there is no coverage for the Offshore ECC, or for the seabed to the west of Islay more generally.

Existing wreck information (from UKHO and Canmore) and cable location data (from the Crown Estate Scotland) are mapped to flag for potential hazards. Where potential hazards are identified, sampling will be relocated (500 m from any identified existing infrastructure) or flagged as DDV only location. Any sampling stations that fall within areas of known protected habitats (e.g., Priority Marine Features and those covered under the Habitats Directive 92/43/EEC) will also be relocated (at least 50m from the known location) or removed.



Windfarm Development Area
Preliminary Export Cable Corridor
Export Cable Corridor Area of Search
Annex I Reef

GeMS - Scottish Priority Marine Features

- Burrowed mud
- Kelp beds

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
- Circalittoral mixed sediment (SS.SMx.CMx)
- Circalittoral rock and other hard substrata (CR.)
- Deep sponge communities (circalittoral) (CR.HCR.DpSp)
- Deep sponge communities (circalittoral) or CR.MCR Moderate energy circalittoral rock or CR.LCR Low energy circalittoral rock (CR.HCR.DpSp)
- High energy circalittoral rock (CR.HCR)
- High energy infralittoral rock (IR.HIR)
- Infralittoral coarse sediment (SS.SCS.ICS)
- Infralittoral fine sand (SS.SSa.IFiSa) or Infralittoral muddy sand (SS.SSa.IMuSa)
- Infralittoral rock (and other hard substrata) (IR.)
- Low energy circalittoral rock (CR.LCR)
- Moderate energy circalittoral rock (CR.MCR)
- Moderate energy infralittoral rock (IR.MIR)
- NA
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral mixed sediment (SS.SMx.Omx)
- Offshore circalittoral mud (SS.SMu.Omu)
- Offshore circalittoral sand (SS.SSa.Osa)
- Sublittoral sediments (SS.)

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

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PROJECT TITLE	MachairWind		

Figure 2: The Northwestern offshore component of the ECC with Benthic Priority Marine Features (PMFs) from GeMS Database, UKSeaMap habitats and biotopes labelled with the Marine Habitat Classification of Britain and Northern Ireland (Connor *et al*, 2018)

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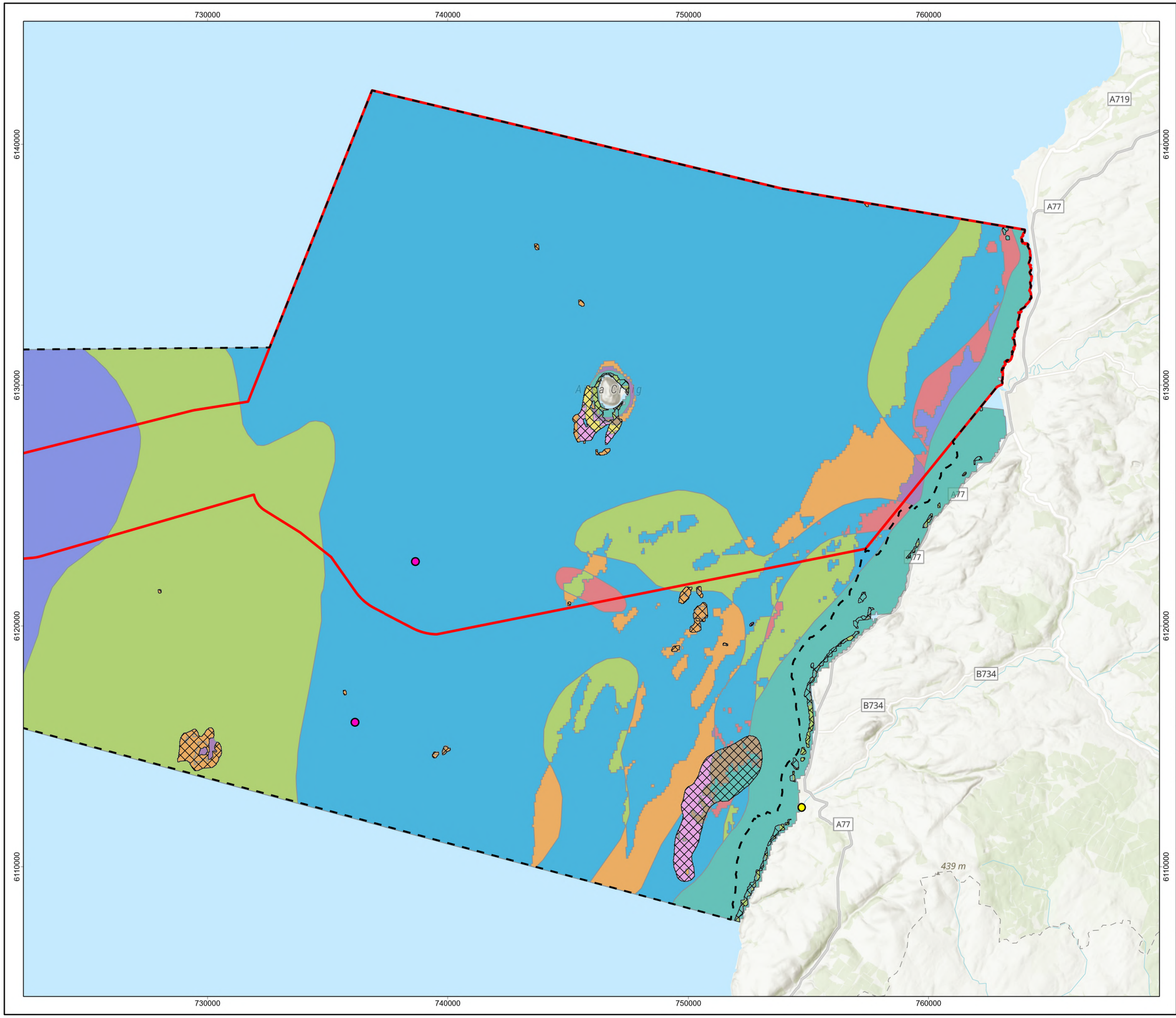

Preliminary Export Cable Corridor
Export Cable Corridor Area of Search
Annex I Reef

GeMS - Scottish Priority Marine Features

- Burrowed mud
- Low or variable salinity habitats

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
- Circalittoral mixed sediment (SS.SMx.CMx)
- Circalittoral rock and other hard substrata (CR.)
- Circalittoral sandy mud (SS.SMu.CSaMu)
- Deep sponge communities (circalittoral) (CR.HCR.DpSp)
- Deep sponge communities (circalittoral) or CR.MCR Moderate energy circalittoral rock or CR.LCR Low energy circalittoral rock (CR.HCR.DpSp)
- High energy circalittoral rock (CR.HCR)
- High energy infralittoral rock (IR.HIR)
- Infralittoral coarse sediment (SS.SCS.ICS)
- Infralittoral fine sand (SS.SSa.IFiSa) or Infralittoral muddy sand (SS.SSa.IMuSa)
- Infralittoral mixed sediment (SS.SMx.Imx)
- Infralittoral rock (and other hard substrata) (IR.)
- Infralittoral sandy mud (SS.SMu.ISaMu)
- Low energy circalittoral rock (CR.LCR)
- Low energy infralittoral rock (IR.LIR)
- Moderate energy circalittoral rock (CR.MCR)
- Moderate energy infralittoral rock (IR.MIR)
- NA
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral mixed sediment (SS.SMx.Omx)
- Offshore circalittoral mud (SS.SMu.Omu)
- Offshore circalittoral sand (SS.SSa.Osa)
- Sublittoral sediments (SS.)

N

0 4 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000096		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:150,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 3: Inshore of Aisla Craig of the ECC with Benthic Priority Marine Features (PMFs) from GeMS Database, UKSeaMap habitats and biotopes labelled with the Marine Habitat Classification of Britain and Northern Ireland (Connor *et al*, 2018)

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3.2 Third-Party survey

Data from a third-party offshore wind developer has been purchased by SPR which covers part of the Offshore ECC area of search / preliminary Offshore ECC. The third-party benthic survey was conducted in 2021 collecting 204 samples, of which 77 benthic sediment grab samples fall within the Offshore ECC AoS and 22 within the preliminary Offshore ECC (**Figure 4**). The samples were analysed for faunal, biomass, particle size distribution and contaminant analysis. A further 22 DDV transects were completed. It is recognised that, anticipating an Offshore ECC consent application submission at the end of 2027, the third-party data will be approximately six years old at this time. Whilst benthic data no older than five years is preferred for characterisation purposes, it is not anticipated that this will be an issue because only a small area is covered by the third-party data (**Figure 4**) of which, the habitats sampled are not known to be ephemeral or highly dynamic (e.g. Offshore circalittoral fine sand and Circalittoral sand). Additionally, they are located in deeper environments where benthic conditions are considered more stable than their shallower counterparts. Therefore, the overlapping data gathered by the third-party survey will be used to inform baseline characterisation in the Offshore ECC EIAR with the additional benthic stations proposed in this Offshore ECC sampling strategy ensuring complete coverage of the Offshore ECC. Where there is deemed to be sufficient coverage from the third-party survey, additional sample locations are not proposed.

When using existing data with newly acquired data it is important that collection and analysis techniques should be aligned wherever possible. This includes type of sampler used, sample volume criteria, sieve size, the season in which the survey was carried out, number of images obtained per transect and length of transect tow. During this survey, several grab stations were accepted below the usual 5l threshold, due to the coarse nature of the seabed e.g. cobbles. The comparability of these samples with new samples may be limited but they are included here for illustrative purposes regarding the habitats and species present, highlighted in **Figure 4**.

Several classifications were used throughout the third-party benthic reports but for the purposes of this report, The Marine Habitat Classification for Britain and Ireland (JNCC, 2022) has been used for interpretation.

The 77 grab stations sampled within the Offshore ECC AoS (22 overlap with the preliminary Offshore ECC – see **Figure 10** to **Figure 12**) were located over six UKSeaMap (2018) predicted habitats, dominated by circalittoral coarse sediments:

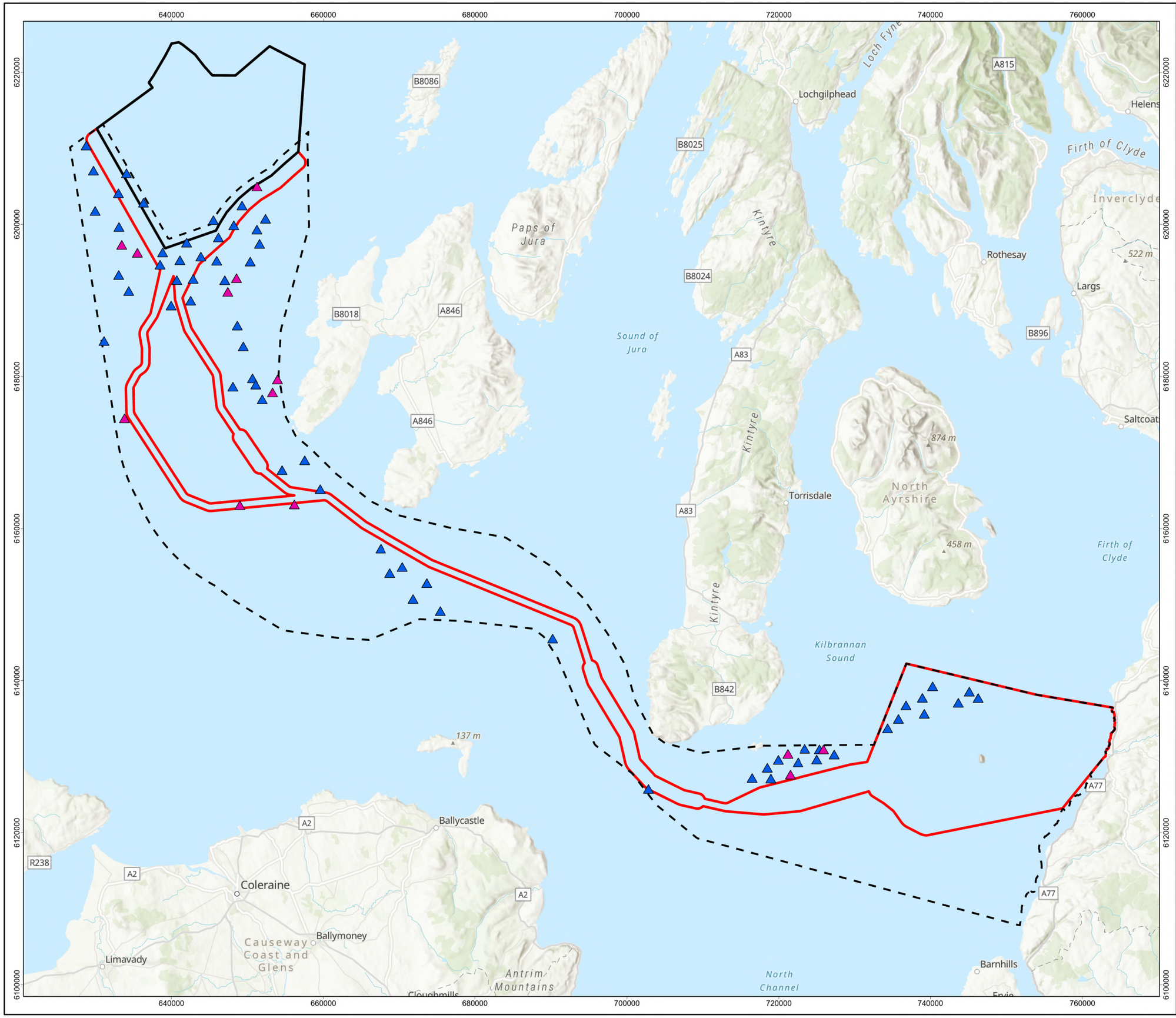
- Offshore circalittoral coarse sediment (SS.SCS.OCS) (22);
- Circalittoral coarse sediment (SS.SCS.CCS) (18);
- a mixture of Circalittoral fine sand (SS.SSa.CFiSa) and Circalittoral muddy sand (SS.SSa.CMuSa) (22);
- the sand habitat Offshore circalittoral sand (SS.SSa.OSa) (4);
- Offshore circalittoral mud (SS.SMu.Omu) (9); and
- a small fraction predicted as rock habitats High energy circalittoral rock (CR.HCR) (1) and Moderate energy circalittoral rock (CR.MCR) (1).

