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Commissioned Report - Seastar Research Limited
To - Scottish Government

As part of the project 'Engaging the fishing industry in marine environmental survey and monitoring' EMFF Project SCO1500.

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Marine Scotland is the directorate of the Scottish Government responsible for the intergrated management of Scotland's sea. Marine Scotland Science provides expert scientific and technical advice on marine and fisheries issues. Scottish Marine and Freshwater Science is a series of reports that publishes results of research and monitoring carried out by Marine Scotland Science. It also publishes the results of marine and freshwater scientific work that has been carried out for Marine Scotland under external commission. These reports are not subject to formal external peer-review.

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Biological Analyses Of Seabed Imagery From Within And Around Loch Alsh, Loch Carron, Wester Ross, Small Isles And South Arran Marine Protected Areas In 2018

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Summary

Background

The project "Engaging the fishing industry in marine environmental survey and monitoring", funded by the European Maritime and Fisheries Fund and running from 2017-2020 is led by Marine Scotland (a directorate of the Scottish Government) and supported by Scottish Natural Heritage (now known by its operating name "NatureScot"). Four seabed surveys were carried out in 2018 under this project using a drop-down video system commissioned by Marine Scotland and deployed from a fishing vessel in and around a total of five Marine Protected Areas off western Scotland. The objective of each survey was to collect data to be used to improve knowledge of the extent, distribution and condition of flame shell beds, maerl beds, seagrass beds, horse mussel beds and fan mussels, which are protected features of the Marine Protected Areas, and to generally improve knowledge of the type and distribution of seabed habitats in the survey areas, including those features listed above and other Priority Marine Features outside the Marine Protected Areas.

Main findings

- A total of three protected features were identified within the Wester Ross Marine Protected Area. These comprised: 'kelp and seaweed communities on sublittoral sediment,' which was widely distributed in the survey area; 'burrowed mud,' which was generally restricted to the inner areas of Loch Ewe and Little Loch Broom; and 'maerl beds,' identified around Carn nan Sgeir and Tanera Mor and Beg. The Priority Marine Feature, 'kelp beds', which is not currently a protected feature of the Wester Ross Marine Protected Area, was also identified at the Mellon Udrigle, West of Loch Ewe and Tanera Mor and Beg sites.
- Three protected features were identified within the Small Isles Marine Protected Area. These comprised: 'burrowed mud,' which was present on the

east and southeast coast of Rum, with the protected feature component species *Funiculina quadrangularis* present on ten video segments; 'northern sea fan and sponge communities,' with the northern sea fan *Swiftia dubia* identified on 14 video segments all around the Isle of Rum, the component biotopes **CR.MCR.EcCr.CarSwi** and **CR.HCR.XFa.SwiLgAs**, and the low/limited mobility species *Parazoanthus anguicomus*, which was identified in association with the northern sea fan and sponge communities on a single line.

- A total of four Priority Marine Features were also recorded within the Small Isles Marine Protected Area. 'Maerl beds' was recorded on a single video segment at Guirdil; 'kelp beds,' recorded as the component biotope **IR.MIR.KR.Lhyp**, was observed at a total of five stations at the West of Rum, Guirdil and Canna West sites; and 'kelp and seaweed communities on sublittoral sediment' was observed on 15 video segments. In addition, the Priority Marine Feature 'shallow tide-swept coarse sands with burrowing bivalves' was tentatively assigned to two lines east of Canna.
- Within the Lochs Duich, Long and Alsh Marine Protected Area both protected features – burrowed mud and flame shell beds – were observed. Flame shell beds (**SS.SMx.IMx.Lim**) were identified at six stations. The highest densities of *Limaria hians* nests were observed on tow 72, although due to video quality and seabed visibility issues, densities may have been underestimated. Burrowed mud, with common complex burrows and the protected feature component species *Funiculina quadrangularis*, was observed at all four stations within Loch Alsh (73-76), with the biotope **SS.SMu.CFiMu.SpnMeg.Fun** recorded in all cases.
- Within Lochs Duich, Long and Alsh Marine Protected Area two Priority Marine Features features were identified. Aggregations of the limited mobility species *Leptometra celtica* were observed on burrowed muddy mixed sediment on line 76. In addition, the 'kelp and seaweed communities on sublittoral sediment' biotope component **SS.SMp.KSwSS.SlatR** was recorded at five stations at Kyleakin.
- The protected feature 'flame shell beds' was identified at one of the three stations conducted within Loch Carron Marine Protected Area. The Priority Marine Feature 'kelp and seaweed communities on sublittoral sediment' biotope component **SS.SMp.KSwSS.SlatR** was recorded at all three stations.
- A total of six protected feature biotopes were identified in South Arran Marine Protected Area. Maerl beds (**SS.SMp.Mrl**) were identified at all sites within South Arran Marine Protected Area with the exception of Whiting Bay, with the sub-biotope **SS.SMp.Mrl.Pcal.Nmix** recorded at two stations. The 'maerl or coarse shell gravel with burrowing sea cucumbers' protected feature

component biotope **SS.SCS.CCS.Nmix** was recorded at six stations, all at the Iron Rock Ledges site. Seagrass beds, with seagrass densities of up to 40 - 79% observed, were recorded at a total of 12 stations, all within Whiting Bay. The ‘kelp and seaweed communities on sublittoral sediment’ protected feature was identified at several stations within the Marine Protected Area, with two component biotopes recorded (**SS.SMp.KSwSS.SlatR** and **SS.SMp.KSwSS.Bon**).

- Outside of South Arran Marine Protected Area, a total of four Priority Marine Features component biotopes were identified: ‘kelp and seaweed communities on sublittoral sediment,’ observed at several sites at Inchmarnock, North Brodick, Skipness and Lochranza; ‘maerl beds,’ which was recorded at the North Brodick and Inchmarnock sites, though live maerl densities were generally low (< 5%); and ‘burrowed mud,’ which was recorded at five stations at the Inchmarnock site.

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Acknowledgements

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In addition thanks to the skipper and crew of the *Lady Nicola* and the staff from NatureScot for their efforts in gathering the video footage.

1 Introduction

Background

The project “Engaging the fishing industry in marine environmental survey and monitoring”, funded by the European Maritime and Fisheries Fund (EMFF) and running from 2017-2020 was led by Marine Scotland (a directorate of the Scottish Government) and supported by Scottish Natural Heritage (known hereafter by its operating name “NatureScot”). The aims of the project were to:

i. Develop and test robust underwater video camera systems for use from fishing vessels, including undertaking a series of sea trials;
ii. Undertake marine survey and monitoring work in partnership with the fishing industry, with the principle aim of assessing the extent and condition of selected habitats and species. Where appropriate, to develop innovative and collaborative survey designs, that are acpable of assessing the efficacy of management measures within Marine Protected Areas (MPAs);
iii. Provide training to, and engagement with, the fishing industry through onboard training events and ongoing dialogue and communication.