The PSA results broadly agree with predicted habitats with 75% accurately representing the habitats and the remaining 25% only displaying minor discrepancies in classifications, primarily where coarse sediments were predicted but finer muddy sands were observed, and in two cases where rock habitats were predicted instead of sediment. The results are plotted in **Figure 5**. The overall agreement between both datasets increases the confidence in the UKSeaMap (2018) layer and in turn the reliability of using the benthic data. Habitats are generally composed of coarse sediments predominantly classified as:

- slightly gravelly sand (29);
- gravelly sand (13);
- sandy gravel (13);
- gravel (4); and
- sand (3).

Lesser stations were plotted over finer, muddier components, classified as:

- gravelly muddy sand (3);
- mud (1);
- muddy gravel (1);
- muddy sandy gravel (1); and
- sandy mud (9).



Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

3rd Party Successful Sample

3rd Party Small Sample

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

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PROJECT TITLE	MachairWind		

Figure 4: Third-party benthic survey sampling points 2021 including those that fall outside of the ECC. "3rd Party Small Sample" = a sample that was accepted with a sediment volume lower than 5l

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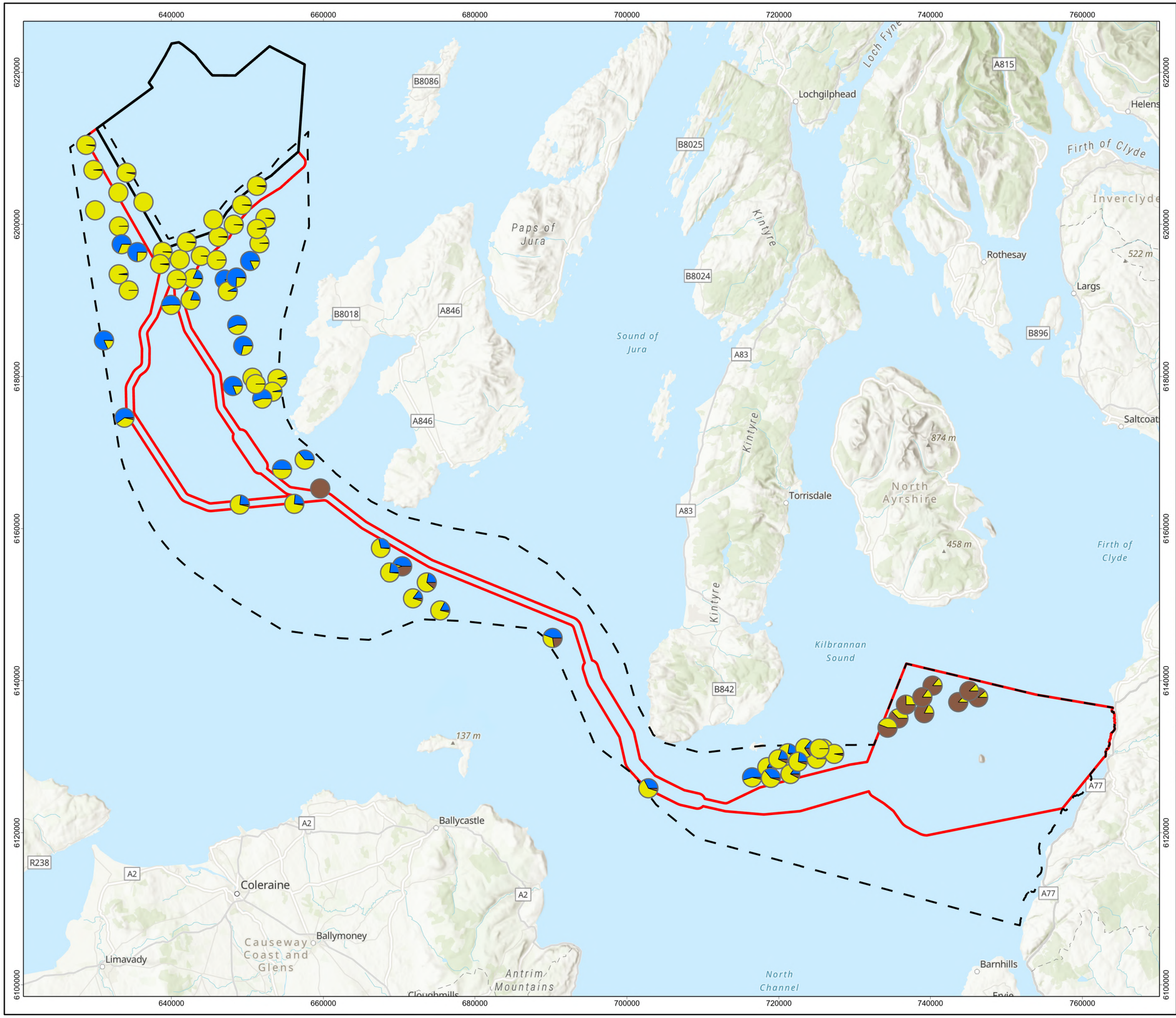

Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

Particle Size Analysis

Gravel (>2 mm)

Sand (63-2000 µm)

Mud (<63 µm)

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
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DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000097		
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Figure 5: PSA pie charts illustrating gravel-sand-mud ratio from the third-party benthic survey 2021 results

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Project: C:\Users\304634\OneDrive - Royal HaskoningDHV\WIP\03 GIS\A02_Figures\03_EIA\01_WDA\Other_Reports\BenthicMethodStatement\MCW_BenthicMethodStatement.aprx
Name: Fig_5_MCW-GEN-GIS-MAP-RHS-000097_PSA

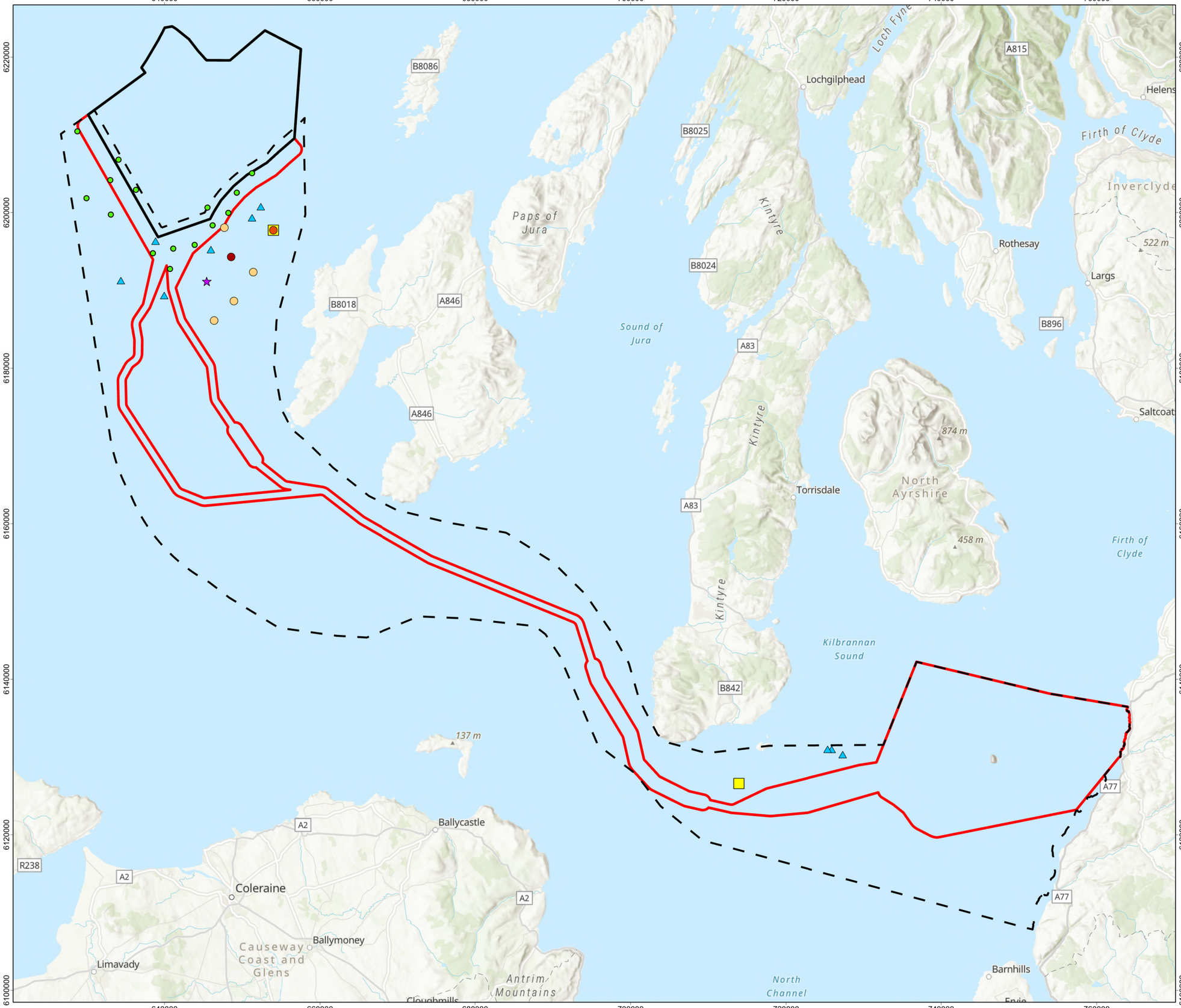
Two biotopes were assigned as per The Marine Habitat Classification for Britain and Ireland (JNCC, 2022) following Similarity Percentage analysis (SIMPER) for 24 of the 77 grab samples. These are illustrated in **Figure 6,** and include:

- *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand (SS.SSa.CFiSa.ApriBatPo) (15); and
- *Echinocyamus pusillus*, *Ophelia borealis* and *Abra prismatica* in circalittoral fine sand (SS.SSa.CFiSa.EpusOborApri) (9).

As with the grab sampling, the DDV analyses from the third-party data showed agreement with that which was predicted from UkSeaMap 2018 data, with 60% accurately representing the habitats present and the other 40% only displaying minor discrepancies (four predicted coarse sediments were rock and four rock/coarse sediments were classified as mixed) further increasing confidence in the predicted data. The DDV predicted habitats were mainly Offshore circalittoral coarse sediment (SS.SCS.OCS) (10), either High energy circalittoral rock (CR.HCR) or Moderate energy circalittoral rock (CR.MCR) (9) with 3 stations of SS.SSa Sublittoral sands and muddy sands. Video analysis results confirm Circalittoral rock habitats (with slight variations in moderate and high energy) and sublittoral sands and muddy sediments. Slight variations were observed between predicted areas of coarse sediment where rock was encountered and the occurrence of SS.SMx.CMx Circalittoral mixed sediment at six stations.

Biotopes that were identified from DDV analyses are illustrated in **Figure 6** and included:

- *Abra prismatica Bathyporela elegans* and *polychaetes* in circalittoral fine sand (SS.SSa.CFiSa.ApriBatPo);
- *Echinocyamus pusillus, Ophelia borealis* and *Abra prismatica* in circalittoral fine sand (SS.SSa.CFiSa.EpusOborApri);
- Echinoderms and crustose communities on Atlantic circalittoral rock;
- *Flustra foliacea* on slightly scoured silty circalittoral rock (CR.MCR.EcCr.FaAlCr.Flu);
- Faunal and algal crusts with *Spirobranchus triqueter* and sparse *Alcyonium digitatum* on exposed to moderately wave-exposed circalittoral rock (CR.MCR.EcCr.FaAlCr.Spi);
- *Spirobranchus triqueter* with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles (SS.SCS.CCS.SpiB);
- *Ophiothrix fragilis* and/or *Ophiocomina nigra* brittlestar beds on sublittoral mixed sediment (SS.SMx.CMx.OphMx); and
- *Pomatoceros triqueter* with barnacles and bryozoan crusts on Atlantic circalittoral unstable cobbles and pebbles.



Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

N

Biotopes

- Abra prismatica, Bathyporeia elegans and polychaetes in circalittoral fine sand (SS.SSa.CFiSa.ApriBatPo)
- Echinocyamus pusillus, Ophelia borealis and Abra prismatica in circalittoral fine sand (SS.SSa.CFiSa.EpusOborApri)
- Echinoderms and crustose communities on Atlantic circalittoral rock
- Faunal and algal crusts with Pomatoceros triqueter and sparse Alcyonium digitatum on exposed to moderately wave-exposed Atlantic circalittoral rock (CR.MCR.EcCr.FaAlCr.Spi)
- Flustra foliacea on slightly scoured silty Atlantic circalittoral rock (CR.MCR.EcCr.FaAlCr.FLu)
- Ophiothrix fragilis and/or Ophiocomina nigra brittlestar beds on circalittoral mixed sediment (SS.SMx.CMx.OphMx)
- Pomatoceros triqueter with barnacles and bryozoan crusts on Atlantic circalittoral unstable cobbles and pebbles

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000100		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:475,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 6: Biotopes identified from benthic grab community analyses from the third-party benthic survey 2021

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World Ocean Reference: Sources: Esri, TomTom, Garmin, GEBCO, National Geographic, NOAA, and the GIS User Community
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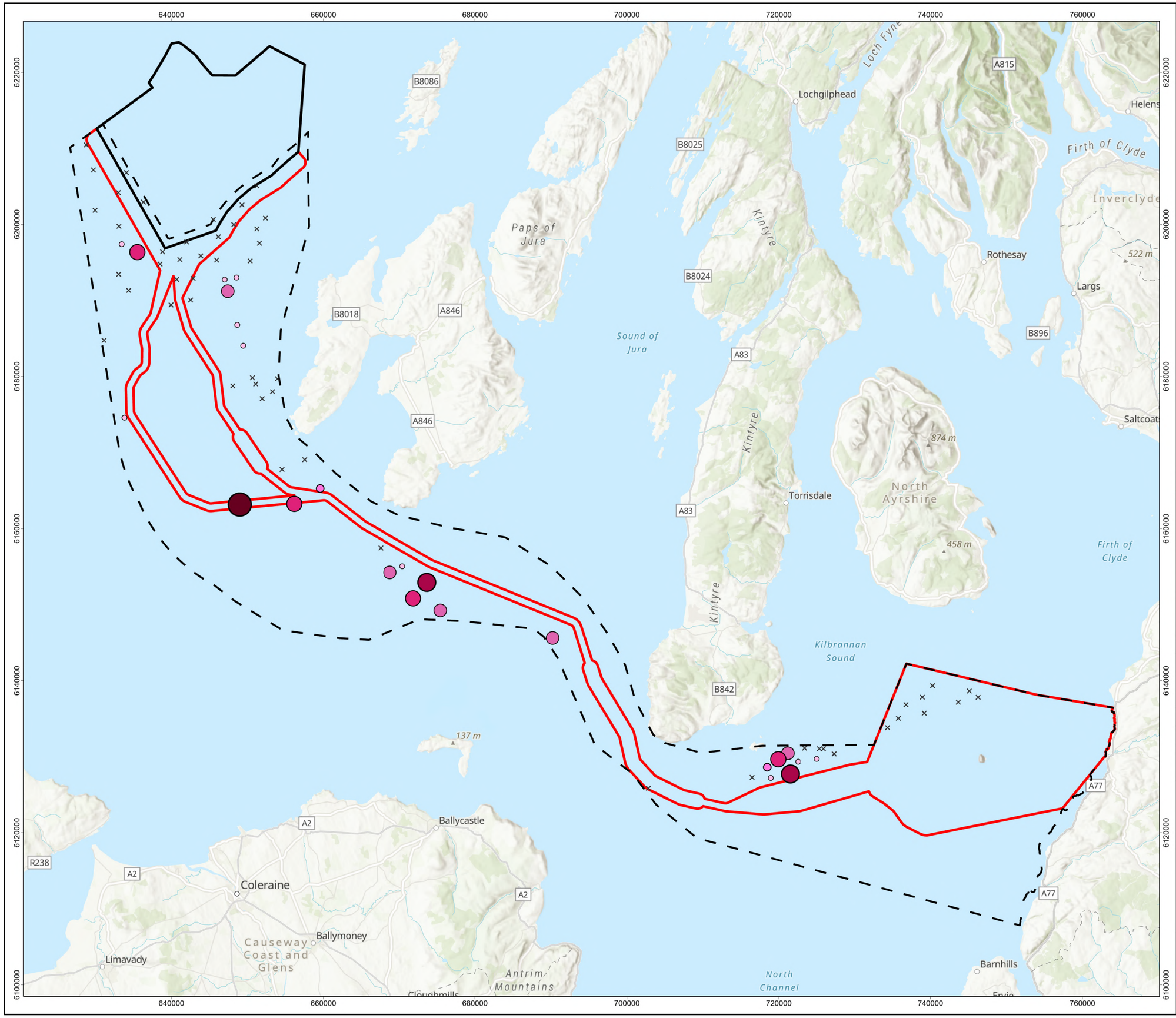
Name: Fig_6_MCW-GEN-GIS-MAP-RHS-000100_Biotopes

3.2.1 Priority Marine Features, species and habitats of conservation interest

Several species and potential habitats of interest were noted in the third-party survey data analyses and are illustrated in **Figure 6**, **Figure 7, Figure 8** and listed in **Appendix 1**. Of the Offshore circalittoral coarse sediment stations, 23 grabs had *Sabellaria spinulosa* present in numbers ranging from 1-98 (**Figure 7**). It is noted that although *Sabellaria* is present, it was not assigned as a biotope from SIMPROF analyses nor was it defined as *Sabellaria spinulosa* reef (an Annex I habitat) following review of the DDV data.

The PMF species sandeels were identified from DDV analysis (Ammodytidae) at one transect. Four sandeel species were also recorded in 13 grab samples; *Ammodytes marinus* at 3 stations; *Ammodytes tobianus* at 7 stations; *Gymnammodytes semisquamatus* at 2 stations; and *Hyperoplus lanceolatus* was recorded at a single site (**Figure 8**). Furthermore, the grab samples were categorised into “preferred”, “marginal” or “unsuitable” for sandeel habitat (**Figure 9**). Seven stations in the Offshore ECC AoS were highlighted as “preferred” sandeel habitat. An assessment of potential Annex I Stony reef identified 3 stations with low resemblance and one with medium resemblance.

Several species from the Scottish Biodiversity List were also found including the bryozoan *Smittina crystallina* (1), the hydroids *Polyplumaria flabellate* (1) and *Tamarisca tamarisca* (4), the cup coral (Octocorallia) *Rolandia coralloides* (3). Species from the Northern Ireland Priority Species list were also found including the hydroid *Lytocarpia myriophyllum* (1), the round crab *Atelecyclus rotundatus* (2), the bivalves *Modiolus modiolus* (1), *Aequipecten opercularis* (5), the brittlestar, *Amphiura (Ophiopeltis) securigera* (2) and sea cucumbers *Leptosynapta bergensis* and *Labidoplax media* (1). Notably, stations 107 and 126 (which can be seen in **Figure 12**) had 4 species of interest identified. More detail of which has been provided in **Appendix 1.**



Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

Sabellaria spinulosa

- × 0
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 50
- 50 - 75
- 75 - 100

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000100		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:475,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 7: Locations of *Sabellaria spinulosa* from benthic grab analysis from the third-party benthic survey 2021

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World Ocean Reference: Sources: Esri, TomTom, Garmin, GEBCO, National Geographic, NOAA, and the GIS User Community
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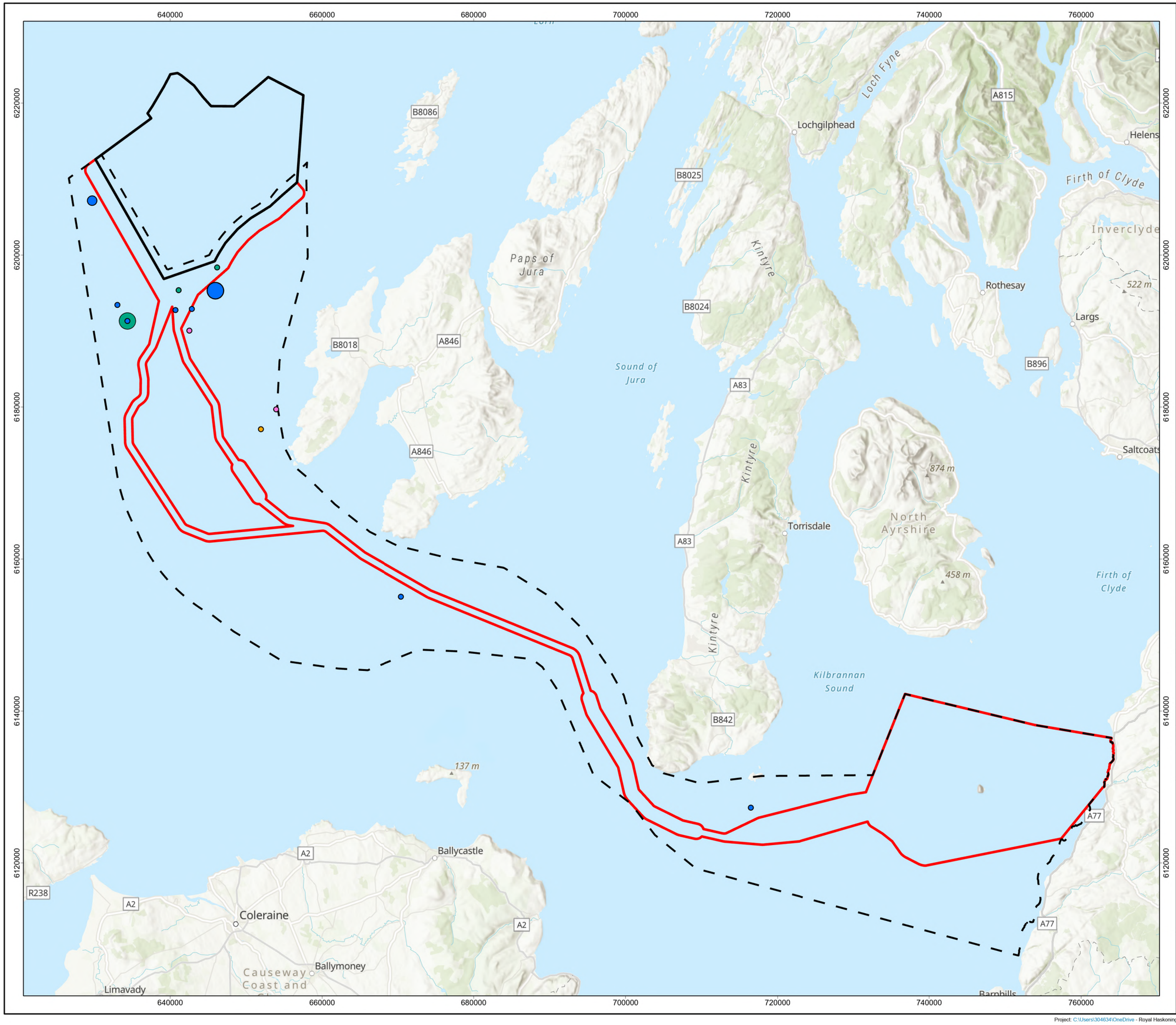
Name: Fig_7_MCW-GEN-GIS-MAP-RHS-000100_Biotopes



Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

***Ammodytes tobianus* Abundance**

- 0 - 2
- 2 - 4
- 4 - 8

***Ammodytes marinus* Abundance**

- 0 - 2
- 4 - 6

***Gymnammodytes semisquamatus* Abundance**

- 0 - 2

***Hyperoplus lanceolatus* Abundance**

- 0 - 2

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000100		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:475,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 8: Sandeel species and abundance from third-party data

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World Ocean Reference: Sources: Esri, TomTom, Garmin, GEBCO, National Geographic, NOAA, and the GIS User Community
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World Ocean Base: Esri, GEBCO, Garmin, NaturalVue

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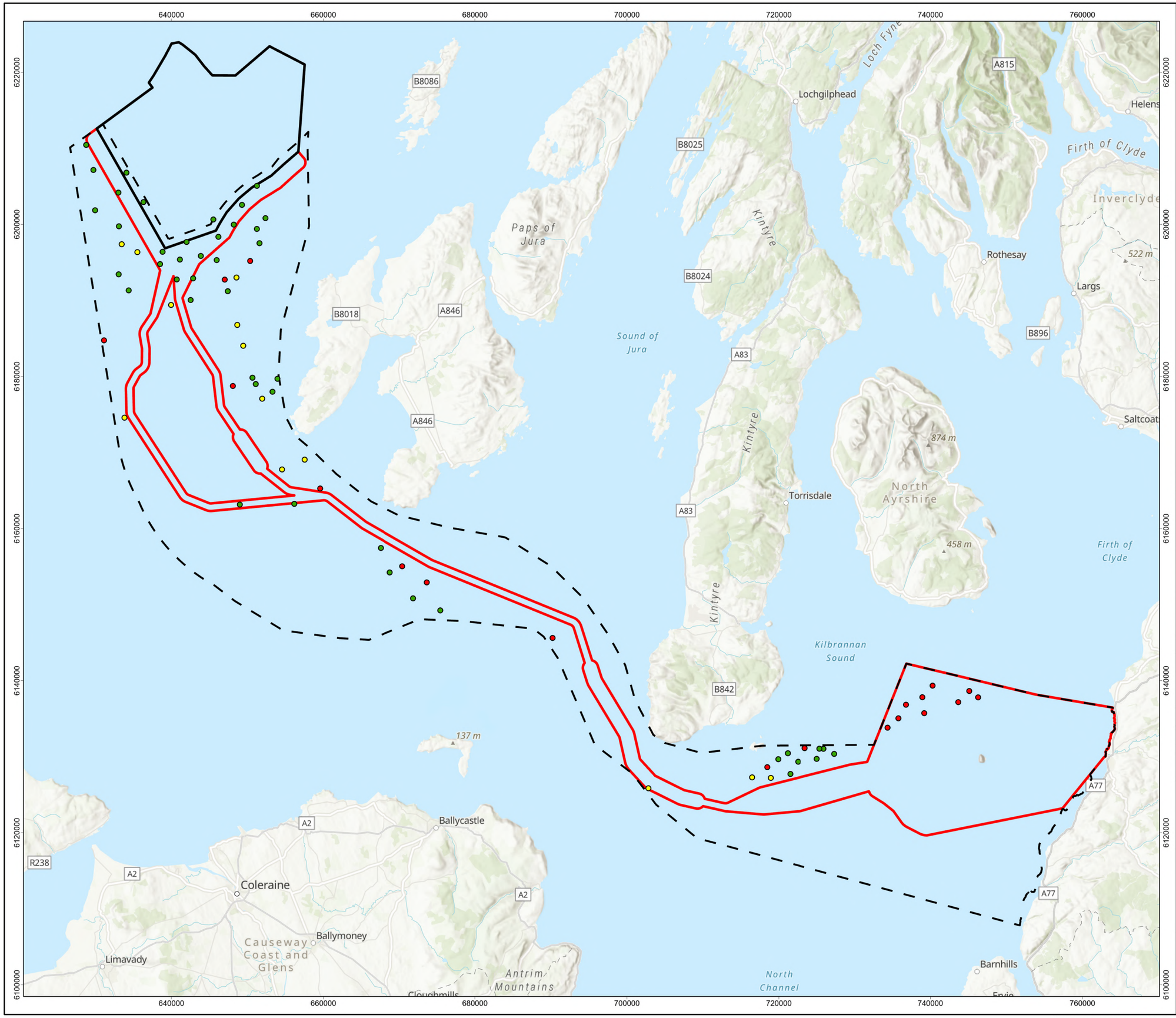

Windfarm Development Area

Preliminary Export Cable Corridor

Export Cable Corridor Area of Search

Sand Eel Habitat

- Marginal
- Preferred
- Unsuitable

N

0 4 8 12 16 20 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
2	18/12/2025	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000100		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:475,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 9: Preferred sandeel habitat results from the third-party benthic survey 2021

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World Ocean Reference: Sources: Esri, TomTom, Garmin, GEBCO, National Geographic, NOAA, and the GIS User Community
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue

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Name: Fig_9_MCW-GEN-GIS-MAP-RHS-000100_Biotopes

4 Survey Methodology and Implementation

This section of the sampling strategy summarises the survey methods that will be undertaken.

4.1 Benthic Survey

The benthic survey will collect samples to investigate the biology and chemistry of the benthic environment across the preliminary Offshore ECC. The survey techniques will include benthic grab sampling and DDV. Sampling stations will be sited to enable sufficient coverage of seabed habitats and biotopes and a representative spread of depth throughout the preliminary Offshore ECC. Whilst it is anticipated that nearshore samples will be able to be accommodated by the contracted survey vessel, following confirmation of the survey vessel, some nearshore sample locations may need to be refined or removed if the survey contractor deems it not possible or unsafe to sample the currently selected locations. An intertidal survey is being undertaken in the event that a trenched solution for landing the cable is required, with the methodology for this provided in **Section 4.4**.