Seabed surveys were carried out in 2018 under parts (i) and (ii) of this project using a drop-down video (DDV) system commissioned by Scottish Government and deployed from a fishing vessel in and around five MPAs off western Scotland. The objective of each survey was to collect data to be used to improve knowledge of the extent, distribution and condition of flame shell beds, maerl beds, seagrass beds, horse mussel beds and fan mussels which are protected features within the MPAs, and to generally improve knowledge of the type and distribution of seabed habitats in the survey areas, including those features listed above and other Priority Marine Features (PMFs) (Tyler-Walters *et al*., 2016) outside the MPAs. The details of the protected features for each of the MPAs covered in this report are provided in Annex I. An additional objective of the first survey (Inner Sound and Loch Alsh) was to field-test the camera system and train the skipper and crew of the fishing vessel (*Lady Nicola*) in deployment of the camera system for environmental survey.

Objectives

This report details the analysis and interpretation of the video and snapshot images collected during the surveys described above. The data collected during the surveys are summarised in Table 1.1 and the survey areas and sample locations shown in

Figures 1.1–1.5. The term ‘sites’ is used throughout this report to refer to broad sampling locations within a survey area rather than individual video tows. The site names are given on Figures 1.2-1.5 (e.g. Rum East, Canna and Rum West within the Small Isles MPA) and within Annex II.

Table 1.1

Details of the data collected during each of the 2018 drop-down video surveys

Survey name	Survey date	No. of video tows number (duration HH:MM)	No. snapshots (and no. for detailed anlysis)
Inner Sound and Loch Alsh	16 - 20 July 2018	76 (~07:28)	90 (0)
Wester Ross	30 July - 04 August 2018	130 (~13:20)	1280 (232)
Small Isles	13 - 17 August 2018	87 (~10:42)	1135 (0)
Arran and Clyde Sea	02 - 07 September 2018	134 (~13:56)	1916 (975)

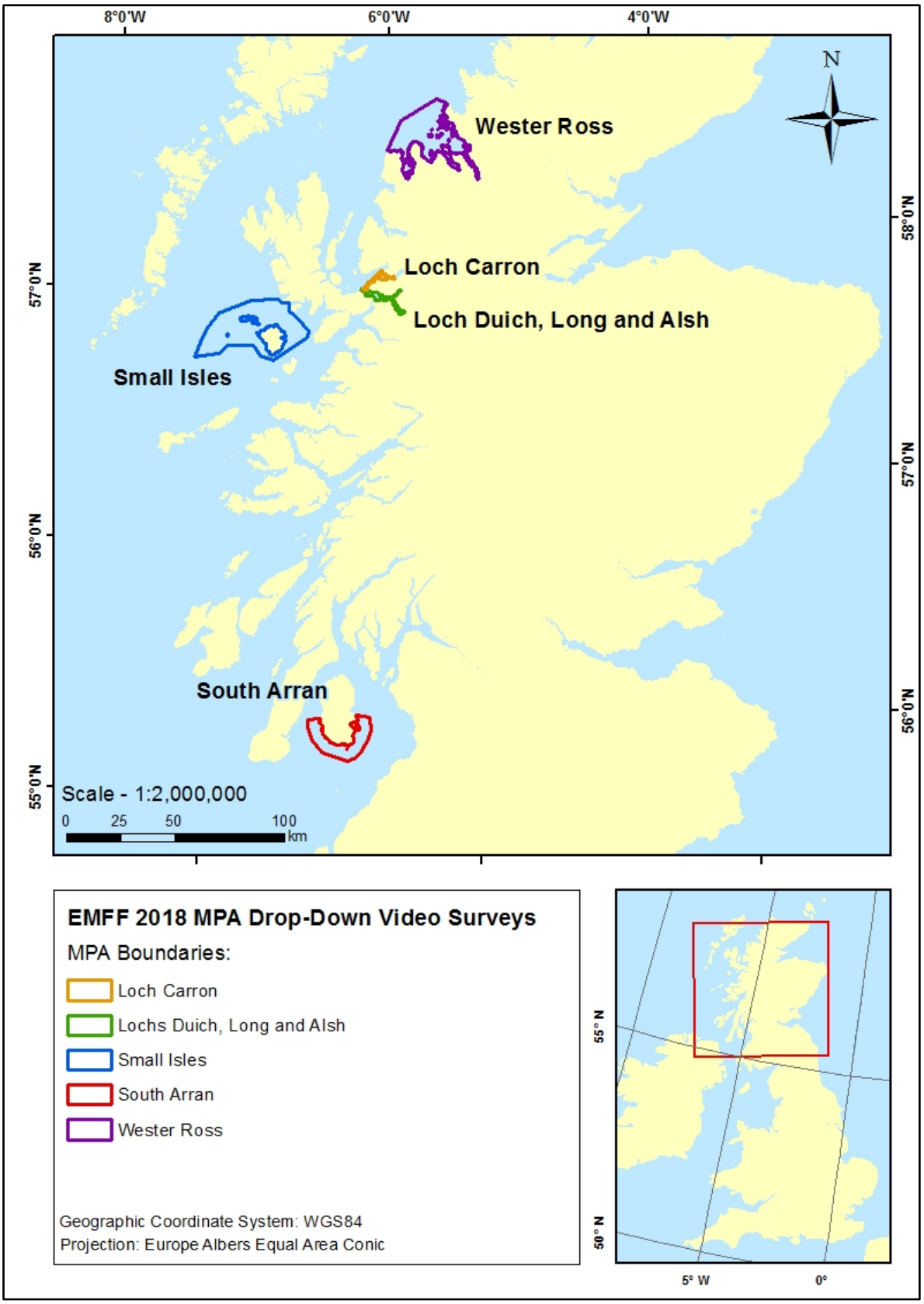

Figure 1.1: Location of the five Marine Protected Areas surveyed as part of the 2018 drop-down video surveys.

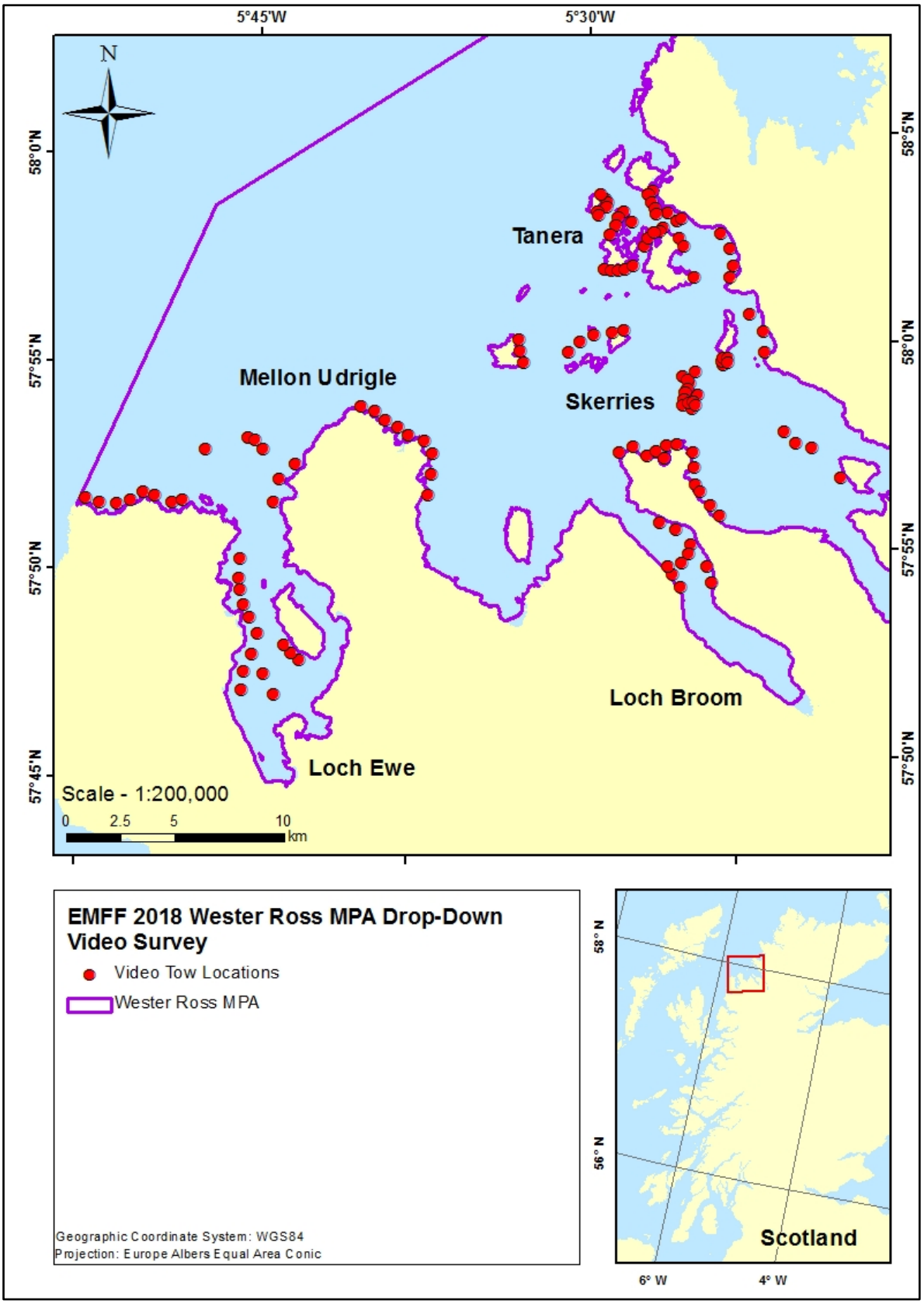

Figure 1.2: Location of video tows conducted as part of the 2018 Wester Ross survey.