The objectives of the benthic survey are to:

- Collect data on the benthic communities;
- Collect data on the sediment characteristics;
- Identify and document the occurrence of any species or communities of conservation importance; and
- Identify the presence, abundance, and distribution of epibenthic species, mobile epifauna and the presence and extent of habitats.

4.1.1 Sampling strategy

It should be noted that the Clyde Sea Sill MPA lies within the preliminary Offshore ECC. The biodiversity features that the MPA is protected for are black guillemot (*Cepphus grylle*) and the habitats that support their prey species; circalittoral sand and coarse sediment communities.[3] In the Conservation and Management Advice for the MPA, NatureScot (2025) comment that there are gaps in the knowledge and understanding of the benthic habitats and opportunistic sampling would benefit the understanding of the distribution of the biodiversity features. It should be noted that disturbance from the use of a 0.1 m² grab sampler would be minimal and temporary and the sedimentary habitats of the MPA are noted to be in favourable condition and are understood to have some capacity to absorb a degree of disturbance.

A 4x4 km triangular grid was applied throughout the preliminary Offshore ECC and within each cell a sampling point was randomly assigned. Where third-party sampling points sufficiently covered the area or there was a less than 10% overlap of the grid, the randomly assigned points were removed. Points within the MPA were further spatially reduced to limit damage and disturbance to the protected features. Where models lack habitat information these are assigned as 'NA'.

For the whole of the preliminary Offshore ECC, sample locations were further reviewed and refined, micro-siting stations to ensure habitat representativity. Marine theme data and known wreck locations (UKHO data) were used to determine the location of known substructures and wrecks for avoidance. Where these and any existing infrastructure were identified, sampling locations were either removed or relocated outside of a 100 m radius from wrecks and a 500 m radius from infrastructure. In the nearshore area, a 750 m buffer

[3] *NatureScot.2025. Clyde Sea Sill MPA. Conservation and Management Advice. Available online Conservation and Management Advice - Clyde Sea Sill MPA - Final Version*

from MHWS, where no samples will be collected, has been implemented to account for the likely distance offshore of the HDD exit location.

Therefore, using a 4x4 km triangular grid throughout the preliminary Offshore ECC, discounting those grids with a third-party sample and those with a less than 10% grid overlap then randomly selecting a sample location within grids, a total of 192 sample locations have been defined. This approach broadly aligns with that of the WDA sampling strategy.

The sample locations are subject to change or refinement during the survey by the Contractor's marine ecologist, depending on the result of the DDV feed. This will be done to ensure that:

- The habitat is suitable for sampling;
- Sensitive habitats are not disturbed; and
- All habitats and depth categories are equally represented.

A decision tree, outlined in **Appendix 2**, will be used by the Contractor's marine ecologist when making the decision to relocate/microsite the proposed sampling point to a more suitable location. Each sample location will be logged with the original location and reason for relocation, e.g., grab sample relocated at least 50m to the east to avoid rocky substrata. The DDV will be deployed at grab stations without transect coverage in order to ground truth the station and, where sensitive habitats or hazards are identified, no grab sampling will be undertaken to minimise disturbance to these features. When relocating a grab sampling location, if the results of a DDV transect *in situ* encounters the same issues, relocating to this target should also be avoided. In these circumstances, seabed imagery shall be deemed to be sufficient for benthic characterisation purposes, and no further sampling shall be required.

In addition to the relocation/micro-siting of sampling locations, where necessary, the total number of grab sampling stations may be increased by the competent marine ecologist to enable proportionate representation of habitats to be achieved. Should more than 20% of sample locations need to be re-located, then changes will be reviewed by Haskoning (as the Lead EIA Consultant for the Project).

4.1.2 Grab Sampling Method

A single replicate sample will be collected at each station using a 0.1 m^2 grab sampler (**Figure 10, Figure 11** and **Figure 12**). A mini-Hamon grab, dual Van Veen grab or other suitable grab will be used for sediment collection, depending on the sediment type. The mini-Hamon grab is more suited to coarser substrates, whilst the dual Van Veen is more suitable for softer sediment. A mini-Hamon grab may be smaller than 0.1 m^2 and may require double deployment to collect sufficient volume (≥5litres) of sediment for faunal, PSA, and contaminant sample analysis. Up to three attempts can be made to acquire a sufficient sample. A decision on which grab to use will be made in-situ based on the DDV imagery analysis. In total, an estimated 175 grab samples will be undertaken across the preliminary Offshore ECC.

The samples will be packaged following demobilisation and transported to an accredited laboratory for faunal extraction and quantitative analysis of benthic infauna in accordance with the National Marine Biological Analytical Quality Control (NMBAQC) '*Guidelines for Processing Marine Macrobenthic Invertebrate Samples: A Processing Requirements Protocol*'. Storage methods will be confirmed during procurement of the survey contractor.

4.1.3 Particle Size Analysis

PSA will be undertaken from sediment samples collected in conjunction with the fauna samples, with sub-samples being collected from each of the 175 grab samples. All PSA samples will be 0.5L in volume and will be frozen in the field where possible. The samples shall then be analysed at a laboratory participating in the PSA component of the NMBAQC scheme in line with the latest Best Practice Guidance.[4]

The PSA will be provided in the following formats:

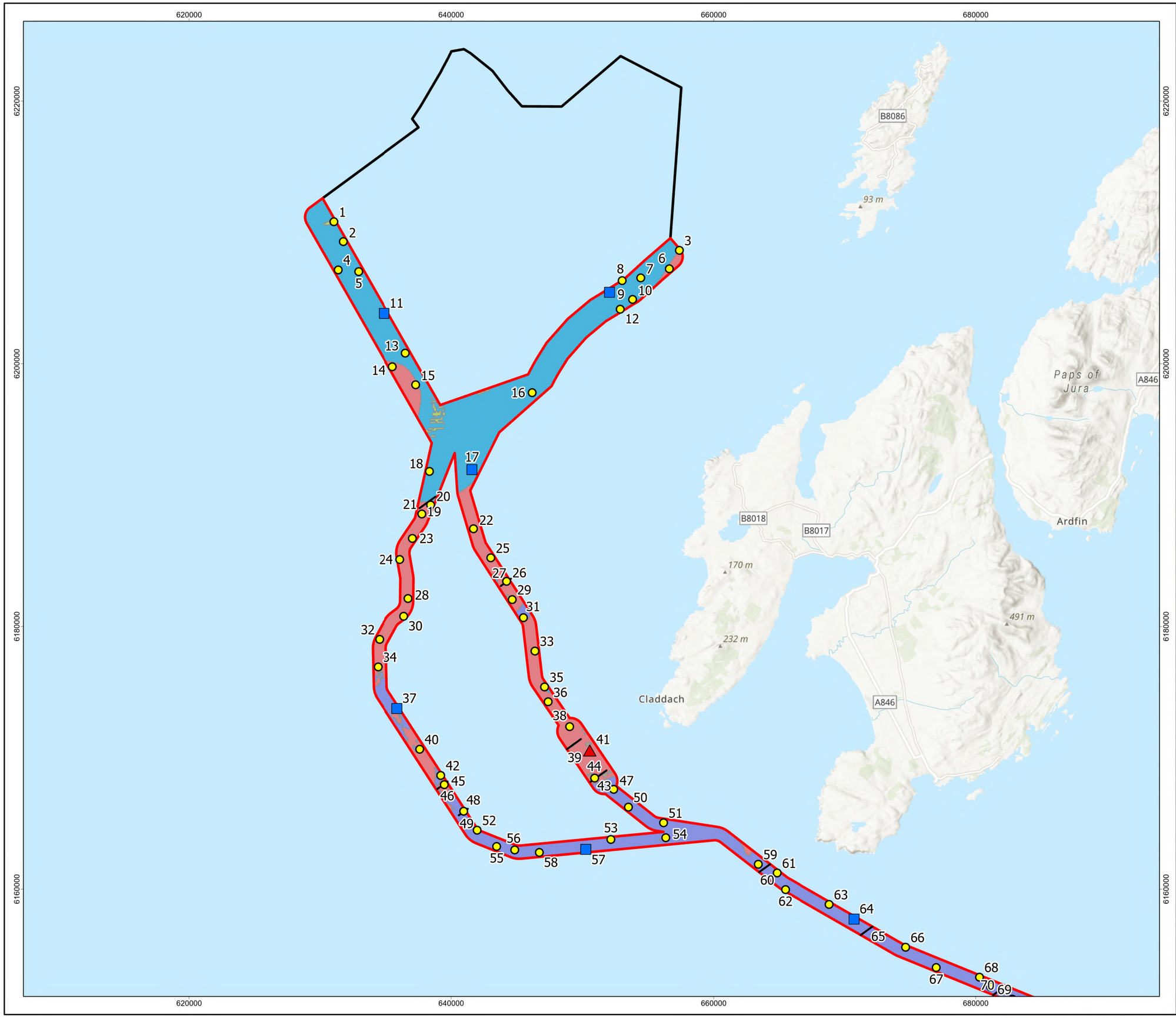
- Full particle size distribution;
- Mean particle size;
- Sorting coefficient;
- Skewness;
- Modal size; and
- Kurtosis.

4.1.4 Transects

It is proposed that DDV spot checks will be co-located with each grab sample due to the lack of geophysical data prior to the survey (**Figure 10, Figure 11** and **Figure 12**). Seventeen additional DDV only transects are proposed where rocky substrates are predicted (indicated by a solid black line only). Additional DDV transects will be collected where there are potential features of interest such as sensitive habitats, hard/coarse ground is identified and where features of potential archaeological significance are identified. The decision-making process outlining the key considerations and steps to take to relocate or include additional DDV transect locations is described in **Appendix 2**. DDV transect tows should aim to cover 150 m and obtain images as frequently as possible depending on the visibility and focus of the features and height from the seabed (~1 m).

All visual imagery will be collected in accordance with the Joint Nature Conservation Committee Epibiota Remote Monitoring from Digital Imagery: Operational Guidelines.[5]

[4] *Mason, C. (2016). NMBAQC's best practice guidance. Particle size analysis (PSA) for supporting biological analysis. National Marine Biological AQC Coordinating Committee.*
[5] *Hitchin, R., Turner, J.A., Verling, E. 2015. Epibiota remote monitoring from digital imagery: Operational guidelines.*



Windfarm Development Area

Preliminary Export Cable Corridor

Proposed Benthic Sampling Point and Drop Down Video Station

Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point

Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point

Proposed Drop Down Video Location Only

Marine Habitat Classification

Circalittoral coarse sediment (SS.SCS.CCS)

Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)

Deep sponge communities (circalittoral) (CR.HCR.DpSp)

High energy circalittoral rock (CR.HCR)

Offshore circalittoral coarse sediment (SS.SCS.OCS)

Offshore circalittoral sand (SS.SSa.Osa)

N

0 4 8 12 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	05/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-DWF-ENV-MAP-RHS-000180		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:275,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 10: Proposed benthic grab stations and DDV for the ECC

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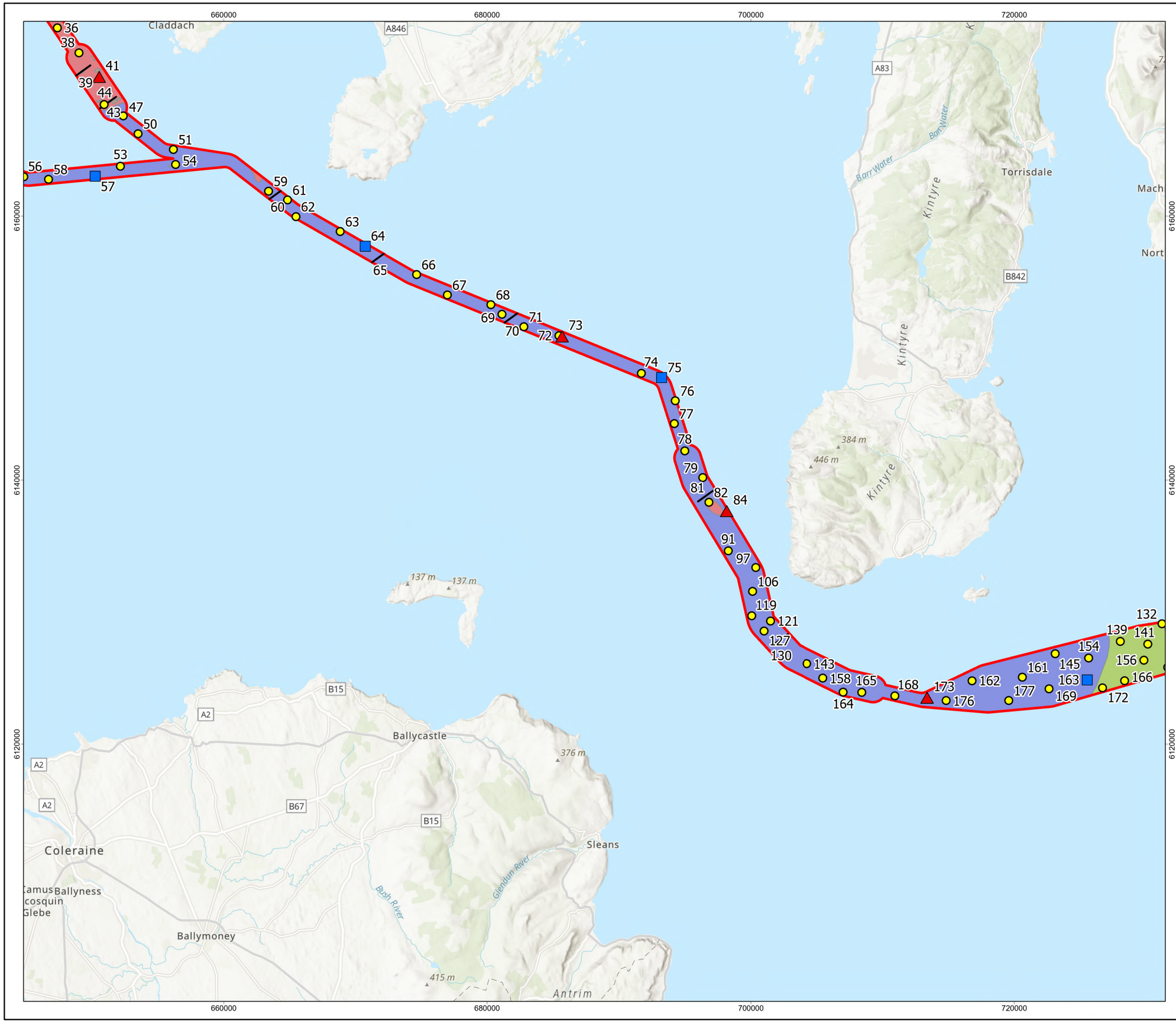