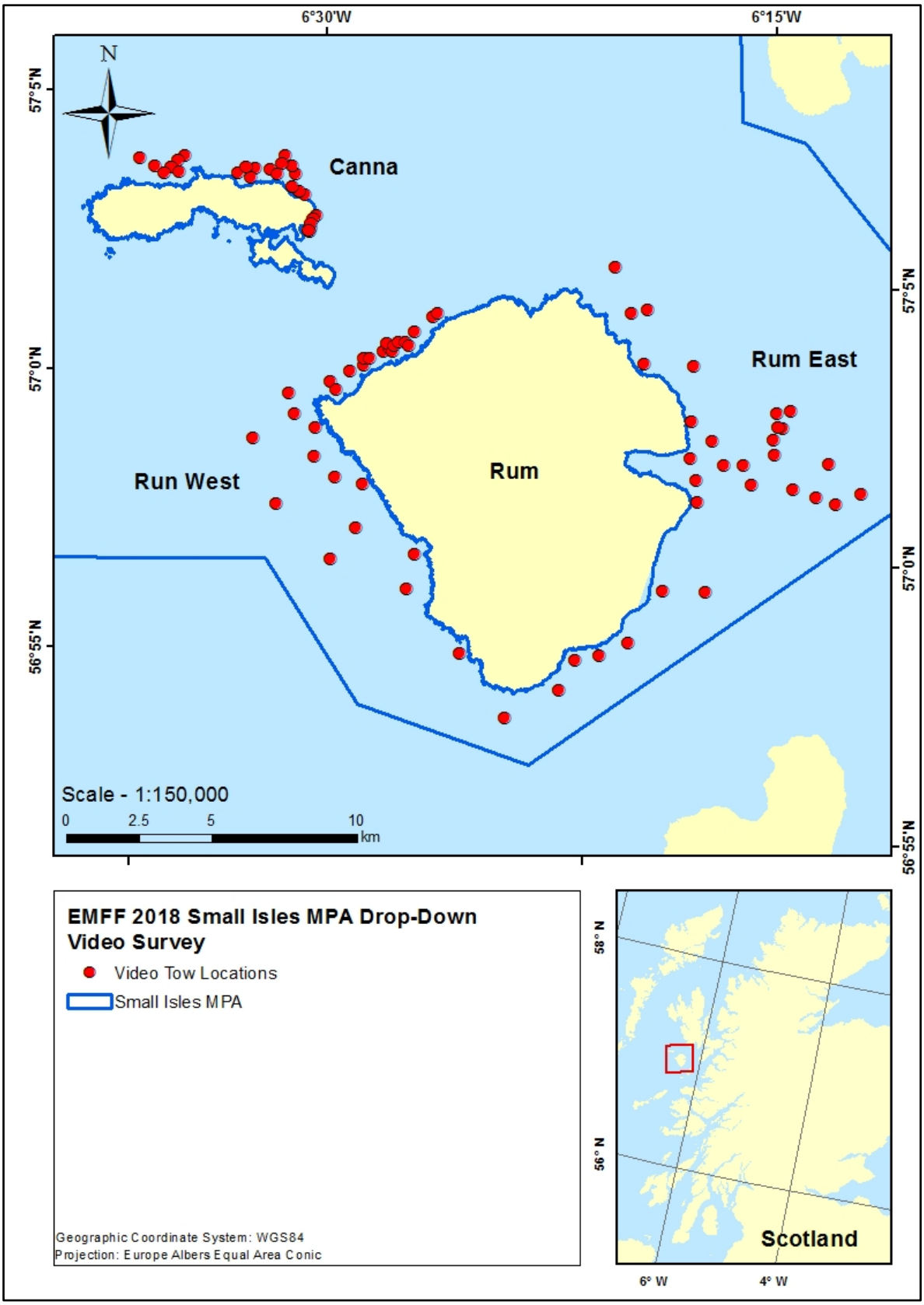

Figure 1.3: Location of video tows conducted as part of the 2018 Small Isles survey.

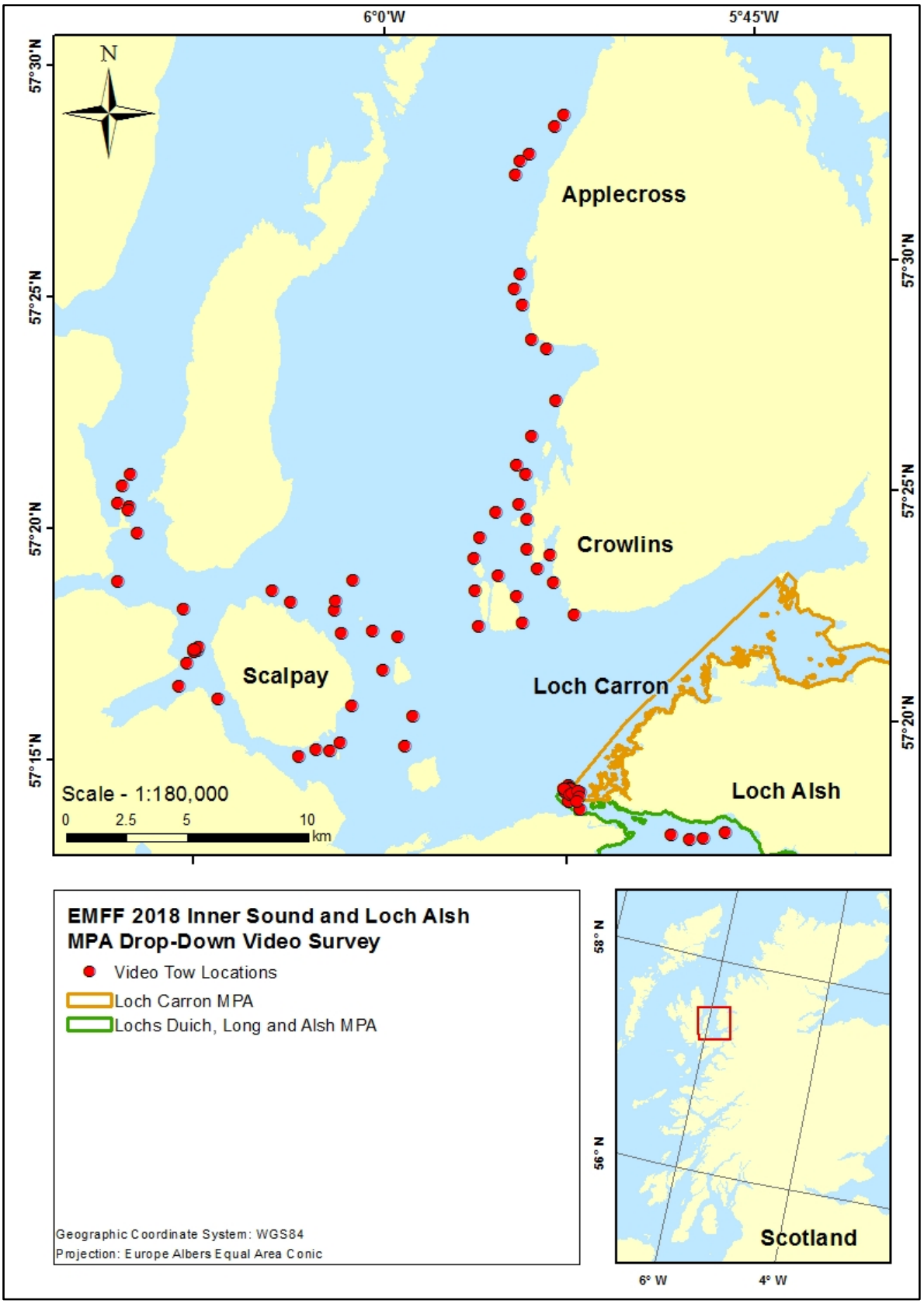

Figure 1.4: Location of video tows conducted as part of the 2018 Inner Sound and Loch Alsh survey.

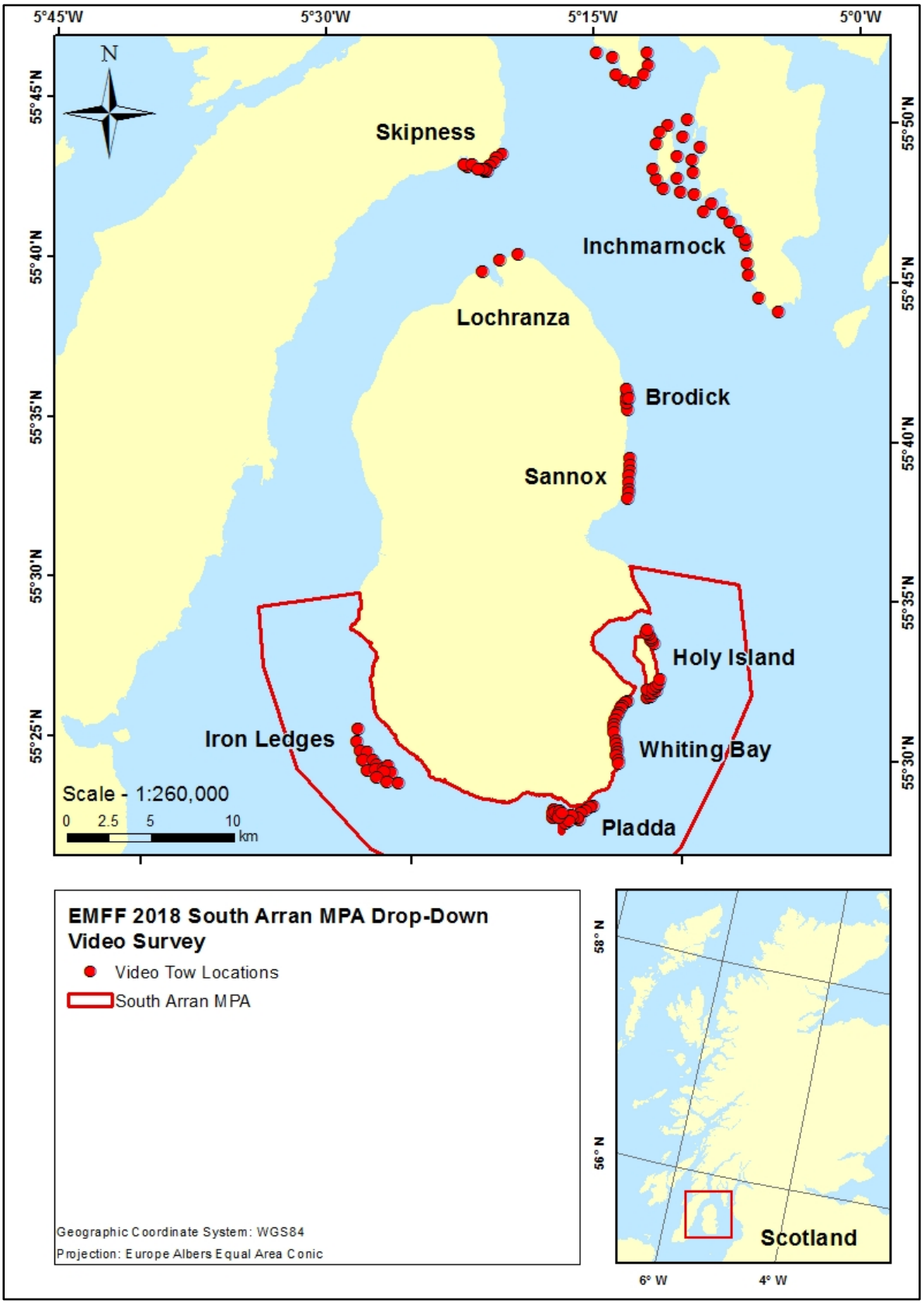

Figure 1.5: Location of video tows conducted as part of the 2018 South Arran and Clyde Sea survey.

Methodology

Camera specifications

Due to the unique nature of the project, where non-specialist vessels were used to deploy high definition (HD) DDV systems at depth, part of the project required the design of a suitable HD camera system. Scottish Government awarded the contract via competitive tender to C-Tecnics Ltd., who developed a prototype unit that was able to meet both technical and financial requirements. Due to the prototype nature of the initial unit, further testing and refinement took place between the project team and C-Tecnics during 2018. The specifications of the camera were as follows;

1. Lifting harness.
2. Umbilical cable (connects the submersible parts of the system to onboard components - including a Standard Definition video feed - and power supply).
3. Stainless steel frame (width=100 cm, depth=100 cm, height=120 cm) to protect components.
4. Camera flash unit (CT4015 flashgun).
5. Left and right external light pods.
6. Main camera unit (CT3023 SLV full HD video camera with built in red lasers for reference scaling of plants and animals on the seabed - set 100 mm apart in a 316 stainless steel housing). The camera records at 1080p at 60fps with 20.8MP resolution digital stills.
7. Stabilising fin.
8. 100 m umbilical roller (a 300 m umbilical cable was also available for deeper stations).
9. Junction pod. Provides connection point for umbilical, then distributes power etc to the various components making up the system via waterproof interconnecting cables. Also houses integral pressure sensor.

This system connected via the umbilical cable provided to the surface control unit (SCU), which allowed the operator to control video and still image recording (start/stop) along with lighting and flash settings. In general operations, the SCU recorded an independent GPS feed from a GPS puck attached to the unit via USB, which was overlaid onto the standard definition (SD) video feed displayed on the SCU and saved. The SCU was capable of running an additional screen (displaying the same camera view as the SCU) that allowed another scientist to monitor the collected video stream and make observational notes in real-time. The SCU assembly was housed within a rugged Hardigg Storm case housing, measuring 411 mm x 322 mm x 168 mm.

In addition to the main DDV camera, NatureScot's mini-DDV camera system was used as a back-up for the first survey of the project in the Inner Sound and Loch Alsh. The system was used for four of the five days of survey work following technical issues with the main camera after the first survey day. The portable camera system, designed primarily for use in shallow coastal areas, uses a GoPro Hero 4 camera in a deep water housing (Group B Scout Pro). The camera was set to collect HD footage at 60fps (saved onto the camera memory card) - it was not possible to collect still images at the same time on this setting. The most noticeable difference in the footage collected compared to the DDV camera system is that the NatureScot camera is angled to be slightly forward facing rather than vertical (directly down). The system has two white LED light clusters and Outland Technology UWL-810 red line scaling lasers set 100 mm apart. An SD feed from the camera is carried to a topside unit via a 100 m umbilical where a GPS overlay is merged and recorded onto the SD footage.

Data collection

During operation the camera frame was lowered over the side of the vessel by winch and positioned just above the seabed. A live feed of the standard definition video signal was provided to the SCU for the use of the camera operator. For each line, the vessel was allowed to drift in the direction of the prevailing current or wind for approximately five minutes while recording video continuously. Longer or shorter runs were appropriate in some situations depending on the local conditions and habitats encountered. The LED lighting level was controlled from the SCU and was generally kept at maximum brightness or just below. The HD video was stored on the camera for later downloading, while SD video with overlay was recorded directly on the SCU. In addition, HD snapshot images were taken at intervals during the tow.

For each survey, line metadata were recorded from the ship's navigation on paper forms. The camera system did not record the GPS feed to the SCU or camera overlay so a backup Garmin handheld GPS was used to record vessel position during each survey day. The handheld GPS recorded vessel track data (logged every second throughout the survey day as Garmin proprietary data files) and manual waypoints were recorded at the start and end of each video tow and downloaded at the end of each day.

Specific methods for each survey can be found in the respective survey reports, available from the Scottish Government website[1].