Windfarm Development Area

Preliminary Export Cable Corridor

Proposed Benthic Sampling Point and Drop Down Video Station

Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point

Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point

Proposed Drop Down Video Location Only

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- High energy circalittoral rock (CR.HCR)
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral mixed sediment (SS.SMx.Omx)
- Offshore circalittoral mud (SS.SMu.Omu)
- Offshore circalittoral sand (SS.SSa.Osa)

N

0 4 8 12 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	05/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-DWF-ENV-MAP-RHS-000180		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:275,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 11: Proposed benthic grab stations and DDV for the ECC

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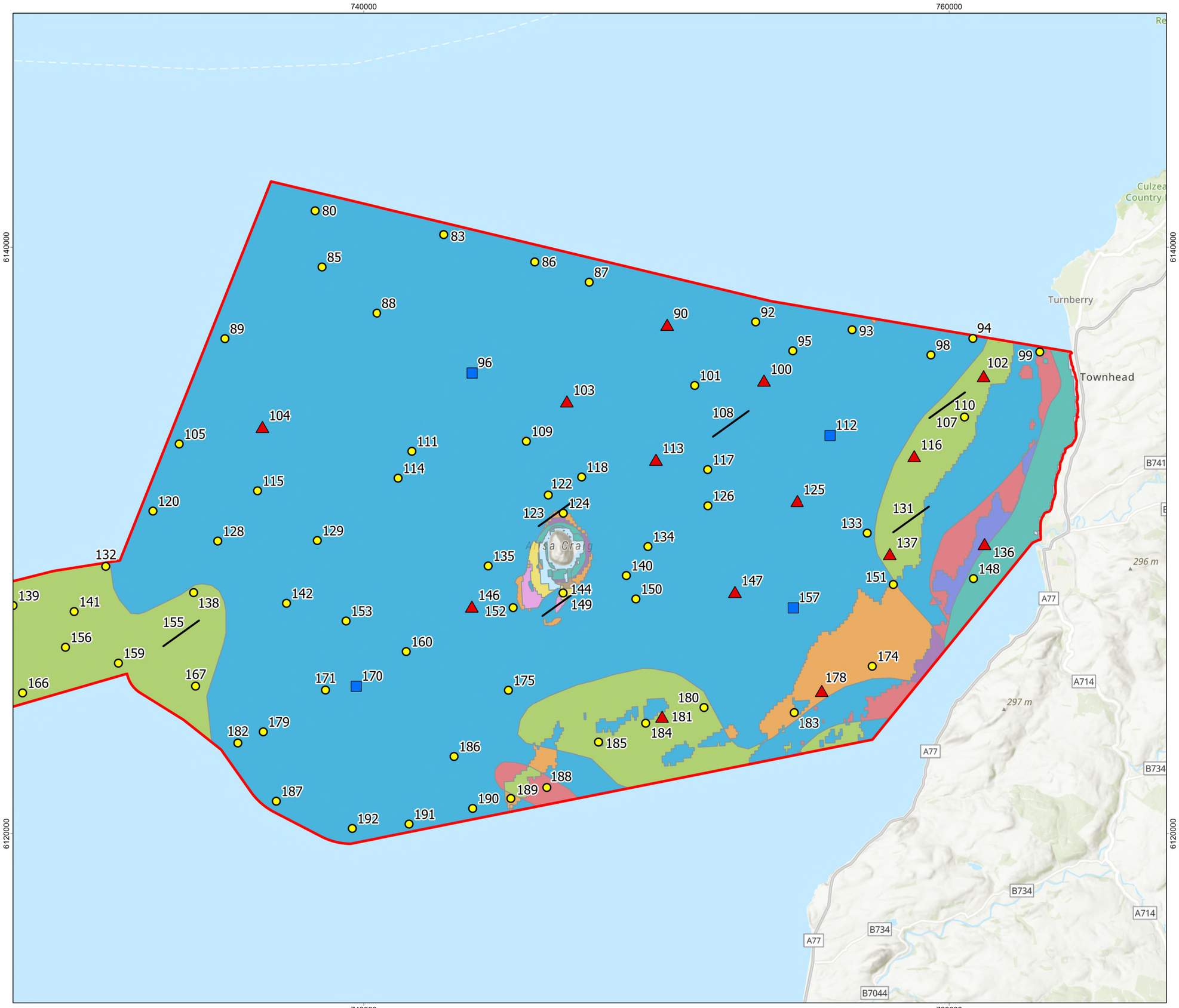

Windfarm Development Area
Preliminary Export Cable Corridor
Proposed Benthic Sampling Point and Drop Down Video Station
Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
Proposed Drop Down Video Location Only

Marine Habitat Classification

Circalittoral coarse sediment (SS.SCS.CCS)
Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
Circalittoral mixed sediment (SS.SMx.CMx)
Circalittoral sandy mud (SS.SMu.CSaMu)
Deep sponge communities (circalittoral) (CR.HCR.DpSp)
High energy circalittoral rock (CR.HCR)
High energy infralittoral rock (IR.HIR)
Infralittoral coarse sediment (SS.SCS.ICS)
Infralittoral fine sand (SS.SSa.IFiSa) or Infralittoral muddy sand (SS.SSa.IMuSa)
Infralittoral mixed sediment (SS.SMx.Imx)
Infralittoral sandy mud (SS.SMu.ISaMu)
Low energy circalittoral rock (CR.LCR)
Moderate energy circalittoral rock (CR.MCR)
Moderate energy infralittoral rock (IR.MIR)
NA
Offshore circalittoral mixed sediment (SS.SMx.Omx)
Offshore circalittoral mud (SS.SMu.Omu)
Offshore circalittoral sand (SS.SSa.Osa)

N

0 4 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	05/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-DWF-ENV-MAP-RHS-000180		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:125,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 12: Proposed benthic grab stations and DDV for the ECC

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4.2 Contaminant Sampling

Representative samples for finer sediment types are mostly targeted for contaminants as those that are almost exclusively sand, gravel or rock are not known to harbour contaminants well or at all.[6] Two grab samples will be obtained at the contaminant stations, one for benthic infauna, as described above, and the second for contaminant analysis. Offshore of Ailsa Craig, four contaminant stations are proposed to get a coverage of the habitats present (**Figure 13** and **Figure 14**). Fourteen contaminant samples are proposed closer to shore (**Figure 15)** as fine sediment habitats are expected (e.g. deep circalittoral mud, circalittoral sandy mud, circalittoral fine sand/muddy sand etc) and they are closer to potential anthropogenic sources of contamination and therefore have a higher potential to contain contaminants. A total of 18 contaminant samples are proposed across the preliminary Offshore ECC.

The objectives of the contamination survey are to:

- Provide samples for contaminant testing and analysis in the top 0.15 m of the seabed to inform the EIA; and
- Provide samples for contaminant testing and analysis from the seafloor to a specified study depth below the seabed.

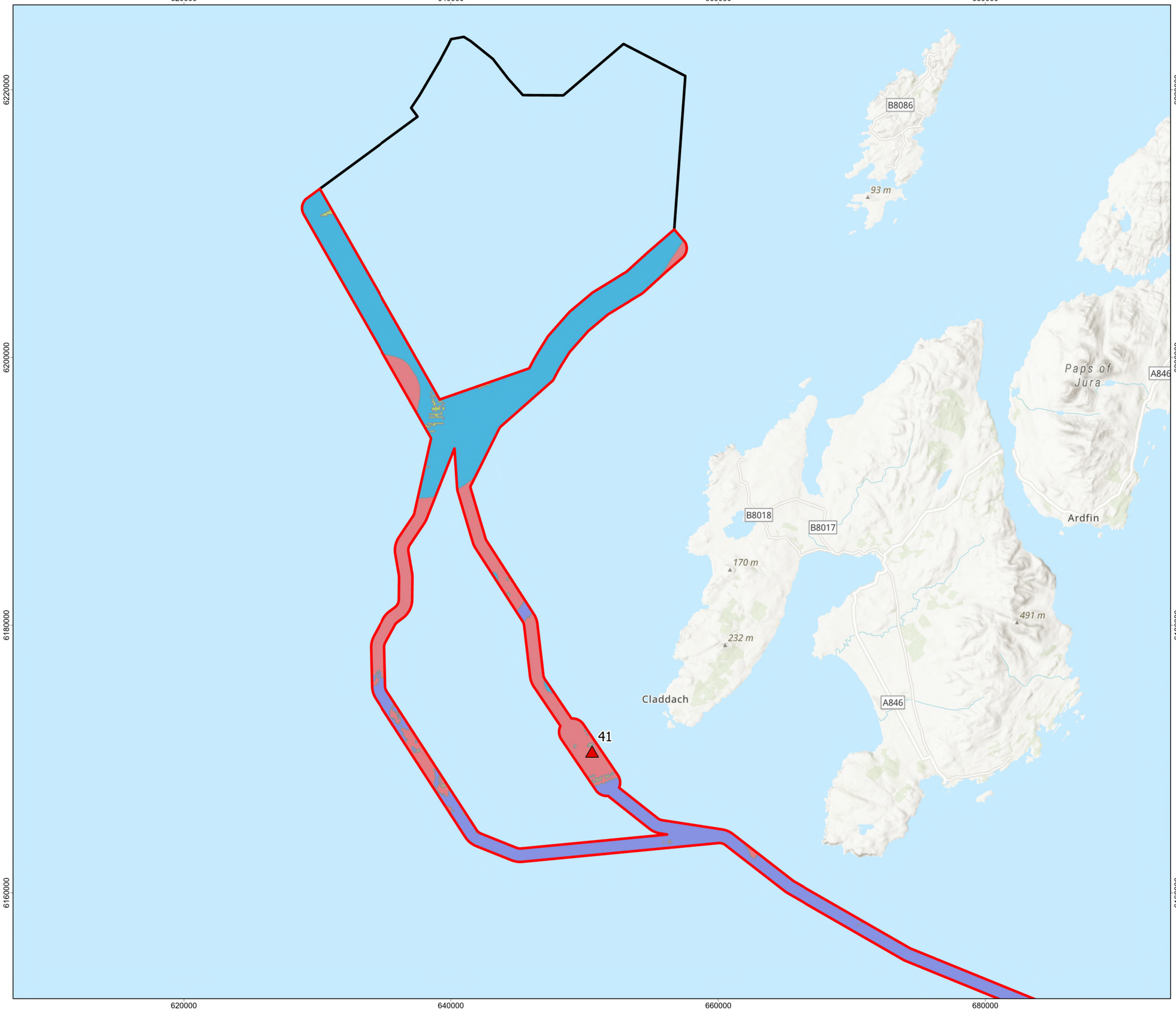
All samples will be retrieved in accordance with the following guidelines:

- MD-LOT Pre-Disposal Sampling Guidance, Version 2 November 2017; and
- Clean Seas Environmental Monitoring Programme (CSEMP) Green Book.

Analysis shall be undertaken by an accredited laboratory for the following contaminants:

- Trace metals (arsenic, cadmium, chromium, copper, mercury, nickel, lead, zinc);
- Total hydrocarbons (THC);
- Polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyls (PCBs);
- Organotin;
- Organochlorine pesticides (in nearshore samples i.e. within the inshore of Aisla Craig); and
- Faecal indicator analysis (in nearshore samples i.e. within the inshore of Aisla Craig).

[6] *https://dredging.org/documents/ceda/downloads/environment-ospar-dmguidelines.pdf*



Windfarm Development Area

Preliminary Export Cable Corridor

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
- Deep sponge communities (circalittoral) (CR.HCR.DpSp)
- High energy circalittoral rock (CR.HCR)
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral sand (SS.SSa.Osa)
- Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point

N

0 4 8 12 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	10/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000099		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:275,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 13: Proposed contaminant sampling stations for the ECC (a)

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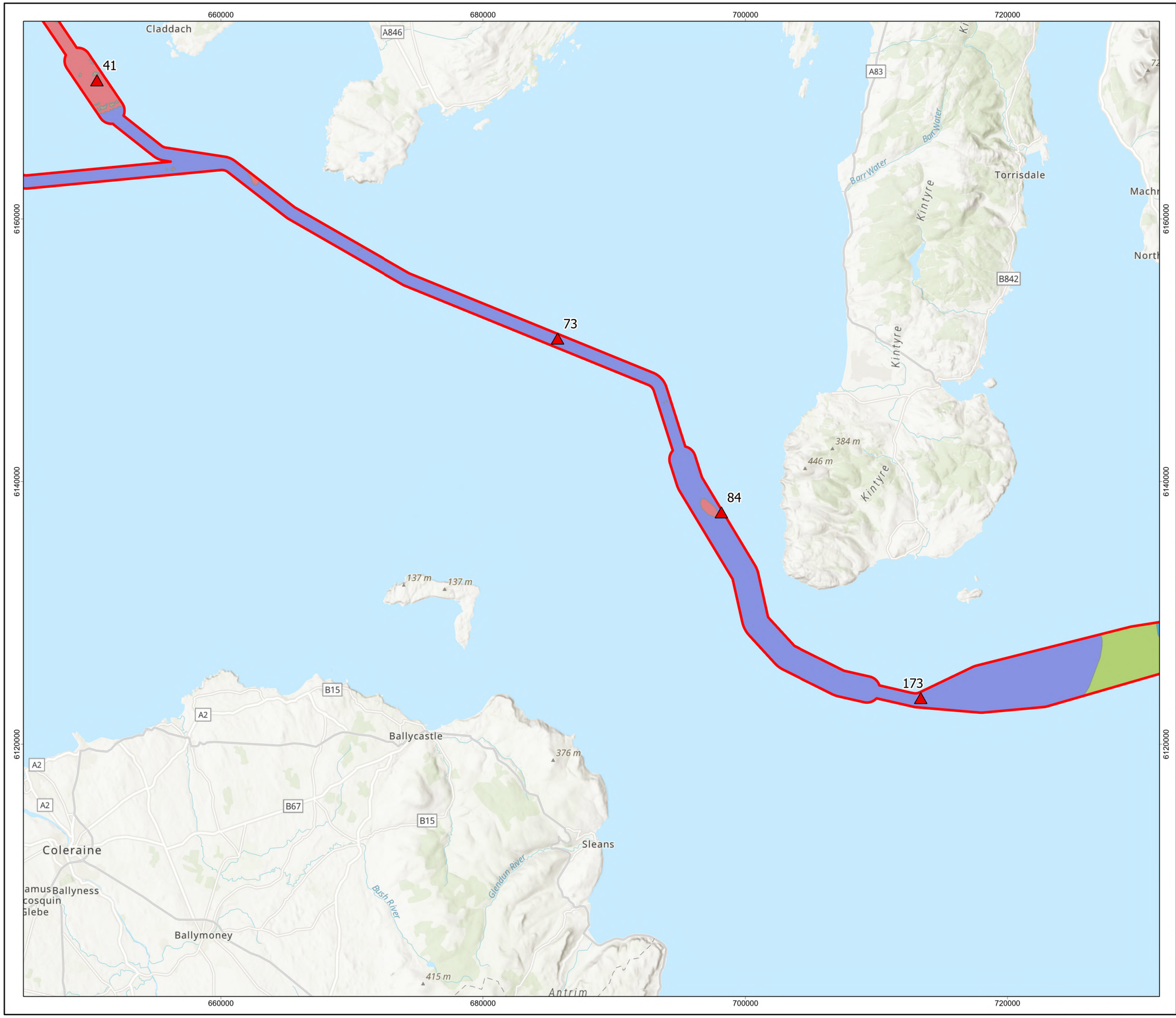

Windfarm Development Area

Preliminary Export Cable Corridor

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
- High energy circalittoral rock (CR.HCR)
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral mixed sediment (SS.SMx.Omx)
- Offshore circalittoral mud (SS.SMu.Omu)
- Offshore circalittoral sand (SS.SSa.Osa)

N

0 4 8 12 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	10/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000099		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:275,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 14: Proposed contaminant sampling stations for the ECC (b)

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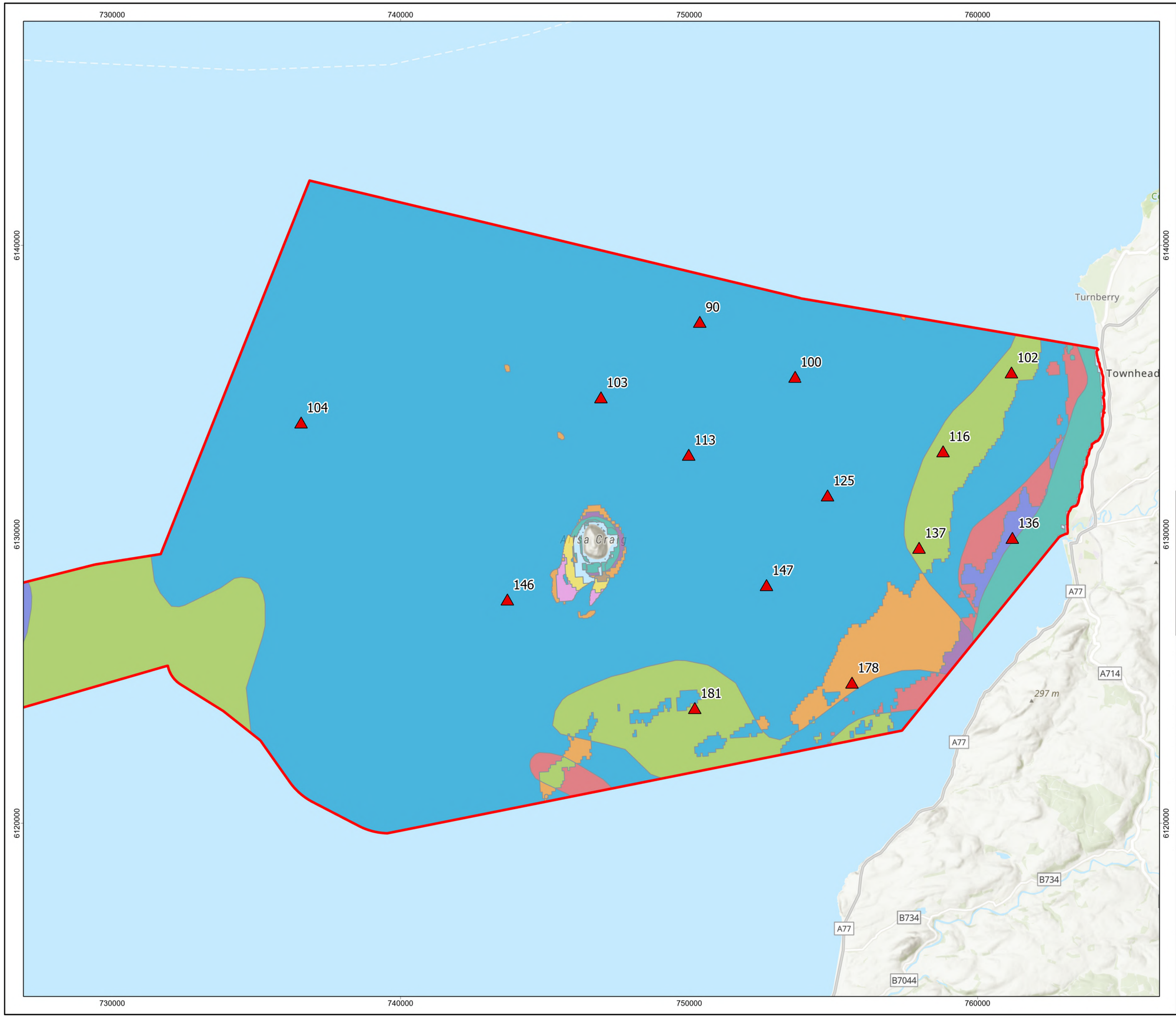

Windfarm Development Area

Preliminary Export Cable Corridor

Marine Habitat Classification

- Circalittoral coarse sediment (SS.SCS.CCS)
- Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)
- Circalittoral mixed sediment (SS.SMx.CMx)
- Circalittoral sandy mud (SS.SMu.CSaMu)
- Deep sponge communities (circalittoral) (CR.HCR.DpSp)
- High energy circalittoral rock (CR.HCR)
- High energy infralittoral rock (IR.HIR)
- Infralittoral coarse sediment (SS.SCS.ICS)
- Infralittoral fine sand (SS.SSa.IFiSa) or Infralittoral muddy sand (SS.SSa.IMuSa)
- Infralittoral mixed sediment (SS.SMx.Imx)
- Infralittoral sandy mud (SS.SMu.ISaMu)
- Low energy circalittoral rock (CR.LCR)
- Moderate energy circalittoral rock (CR.MCR)
- Moderate energy infralittoral rock (IR.MIR)
- NA
- Offshore circalittoral coarse sediment (SS.SCS.OCS)
- Offshore circalittoral mixed sediment (SS.SMx.Omx)
- Offshore circalittoral mud (SS.SMu.Omu)
- Offshore circalittoral sand (SS.SSa.Osa)

N

0 4 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	10/02/2026	AB	GC	CG	PM

DRAWING NUMBER	MCW-GEN-GIS-MAP-RHS-000099		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:125,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 15: Proposed contaminant sampling stations for the ECC (c)

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4.3 eDNA Survey

eDNA survey methods will align with those undertaken during the Project's 2023 site investigation strategy for the WDA. eDNA sample locations will be taken at each contaminant sample station and an additional 12 stations (see **Figure 10** to **Figure 12**). Water samples will be collected from the near surface water and the near seafloor water using a 5L Niskin bottle.

4.4 Intertidal Benthic Survey

To establish comprehensive baseline ecological conditions across the full extent of the proposed ECC and to assess the intertidal ecological features may be impacted by the Project, the benthic sampling programme for the preliminary Offshore ECC will be extended to include the intertidal zone at the proposed landfall zone options (**Figure 16**).

A modified walkover survey will be undertaken in accordance with the JNCC Marine Monitoring Handbook Procedural Guidelines. Intertidal biotopes within the study area will be identified and characterised in accordance with the JNCC Marine Habitat Classification system for Britain and Ireland. Where practicable, the survey will be conducted during low spring tides to facilitate access to the lowest parts of the shore and the sub-littoral fringe, with survey activities commencing at least two hours before low water (subject to daylight constraints) to allow sufficient working time.

At each landfall zone, a transect will be established from the supralittoral to the low spring tide level at 500 m intervals across the landfall zones. The precise alongshore spacing of these transects has not been defined at this stage. As a minimum, three stations will be positioned along each transect to represent the lower, mid- and upper littoral zones. Additional sampling stations may be required where habitat heterogeneity or specific ecological features are present. Such stations may be located either along the transects or elsewhere within the entire intertidal landfall corridor, to ensure that the full range of intertidal habitats is adequately represented.

Additional stations will be selected at the discretion of the survey contractor's senior in-field scientist, with a maximum of five supplementary stations per landfall zone anticipated. Each station will be defined by a 1 m^2 quadrat positioned at a pre-determined GPS coordinate and micro-sited as necessary by the survey contractor.

During the walkover survey, a qualitative assessment of surface fauna and vegetation abundance will be completed. Where high abundances are recorded, further assessment of visible indicators, such as siphon holes, burrows or casts, will be undertaken. Target notes will document macrophyte presence, along with sediment characteristics assessed using a Munsell chart. For each biotope, georeferenced still photographs with scale will be captured to record extent and distribution.

Following the walkover survey, a quantitative assessment will extend the offshore/nearshore sampling methodology (**Section 4.1**) into the intertidal zone. The upper 10 cm of sediment from an approximately 20 cm x 20 cm area within each quadrat will be sampled for PSA and contaminants using a spade or hand corer. For faunal sampling, the section will be excavated to an additional depth of approximately 30 cm to identify deeper burrowing macrofauna. Samples will be sieved in the field through a 0.5 mm mesh, and survey metadata will be recorded, where possible, in alinement with offshore and nearshore methods to ensure comparability.

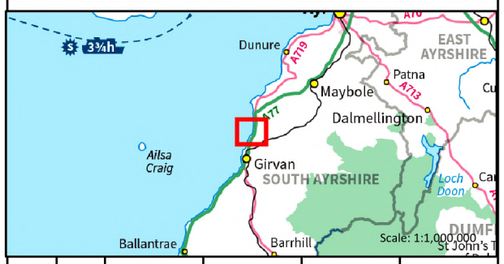
Retained samples will be preserved and transported to an accredited laboratory for full analysis, including:

- Taxonomic processing of faunal samples;
- Particle size distribution;
- Heavy Metals (Al, As, Cd, Cr, Cu, Fe, Hg, Ni, Pb, Zn);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Polychlorinated Biphenyls (PCBs);
- Total Organic Carbon (TOC); and
- Organotin (tributyltin and dibutyltin).

Potential Landfall Zones

N

0 1,000 Metres



1	05/02/2026	AB	GC	PM	CG
REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER

DRAWING NUMBER	MCW-DWF-ENV-MAP-RHS-000181		
DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:15,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 16: Potential Landfall Locations

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Project: C:\Users\304634\OneDrive - Royal HaskoningDHV\WIP\03 GIS\A02_Figures\03_EIA\01_WDA\Other_Reports\BenthicMethodStatement\Feb_2026_Update\MCW_BenthicMethodStatement_Feb2026.aprx
Name: Fig_16_MCW-DWF-ENV-MAP-RHS-000181_LandfallLocations

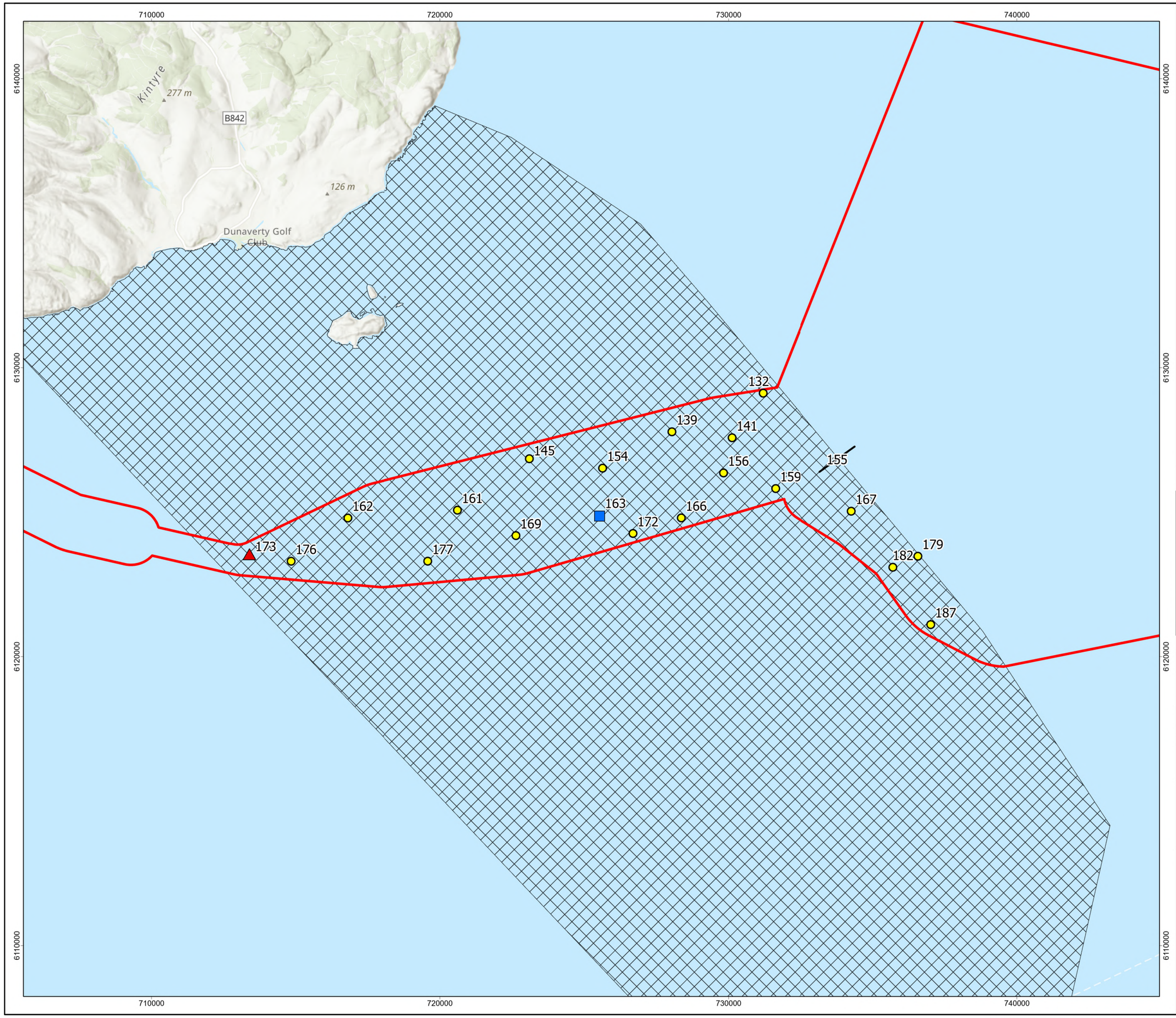
5 Designated Site / Priority Marine Feature Risk Assessment

There is a requirement to submit a marine licence exemption request to the Marine Directorate in relation to the proposed benthic surveys detailed in this document. Specifically, an exemption applies to the removal of sediment samples because each sample taken will measure less than one cubic metre. A marine licence exemption request requires the consideration of designated sites and PMFs that could be affected by the proposed activities.