[1] More information: https://www.gov.scot/collections/emff-project/

Video analysis

The video analysis of each deployment started with an initial assessment to gain a broad understanding of the substratum and biota present, as well as the identification of any different habitats/biotopes present. The analysis was carried out using a personal computer and VLC software that allowed slow-motion, freeze frame and standard play analysis. During the initial assessment video footage was viewed at 2x-4x normal speed in order to divide the footage into segments representing different sediment types and/or biological communities. Brief changes (considered to be less than 25 m^2) were treated as incidental patches and were not recorded as separate segments. Transition times, positions and depths were recorded (see Section 2.4). A video quality assessment according to Turner *et al*. (2016) was carried out for each video segment. Segments with zero visibility were not analysed

Detailed video analysis was performed on each video segment and consisted of a description of the abiotic (i.e. substrate) and biotic (i.e. characterising species) features of the observed habitat and the identification of biota to the best practical taxonomic level. Any other features of interest, such as trawl marks or litter, were recorded as comments.

Abundance data were recorded in analysis spreadsheets using the semi-quantitative SACFOR scale, with percentage cover of live and dead maerl (generally to the nearest 5 %) also recorded where present. Approximate counts of large (i.e. > 3-5 cm) 'individual' taxa (e.g. large crustaceans, echinoderms, large ascidians) were made for each video segment and these converted to SACFOR using the length of the video segment as a proxy for area covered. Average SACFOR abundances (for each video segment) of smaller, difficult to count individual taxa (e.g. cup corals, small ascidians) and percentage cover taxa (e.g. barnacles, seaweeds) were estimated using expert judgement. A list of the encountered biota was produced for each site using species reference numbers as cited in the Marine Conservation Society Species Directory (Howson and Picton, 1997) with additional reference to the World Register of Marine Species (WoRMS Editorial Board, 2020) to avoid problems in species nomenclature.

For each video segment, observed sediment percentages (generally to the nearest 5%) were recorded for later entry into Marine Recorder and a broadscale habitat (BSH) type was assigned to each video segment.

1.1.1 Biotope assignment

Video segments were assigned an Marine Nature Conservation Review (MNCR) biotope according to Connor *et al*. (2004) and following guidance outlined in Turner *et al*. (2016) and Parry (2019), using both the BSH and the species information to assign the most appropriate MNCR biotope. Wherever possible biotopes were assigned at the biotope (level 5) or sub-biotope (level 6) level. However, where video quality was poor, or where biological information was lacking, for example where taxa were observed that cannot ordinarily be identified to species level from video footage alone (e.g. maerl), biotopes were recorded at the biotope complex level (level 4). Where taxa were very sparse (e.g. barren soft sediments with very little epifauna), biotopes were recorded at the habitat complex level (level 3). In cases of extremely poor video quality, only a broad habitat type (level 2) was recorded.

In some cases, it was deemed necessary to assign more than one biotope to the same video segment, for example, where the seabed comprised a mosaic of more than one substrate type (e.g. rocks on mixed sediment, fine sand interspersed with coarse sediment), or where one biological community was found to 'overlie' another, e.g. kelp and seaweed communities overlying patchy maerl. The most dominant biotope was assigned as the 'primary' biotope and the other assigned as 'secondary'. In addition, if no biotope was found to accurately describe both the biological community and substrate type observed, the MNCR biotope with the 'best fit' biological community was assigned but the record flagged as 'physical mismatch,' with a level 3 biotope matching the observed substrate also recorded.

1.1.2 Assignment of PMFs and MPA protected features

Following assignment of biotope(s) to each video segment, PMFs were assigned. PMFs were determined using PMF descriptions and thresholds given in Tyler-Walters *et al*. (2016). If PMF components were found to be present within a video segment (i.e. if a relevant biotope had been assigned, or if a component species had been identified) the PMF was assigned. If two component biotopes had been assigned to one video segment (see above), two PMFs were assigned.

The NatureScot evolving definition was used as a guide to assignment of the PMF 'maerl beds'. A substrate consisting of a minimum of 20% maerl that was clearly identifiable as either twiglets, medallions, or hedgehog stones (>1 cm in size) qualified as a maerl bed, irrespective of whether the rhodoliths were alive or dead. An exception to this was where the substrate underlying the fully formed maerl

rhodoliths was comminuted maerl gravel; in this case a 5% cover of maerl (dead or alive, fully formed rhodoliths > 1 cm) was sufficient to qualify a habitat as maerl bed.

The PMF ‘maerl or coarse shell gravel with burrowing sea cucumbers’ was assigned to records where *Neopentadactyla mixta* was observed in coarse sediment in densities of frequent or greater (as per the **SS.SCS.CCS.Nmix** biotope description in Connor *et al*., 2004), providing at least two individuals were present on a single video segment.

Following entry of data into GIS, a list of video tows situated within MPA boundaries was compiled. PMFs and component features assigned to video tows located within an MPA boundary were instead recorded as protected features if they were a designated protected feature of that MPA.

The PMF ‘flame shell beds’ was assigned to video segments where *Limaria hians* was found to be present. As *L. hians* is an infaunal species and counts cannot therefore be reliably estimated using video footage, abundance of this species was based on the number of visible flame shell ‘nests’ (including using ‘openings’ as a proxy where the nests form part of a more consolidated turf on the seabed). Counts of nests/openings were conducted for each video segment and converted to SACFOR using the length of the video segment as a proxy for area covered, with both metrics recorded wherever possible. Signs of flame shell habitat presence are only visible when the camera is relatively still, close to seabed and not obscured by other biota, so whilst there is confidence in habitat presence the counts and SACFOR abundance estimates should be considered as indicative only.

1.1.3 Assignment of Annex I habitats

The presence of any Annex I habitats and associated sub-features, including reef sub-features, was recorded for each video segment. Reef features were determined using criteria outlined in Irving (2009), with a minimum of 10 % hard substrate (i.e. bedrock, boulders or cobbles) required for assignment of the Annex I habitat. Due to difficulties inherent in estimating elevation from video footage, assessment of ‘reefiness’ (Table 2.1) was primarily based on seabed composition, i.e. percentage coverage of hard substrate.

Table 2.1

The main characterising features of a stony reef, after Irving (2009).