As identified in **Section 4.1.1**, the Clyde Sea Sill MPA lies within the preliminary Offshore ECC. As such, consideration of potential effects on the site are detailed in **Section 5.1**. Consideration of potential effects on PMFs are presented in **Section 5.2**.

5.1 Consideration of Effects on the Clyde Sea Sill NCMPA

The biodiversity features that the NCMPA is protected for are black guillemot (*Cepphus grylle*) and the habitats that support their prey species; circalittoral sand and coarse sediment communities. Up to 20 samples are proposed to be collected within the Clyde Sea Sill NCMPA boundary (as presented in **Figure 17**). Given the proposed survey activities are benthic in nature, there is no potential for direct effects to occur to black guillemot within the NCMPA. There does exist the potential for indirect effects to black guillemot to occur as a result of impacts on the habitat features of the site, however. As noted in **Section 4.1.1**, sampling points within the MPA were further spatially reduced to limit damage and disturbance to the protected features. Potential impacts on these features are assessed in **Sections 0** to **5.1.3** below.



Windfarm Development Area

Preliminary Export Cable Corridor

Marine Protected Areas

Proposed Benthic Sampling Point and Drop Down Video Station

Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point

Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point

Proposed Drop Down Video Location Only

N

0 4 Kilometres

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
1	11/02/2026	AB	GC	CC	PM

DRAWING NUMBER	MCW-DWF-ENV-MAP-RHS-000188		
DATUM	ETRS89	PROJECTION	UTM Zone 29N
SCALE	1:125,000	PAGE SIZE	A3
PROJECT TITLE	MachairWind		

Figure 17: Proposed sample locations within the Clyde Sea Sill NCMPA

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World Hillshade: Esri, Intermap, NASA, NGA, USGS
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
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Project: C:\Users\304634\OneDrive - Royal HaskoningDHV\WIP\03 GIS\A02_Figures\03_EIA\01_WDA\Other_Reports\BenthicMethodStatement\Feb_2026_Update\MCW_BenthicMethodStatement_Feb2026.aprx
Name: Fig_17_MCW-DWF-ENV-MAP-RHS-000188_SampleLocationMPA

5.1.1 Temporary Physical Disturbance / Habitat Loss

There exists the potential for temporary physical disturbance / habitat loss to occur within the Clyde Sea Sill NCMPA as a result of the grab sample activities proposed for this survey campaign.

Table 5.1 presents the sensitivity of the biotopes representative of the habitat present within the Clyde Sea Sill NCMPA to temporary physical disturbance / habitat loss, indicating they have an overall medium sensitivity to the pressure.

Table 5-1 Sensitivity of habitat features within the Clyde Sea Sill NCMPA to temporary physical disturbance / habitat loss

Receptor (IEF)	Representative Biotope	Tolerance	Recoverability	Sensitivity	Confidence Assessment
Habitat structure changes – removal of substratum (extraction)[7]					
Offshore circalittoral sand (SS.SSa.OSa) and Offshore circalittoral coarse sediment (SS.SCS.OCS)	*Abra prismatica, Bathyporeia elegans* and polychaetes in circalittoral fine sand (SS.SSa.CFiSa.ApriBatPo)	None	Medium	Medium	High
	Spirobranchus triqueter with barnacles and bryozoan crusts on circalittoral unstable cobbles and pebbles (SS.SCS.CCS.SpiB)	None	High	Medium	Low

Given the proposed use of a 0.1 m² grab sampler, the volume of material to be extracted is negligible in the context of the overall NCMPA. In addition, the sedimentary habitats of the MPA are noted to be in favourable condition and are understood to have some capacity to absorb a degree of disturbance.[8] As such, there is no potential for the proposed survey to have a significant impact on the Clyde Sea Sill NCMPA's biodiversity or habitat features.

5.1.2 Indirect effects on prey species

As noted in **Section 5.1.1** above, there is no potential for significant effects to occur as a result of temporary physical disturbance / habitat loss on the habitat features of the site. As such, the ability of the habitat features of the site to support the prey species on which black guillemot rely on will not be affected. Therefore, there will be no significant effect on black guillemot within the Clyde Sea Sill NCMPA or its associated prey species.

5.1.3 Mobilisation of sediment-bound contaminants and the accidental release of fuel and chemicals (e.g., oil) from vessels

The disturbance of sediments can lead to the mobilisation of sediment-bound contaminants (e.g., hydrocarbons), which could pose a risk of toxicity to the prey species upon which black guillemot depend on within the NCMPA. The accidental release of fuel and chemicals (e.g., oil) from operational vessels could also lead to deterioration in marine water quality with direct effects to the habitat features of the NCMPA.

While the potential levels of contaminants within the Offshore ECC are not yet known, given the minimal volume of sediment proposed to be extracted during the survey campaign within the NCMPA boundary, it

[7] *Equivalent MarESA pressure to temporary physical disturbance / habitat loss*
[8] *https://www.nature.scot/sites/default/files/nature-conservation-mpa/10414/conservation-and-management-advice.pdf*

is not considered likely that significant volumes of sediment-bound contaminants could be disturbed by the survey activities. As such there is not considered to be a significant risk of an increase in toxicity affecting prey species of black guillemot in the Clyde Sea Sill NCMPA.

Vessels will be required to comply with all relevant health, safety and environmental legislation. This includes compliance with the International Regulations for Preventing Collisions at Sea (1972) and regulations relating to International Convention for the Prevention of Pollution from Ships (the MARPOL Convention 73/78) with the aim of preventing and minimising pollution from ships. Most critically, all vessels shall have a contingency plan for marine oil pollution (Shipboard Oil Pollution Emergency Plan). Pollution prevention strategies would also be expected to be developed and implemented in accordance with the relevant Guidance for Pollution Prevention to reduce the potential for, and the scale of any environmental impacts. This includes development and implementation of an Emergency Spill Response Plan and a Waste Management Plan. With consideration of this good practice mitigation, the likelihood of an accidental spillage occurring from any of the operational vessels is considered to be very low. However, should a spill occur, the impact would be of very small magnitude and short-term.

As such, given the minimal volume of sediment proposed to be extracted during the survey campaign and embedded mitigation measures to ensure compliance with all relevant health, safety and environmental legislation, there will be no significant effect on the features of the Clyde Sea Sill NCMPA from potential mobilisation of sediment-bound contaminants and the accidental release of fuel and chemicals (e.g., oil) from vessels.

5.2 Consideration of Effects on PMFs

As the proposed survey campaign is for benthic sampling only, with no survey activities utilising noise-producing equipment, there is no potential for PMF's susceptible to disturbance / injury from noise effects (e.g. marine mammals, basking shark or fish species) to be affected by the proposed survey activities.

As noted in **Section 3.1**, four PMF habitat types (presented in **Figure 2** and **Figure 3**) are predicted to occur within the Offshore ECC

- Kelp beds (x3);
- Burrowed mud (x2);
- Low or variable salinity habitats (x1) (although note this area would be avoided through the use of HDD to land the export cable); and
- Annex I reef.

However, given the lack of existing information on distribution of PMF habitat types in the region, additional PMFs may also be present within the Offshore ECC.

5.2.1 Temporary Physical Disturbance / Habitat Loss

Benthic grab sampling could lead to temporary physical disturbance / habitat loss of benthic PMF's. Prior to the commencement of environmental sampling, DDV data will be reviewed to enable a pre-assessment of seabed habitats, and to identify whether any priority benthic habitats and/ or species may be present at the sampling stations. Should the presence of priority benthic habitats and/or species be confirmed, the precise sampling locations will be micro-sited to avoid damage or loss where practicable.

With consideration of this mitigation and given the small volume of material expected to be removed from each location, the surveys are not predicted to have any significant impact on the extent and integrity of benthic habitats and species. Thus, there would be no significant effect to any priority marine features from temporary physical disturbance / habitat loss.

5.2.2 Mobilisation of sediment-bound contaminants and the accidental release of fuel and chemicals (e.g., oil) from vessels

The disturbance of sediments can lead to the mobilisation of sediment-bound contaminants (e.g., hydrocarbons), which could pose a risk of toxicity to PMFs within the Offshore ECC.

While the potential levels of contaminants within the Offshore ECC are not yet known, as noted in **Section 5.1.3** the volume of sediment proposed to be extracted during the survey campaign within the Offshore ECC is minimal in comparison to the area of the Offshore ECC. As such, it is not considered likely that significant volumes of sediment-bound contaminants could be disturbed by the survey activities.

The same mitigation measures outlined in **Section 5.1.3** would be adhered to for all survey activities across the Offshore ECC.

As such, given the minimal volume of sediment proposed to be extracted during the survey campaign and embedded mitigation measures to ensure compliance with all relevant health, safety and environmental legislation, there would be no significant effect to any priority marine features from mobilisation of sediment-bound contaminants and the accidental release of fuel and chemicals (e.g., oil) from vessels.

6 Summary

It is anticipated that, in total, 192 stations will be sampled comprising:

Table 4-1 Number and type of samples

	Number of Samples Locations*
Benthic grab (fauna & PSA)	175
DDV	192
Contaminants	18
eDNA (water)	30

A number of sample types will be collected at the same location:

- Benthic sampling point, DDV, eDNA and contaminant = 18 stations;
- Benthic sampling point, DDV and eDNA = 12 stations;
- Benthic sampling point and DDV = 145 stations; and
- DDV only = 17 stations.

Appendix 4 provides the sample station coordinates, existing marine habitat classification type and station type.

A1 Appendix 1

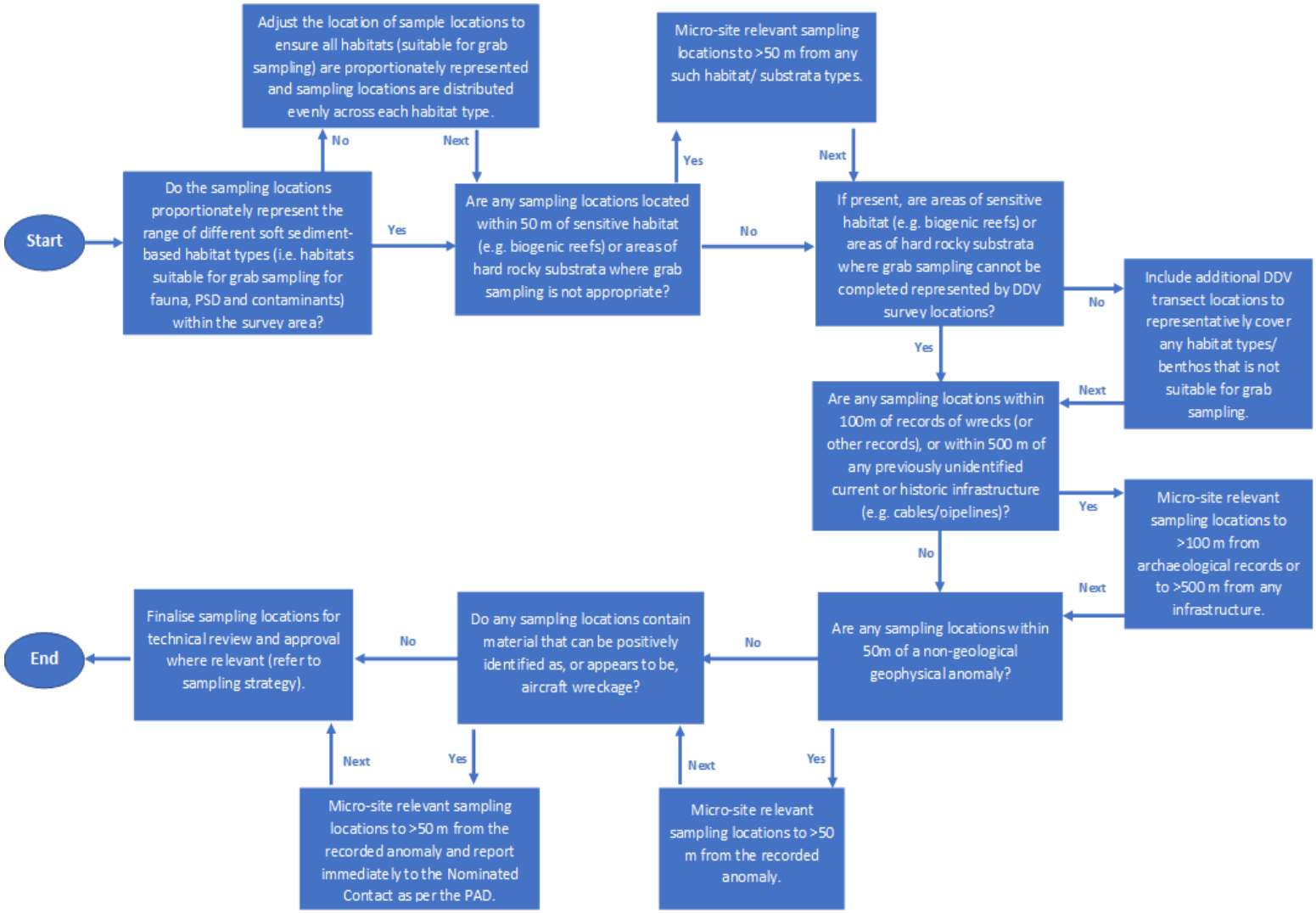
Notable species and habitats from the third-party grab sampling results

Grab Station	Notable species or habitats of interest
22	*Ammodytes marinus*
56	*Ammodytes marinus*
236	*Ammodytes marinus* *Ammodytes tobianus*
58	*Ammodytes tobianus*
86	*Ammodytes tobianus*
237	*Ammodytes tobianus*
247	*Ammodytes tobianus*
99	*Gymnammodytes semisquamatus*
111	*Gymnammodytes semisquamatus*
233	*Hyperoplus lanceolatus*
31	Preferred sand eel habitat
34	Preferred sand eel habitat
82	Preferred sand eel habitat
217	Preferred sand eel habitat
240	Preferred sand eel habitat
241	Preferred sand eel habitat
239	Preferred sand eel habitat *Ammodytes tobianus*
84	*Sabellaria* present (1)
59	*Sabellaria spinulosa* (1) *Amphiura (Ophiopeltis) securigera*
40	*Sabellaria spinulosa* (13)
138	*Sabellaria spinulosa* (14) *Atelecyclus rotundatus* *Modiolus modiolus* *Aequipecten opercularis*
147	*Sabellaria spinulosa* (15)
143	*Sabellaria spinulosa* (18) Aequipecten opercularis
122	*Sabellaria spinulosa* (2)
133	*Sabellaria spinulosa* (2) Rolandia coralloides

Grab Station	Notable species or habitats of interest
256	Sabellaria present (2) *Smittina crystallina*
249	*Sabellaria spinulosa* (22)
DDV35	*Sabellaria spinulosa* (25) *Rolandia coralloides*
85	*Sabellaria spinulosa* (28)
257	*Sabellaria spinulosa* (3) *Aequipecten opercularis* *Amphiura (Ophiopeltis) securigera*
259	*Sabellaria spinulosa* (38) *Tamarisca tamarisca* *Aequipecten opercularis*
127	*Sabellaria spinulosa* (4) *Ammodytes tobianus*
39	*Sabellaria spinulosa* ((4) *Tamarisca tamarisca*
140	*Sabellaria spinulosa* (40) *Polyplumaria flabellata* *Tamarisca tamarisca* *Lytocarpia myriophyllum*
152	*Sabellaria spinulosa* (5)
148	*Sabellaria spinulosa* (6)
161	*Sabellaria spinulosa* (63) *Tamarisca tamarisca* *Atelecyclus rotundatus* *Leptosynapta bergensis/Labidoplax media*
159	*Sabellaria spinulosa* (72) *Rolandia coralloides* *Aequipecten opercularis*
250	*Sabellaria spinulosa* (9)
124	*Sabellaria spinulosa* (98)
153	*Tamarisca tamarisca*

A2 Appendix 2

DDV onboard decision tree



A3 Appendix 3

The sample station coordinates, existing marine habitat classification type and station type i.e. benthic grab and drop-down video or drop-down video only are presented below.

Table A6-2 Sample station coordinates, existing marine habitat classification type and station type

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
1	56.02461364	-6.89757490	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
2	56.01081809	-6.88681254	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
3	55.99711570	-6.47636383	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
4	55.99157908	-6.89407019	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
5	55.98998173	-6.86908635	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
6	55.98477947	-6.48947057	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
7	55.97925507	-6.52472403	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
8	55.97784201	-6.54750062	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
9	55.97014085	-6.56339674	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
10	55.96472787	-6.53560716	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
11	55.96087358	-6.83940800	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
12	55.95834199	-6.55111144	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
13	55.93325745	-6.81494976	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
14	55.92421365	-6.83128358	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
15	55.91138759	-6.80345474	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
16	55.90339234	-6.66189496	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
17	55.85218032	-6.73830547	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
18	55.85188319	-6.79001863	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
19	55.83071274	-6.79359382	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Drop Down Video Location Only
20	55.82889791	-6.78989826	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
21	55.82293589	-6.80092553	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
22	55.81170219	-6.73875105	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
23	55.80643230	-6.81339341	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
24	55.79228585	-6.82956199	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
25	55.79145467	-6.71892923	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
26	55.77502203	-6.70066843	High energy circalittoral rock (CR.HCR)	Proposed Benthic Sampling Point and Drop Down Video Station
27	55.77436449	-6.70155801	High energy circalittoral rock (CR.HCR)	Proposed Drop Down Video Location Only
28	55.76545553	-6.82098258	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
29	55.76241086	-6.69457771	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
30	55.75340177	-6.82693669	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
31	55.74979067	-6.68168123	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
32	55.73812786	-6.85739271	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
33	55.72670173	-6.66910123	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
34	55.71934220	-6.86019371	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
35	55.70195370	-6.65889636	Circalittoral fine sand (SS.SSa.CFiSa) or Circalittoral muddy sand (SS.SSa.CMuSa)	Proposed Benthic Sampling Point and Drop Down Video Station
36	55.69175382	-6.65518523	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
37	55.69048040	-6.83867313	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
38	55.67424943	-6.63015929	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
39	55.66216655	-6.62577259	High energy circalittoral rock (CR.HCR)	Proposed Drop Down Video Location Only
40	55.66215108	-6.81255096	High energy circalittoral rock (CR.HCR)	Proposed Benthic Sampling Point and Drop Down Video Station
41	55.65795644	-6.60683619	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
42	55.64378484	-6.78812701	High energy circalittoral rock (CR.HCR)	Proposed Benthic Sampling Point and Drop Down Video Station
43	55.63973613	-6.59722067	High energy circalittoral rock (CR.HCR)	Proposed Drop Down Video Location Only
44	55.63850874	-6.60205530	High energy circalittoral rock (CR.HCR)	Proposed Benthic Sampling Point and Drop Down Video Station
45	55.63742338	-6.78417133	High energy circalittoral rock (CR.HCR)	Proposed Benthic Sampling Point and Drop Down Video Station
46	55.63701315	-6.78643771	High energy circalittoral rock (CR.HCR)	Proposed Drop Down Video Location Only
47	55.63033171	-6.57947271	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
48	55.61881757	-6.76172969	Deep sponge communities (circalittoral) (CR.HCR.DpSp)	Proposed Benthic Sampling Point and Drop Down Video Station
49	55.61826920	-6.76222134	Deep sponge communities (circalittoral) (CR.HCR.DpSp)	Proposed Drop Down Video Location Only
50	55.61783915	-6.56241521	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
51	55.60628569	-6.52065085	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
52	55.60555708	-6.74622254	Deep sponge communities (circalittoral) (CR.HCR.DpSp)	Proposed Benthic Sampling Point and Drop Down Video Station
53	55.59614803	-6.58502949	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
54	55.59603205	-6.51862415	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
55	55.59399680	-6.72329880	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
56	55.59122997	-6.70157810	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
57	55.58998273	-6.61573634	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
58	55.58894915	-6.67194311	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
59	55.57555350	-6.40810352	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
60	55.57275818	-6.40059991	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Drop Down Video Location Only
61	55.56914599	-6.38571170	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
62	55.55753279	-6.37633093	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
63	55.54627877	-6.32396222	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
64	55.53557885	-6.29452815	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
65	55.52723836	-6.28002092	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Drop Down Video Location Only
66	55.51496202	-6.23371828	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
67	55.50024857	-6.19781706	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
68	55.49244085	-6.14614749	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
69	55.48560688	-6.13335013	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
70	55.48278670	-6.12285680	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Drop Down Video Location Only

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71	55.47650966	-6.10774019	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
72	55.46941503	-6.06613925	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
73	55.46934407	-6.06242822	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
74	55.44140743	-5.96945105	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
75	55.43792042	-5.94546719	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
76	55.42177519	-5.93033892	Circalittoral coarse sediment (SS.SCS.CCS)	Proposed Benthic Sampling Point and Drop Down Video Station
77	55.40626466	-5.93266682	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
78	55.38741030	-5.92157114	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
79	55.36870973	-5.90157215	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
80	55.35954918	-5.23946256	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
81	55.35627384	-5.89859003	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Drop Down Video Location Only
82	55.35171454	-5.89548592	Offshore circalittoral mixed sediment (SS.SMx.Omx)	Proposed Benthic Sampling Point and Drop Down Video Station
83	55.35011160	-5.17088446	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
84	55.34575164	-5.87470797	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
85	55.34224571	-5.23738873	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
86	55.34021282	-5.12282524	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
87	55.33309556	-5.09423578	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
88	55.32723021	-5.20922437	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
89	55.32192489	-5.29154348	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station

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90	55.31896803	-5.05368807	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
91	55.31813881	-5.87495698	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
92	55.31806017	-5.00617073	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
93	55.31395501	-4.95444341	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
94	55.30912840	-4.88998248	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
95	55.30855608	-4.98714014	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
96	55.30730384	-5.15973828	Low energy circalittoral rock (CR.LCR)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
97	55.30594679	-5.84305939	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
98	55.30483936	-4.91298769	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
99	55.30378911	-4.85455700	Moderate energy infralittoral rock (IR.MIR)	Proposed Benthic Sampling Point and Drop Down Video Station
100	55.30022204	-5.00350204	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
101	55.29969426	-5.04078177	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
102	55.29765035	-4.88541972	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
103	55.29727645	-5.10978742	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
104	55.29456851	-5.27396314	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
105	55.29046604	-5.31906840	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
106	55.28982913	-5.84820372	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
107	55.28918434	-4.90585065	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Drop Down Video Location Only

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
108	55.28733429	-5.02262399	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Drop Down Video Location Only
109	55.28552463	-5.13268863	Low energy circalittoral rock (CR.LCR)	Proposed Benthic Sampling Point and Drop Down Video Station
110	55.28526022	-4.89693931	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
111	55.28439710	-5.19431878	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
112	55.28200841	-4.96952539	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
113	55.27792219	-5.06380306	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
114	55.27639851	-5.20249479	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
115	55.27487290	-5.27842140	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
116	55.27444564	-4.92511773	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
117	55.27375008	-5.03640002	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
118	55.27364934	-5.10412396	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
119	55.27326220	-5.85051621	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
120	55.27036970	-5.33503326	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
121	55.26910283	-5.82842432	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
122	55.26870351	-5.12254696	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
123	55.26299465	-5.11870312	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Drop Down Video Location Only
124	55.26290187	-5.11505309	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point and Drop Down Video Station
125	55.26283363	-4.98931259	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
126	55.26267580	-5.03740780	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station

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127	55.26252581	-5.83664256	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
128	55.26014720	-5.30115680	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
129	55.25868691	-5.24784121	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
130	55.25602435	-5.81815275	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Drop Down Video Location Only
131	55.25491273	-4.92876576	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Drop Down Video Location Only
132	55.25422223	-5.36187308	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
133	55.25151618	-4.95268447	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
134	55.25125983	-5.07072750	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
135	55.24804696	-5.15682600	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
136	55.24632572	-4.89022311	Infralittoral coarse sediment (SS.SCS.ICS)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
137	55.24495075	-4.94123765	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
138	55.24477214	-5.31554505	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
139	55.24371357	-5.41258531	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
140	55.24276743	-5.08315321	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
141	55.24089723	-5.38003964	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
142	55.23999356	-5.26613546	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
143	55.23902428	-5.78720655	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
144	55.23852307	-5.11753123	Deep sponge communities (circalittoral) (CR.HCR.DpSp)	Proposed Benthic Sampling Point and Drop Down Video Station
145	55.23760442	-5.49082573	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station

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146	55.23614898	-5.16676319	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
147	55.23611325	-5.02554718	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
148	55.23571055	-4.89726438	NA	Proposed Benthic Sampling Point and Drop Down Video Station
149	55.23546543	-5.11933587	Moderate energy circalittoral rock (CR.MCR)	Proposed Drop Down Video Location Only
150	55.23544134	-5.07876624	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
151	55.23534430	-4.94031463	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point and Drop Down Video Station
152	55.23487954	-5.14470460	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
153	55.23360272	-5.23476160	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
154	55.23352484	-5.45128625	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
155	55.23251733	-5.32335677	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Drop Down Video Location Only
156	55.23011190	-5.38568903	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
157	55.22997055	-4.99482780	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
158	55.22868796	-5.76879252	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
159	55.22441711	-5.35778835	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
160	55.22324072	-5.20320713	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
161	55.22275987	-5.53131403	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
162	55.22200722	-5.59130976	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
163	55.21869924	-5.45424479	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
164	55.21848877	-5.74534264	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
165	55.21773951	-5.72315707	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
166	55.21683496	-5.40989666	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
167	55.21614787	-5.31716090	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
168	55.21430837	-5.68401026	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
169	55.21395371	-5.50021785	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
170	55.21346136	-5.23123096	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point, Drop Down Video Station and eDNA Sampling Point
171	55.21283287	-5.24776233	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
172	55.21277555	-5.43656104	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
173	55.21250214	-5.64576252	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
174	55.21072890	-4.95413791	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point and Drop Down Video Station
175	55.20970537	-5.14967187	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
176	55.20944849	-5.62328572	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
177	55.20737833	-5.54882713	Offshore circalittoral coarse sediment (SS.SCS.OCS)	Proposed Benthic Sampling Point and Drop Down Video Station
178	55.20431961	-4.98190530	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
179	55.20107788	-5.28224456	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
180	55.20107289	-5.04558780	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
181	55.19923052	-5.06828253	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point, Drop Down Video Station, eDNA Sampling Point and Contaminated Sampling Point
182	55.19806662	-5.29616288	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
183	55.19792848	-4.99752017	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point and Drop Down Video Station

ID	Latitude	Longitude	Marine Habitat Classification	Station Type
184	55.19728488	-5.07726594	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
185	55.19232722	-5.10304743	Offshore circalittoral sand (SS.SSa.Osa)	Proposed Benthic Sampling Point and Drop Down Video Station
186	55.19036527	-5.18067877	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
187	55.17964425	-5.27725812	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
188	55.17932469	-5.13200344	Offshore circalittoral mixed sediment (SS.SMx.Omx)	Proposed Benthic Sampling Point and Drop Down Video Station
189	55.17657533	-5.15156946	Circalittoral sandy mud (SS.SMu.CSaMu)	Proposed Benthic Sampling Point and Drop Down Video Station
190	55.17417134	-5.17225610	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
191	55.17045300	-5.20671136	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station
192	55.17006263	-5.23742751	Offshore circalittoral mud (SS.SMu.Omu)	Proposed Benthic Sampling Point and Drop Down Video Station