Characteristic	Not a reef	Resemblance to being a stony reef		
		Low	Medium	High
Composition	< 10 %	10 - 40 %	40 - 95 %	> 95 %
Elevation	Flat seabed	< 64 mm	64 mm - 5 m	> 5 m
Extent	< 25 m^2	> 25 m^2		
Biota	Dominated by infaunal species			> 80 % of species epifauna

Snapshot analysis

Snapshot images from stations in Wester Ross and South Arran survey areas where repeat monitoring is envisaged, previously identified by NatureScot, were subject to detailed analysis. Of the images selected for detailed analysis, only those deemed to be of 'good' quality or better (Turner *et al*., 2016) were analysed in full with data recorded. Any snapshot images not pre-selected were also subject to a quality assessment and images of good or higher quality were used to assist identification of species and biotopes from the relevant sections of video.

A large proportion of the still images, including the pre-selected images, were found to be blurred or out of focus (likely due to fast transit speeds, the camera not being landed before a snapshot was taken etc.) or of otherwise poor quality. All of the South Arran snapshot images contained a central 'swirl', due to a optical fault, making identification of biota present within this area of the image problematic. However, providing the image was otherwise of good quality, these images were analysed.

The detailed analysis of the snapshot images was similar to the video analysis methodology and included a general description of the habitat and biota present. The surface area of each image was calculated using the distance between laser points as a guide, and abundance data were recorded using the semi-quantitative SACFOR scale, with percentage cover of live and dead maerl also recorded where present. Percentage cover of maerl was estimated using a 10 x 10 grid superimposed on the

image. A value of 0, 0.5 or 1 was assigned to each square in the grid depending on the amount of maerl within each square; totalling these gave an overall percentage cover for the image. A list of the encountered fauna was produced for each snapshot image using species reference numbers as cited in the Marine Conservation Society Species Directory (Howson and Picton, 1997) with additional reference to the World Register of Marine Species (WoRMS Editorial Board, 2020) to avoid problems in species nomenclature.

Snapshot images were assigned to the biotope assigned to the parent video segment as per guidelines set out in Turner *et al*. (2016). If PMF or protected feature components were present within the image, these were flagged to inform the video analysis. Similarly, if hard substrate was present in the image, the Annex I habitat 'reefs' was recorded as potentially being present to aid identification of this feature in the video analysis.

Navigation data extraction

The only survey navigation data usable for the video analysis were provided in the form of Garmin proprietary data files from the handheld GPS used on board the survey vessel. These files contained positional data for the survey vessel logged every second, with approximately six data files covering a single survey day, with the data from some survey lines extending over two separate data files. The Garmin data files were opened and interrogated using Garmin MapSource software, and navigation data relating to each camera deployment were extracted and exported to Excel to create a survey trackplot for each deployment. The navigation data recorded on the SD overlay from the camera GPS were unreliable due to the technical difficulties encountered with the camera system during the survey.

The Garmin handheld GPS had a positional accuracy of approximately ±5 m, but recorded positional data to one thousandth of a decimal minute (equivalent to ~1.8 m). This precision was maintained in all analyses, however positional data should be treated with caution.

Positional data and information regarding distance for each segment were obtained by relating the HD video counter clock time to the time (UTC) on the SD overlay. Where the overlay was not functional (either not present, frozen or 'skipping'), or where times showed a clear discrepancy compared to the handheld GPS waypoints (as was true for the whole of the Wester Ross survey), the 00:00 counter time was assumed to be the same time at which the start of line waypoint was logged. The video segment durations were used to calculate the end time for each video segment

and each end of line. These times were related back to the vessel trackplots created from the Garmin data files. Where trackplot data were not recorded, or where the handheld GPS positional data were dubious (e.g. obvious navigation jumps, sudden and extreme changes in speed, direction etc.), positional data were taken from the overlay, although the accuracy of the overlay GPS was unknown. Where neither overlay nor trackplot data were usable, the manually logged waypoints were used and ‘straight line’ video tows were assumed. The positions of any habitat changes on these video tows were roughly calculated based on the amount of time elapsed, assuming that a consistent speed was maintained throughout the line. For each line, a record was made of the positional data utilised. Video segment distances, which were used to calculate SACFOR abundances of countable biota, were measured using trackplot data in ArcGIS.

Results

This section provides a summary description of the habitats, biotopes, species, PMFs and MPA protected features observed in each survey area. Site location data are provided in Annex II and summaries of the biotopes found at each site are presented in Annex III. A reference image collection of the biotopes identified during the analysis (highlighted in bold text in the following sections) is provided in Annex IV, and a summary of the distribution of PMFs and MPA protected features is provided in Annex V.

In order to enhance clarity in the images in this section, several biotopes and sub-biotopes assigned to video segments have been amalgamated at a lower resolution level (e.g. biotope complex). A full breakdown of the biotopes amalgamated for each survey is provided in Annex VI.

Wester Ross

The Wester Ross survey area was found to be heterogeneous, characterised by a mix of habitat types including kelp beds on bedrock, macroalgal communities on sediment, crustose communities on cobbles and boulders, and a variety of soft sediment types including mixed sediments and burrowed mud. In addition, maerl beds were recorded on 24 video segments.

A total of 36 biotopes were identified during the analyses. The distribution of the biotopes and PMFs / MPA protected features identified are shown in Figures 3.1-3.10, and the details of the biotopes identified for each video segment are provided in Annex III.

Annex I reef habitats were widely recorded (Figure 3.11), particularly stony (cobble) reef, which was observed throughout the survey area, particularly at Mellon Udrigle, at the entrance and to the west of Loch Ewe, north of the Scoraig peninsula in Loch Broom, and northwest of Carn nan Sgeir. Where cobble reef was observed, a number of biotopes were recorded. Where ‘reefiness’ was deemed to be low (i.e. low coverage and low-medium elevation) and biota were sparse (therefore hampering assignment of biotopes) records were simply assigned the habitat **SS.SCS** (‘Sublittoral coarse sediment’). This habitat was also used to describe non-reef areas of coarse sand, gravel and pebbles lacking obvious epifauna. On areas of stony reef where biota was more common and provided an indication of community structure (e.g. the presence of seaweed communities or high abundances of serpulid worms and barnacles), the biotope complexes **SS.SCS.ICS** (‘Infralittoral coarse sediment’)

and **SS.SCS.CCS** ('Circalittoral coarse sediment') were more commonly recorded. A total of 34 video segments were assigned to biotopes within the SS.SCS habitat.

Where fauna was present on areas of potential cobble reef, the most commonly assigned biotope was **CR.MCR.EcCr.FaAlCr** ('Faunal and algal crusts on exposed to moderately wave-exposed circalittoral rock'). In these areas the biological community was dominated by coralline algae, encrusting bryozoans such as *Parasmittina trispinosa*, barnacles and serpulid worms, and high numbers of echinoderms, including the urchin *Echinus esculentus*, the seastars *Luidia ciliaris*, *Porania (Porania) pulvillus*, *Crossaster papposus*, *Asterias rubens* and *Marthasterias glacialis*, and feather stars (Antedonidae). The soft coral *Alcyonium digitatum* was observed in high densities (frequent or common) on line 85; the sub-biotope **CR.MCR.EcCr.FaAlCr.Adig** ('*Alcyonium digitatum*, *Spirobranchus triqueter*, algal and bryozoan crusts on wave-exposed circalittoral rock') was therefore assigned. Where patches of the cup coral *Caryophyllia (Caryophyllia) smithii* were observed, the sub-biotope **CR.MCR.EcCr.FaAlCr.Car** ('*Caryophyllia* (*Caryophyllia) smithii* with faunal and algal crusts on moderately wave-exposed circalittoral rock') was assigned.

Bedrock reef features were also commonly observed around Mellon Udrigle and to the west of Loch Ewe, and also to the southeast of Isle Ristol and around Tanera Beg.

Bedrock and boulder reef habitats were generally characterised by **kelp beds**, usually dominated by *Laminaria hyperborea*. Where *L. hyperborea* was recorded alongside foliose red seaweeds, the most commonly assigned biotope was **IR.MIR.KR.Lhyp** ('*Laminaria hyperborea* and foliose red seaweeds on moderately exposed infralittoral rock'). This biotope was recorded on a total of 15 video segments. Where both kelp and foliose and filamentous red seaweeds were dense, the kelp forest (**.Ft**) sub-biotope was recorded, while areas in which seaweeds were sparse and bedrock was either bare or characterised by expanses of pink coralline algae, the grazed forest (**.GzFt**) sub-biotope was assigned. Where the abundance of *L. hyperborea* was lower, but red seaweeds were still dense, the kelp park (**.Pk**) sub-biotope was recorded. As **IR.MIR.KR.Lhyp** biotopes are a component of the '**kelp beds**' PMF, this feature was flagged for all 15 records, although it was not a designated protected feature of the Wester Ross MPA.

In all cases, kelp stipes were commonly colonised by red epiphytes, while the fronds were often covered by hydroid turf (very likely kelp fur, *Obelia geniculata*) and occasionally by the encrusting bryozoan *Membranipora membranacea*.

Echinoderms, including the urchin *E. esculentus* and the seastars *M. glacialis*, *A. rubens* and *L. ciliaris,* were also commonly recorded at high abundances. Dense aggregations of feather stars were also frequently observed on hard substrate, particularly alongside kelp but also on cobbles and boulders throughout the survey area. While the poor quality of the video footage prevented identification of the vast majority of these crinoids to species level, a few individuals were positively identified as *Antedon* sp.; it is therefore considered likely that the majority of the crinoids observed were of this genus and not northern feather stars (*Leptometra celtica*).

Sugar kelp (*Saccharina latissima*) was also regularly recorded at relatively low abundances (rare or occasional) in this biotope. Where *S. latissima* was found at higher abundances alongside *L. hyperborea*, the biotope **IR.LIR.K.LhypSlat** ('Mixed *Laminaria hyperborea* and *Saccharina latissima* on sheltered infralittoral rock') was recorded.

Where *S. latissima* was recorded on hard substrate in the absence of *L. hyperborea,* the biotope **IR.HIR.KSed.SlatSac** ('*Saccharina latissima* and/or *Saccorhiza polyschides* on exposed infralittoral rock') was recorded. This biotope was generally found on a mixture of cobbles, boulders and bedrock, either overlying sand or with coarse sediment infill, with dense filamentous red and brown seaweeds present in addition to the kelp.

Kelp and seaweed communities on sublittoral sediment were common throughout the survey area. The biota was usually dominated by *S. latissima* together with filamentous red and, to a lesser extent, brown seaweeds, and the biotope **SS.SMp.KSwSS.SlatR** ('*Saccharina latissima* and red seaweeds on infralittoral sediments') was recorded on 64 video segments. These were concentrated within Loch Ewe, in Little Loch Broom and north of the Scoraig peninsula, around Tanera Mor and Tanera Beg, south of Achiltibuie, and to the east of Carn nan Sgeir. The biotope was recorded on cobbles and pebbles (**.CbPb**), including some areas of potential cobble reef, gravel (**.Gv**) and sand (**.Sa**). When observed on more muddy mixed sediments, this biotope was commonly recorded overlying the infaunal biotope **SS.SMx.CMx.ClloMx** ('*Cerianthus lloydii* and other burrowing anemones in circalittoral muddy mixed sediment'), characterised by high densities (often common or abundant) *Cerianthus lloydii*. In these cases, the SS.SMp.KSwSS biotope was recorded as the primary biotope, with the presence of SS.SMx.CMx.CllоMx highlighted by assigning it as a secondary biotope.

Live maerl was recorded on 39 video segments, however, densities were often low (<20 % coverage) and the MPA protected feature '**maerl beds**' (**SS.SMp.Mrl**) was

only identified on a total of 24 video segments. The majority (17) of these records were from around Carn nan Sgeir, although maerl beds were also identified from locations around Tanera Mor and Beg. A single maerl bed record was located in Loch Ewe, and another south of Horse Island. In all cases the maerl was present in thalli ('twiglet') form. Around Carn nan Sgeir, patches of live maerl were often observed as a habitat mosaic overlying or interspersed with soft sediments, usually gravelly or mixed sediment with common *C. lloydii* (in which case the biotope **SS.SMx.CMx.CIloMx** was recorded as a secondary biotope), or with cobbles and small boulders present.

On two lines around Tanera Mor and Beg, live maerl 'ribbons' were present overlying widespread (dead) maerl gravel, while on six other video segments live maerl thalli were present as patches overlying maerl gravel with pebbles and shell. In these cases, the patches/ribbons of live maerl were generally very dense and supported attached macroalgae, usually dominated by *S. latissima* and filamentous red and brown seaweeds. The biotope **SS.SMp.KSwSS.SlatR** and the MPA protected feature **kelp and seaweed communities on sublittoral sediment** were therefore recorded in addition to **maerl beds** on ten video segments, three of these to the southeast of Carn nan Sgeir.

Burrowed mud was recorded on eight video segments. Four of these were located within Loch Ewe; two within Little Loch Broom; one in Loch Broom and one south of Achiltibuie. Simple and complex burrows, including *Nephrops* burrows, were evident, and the seapens *Virgularia mirabilis* and *Pennatula phosphorea* were frequently recorded in high abundances. **The tall seapen (*Funiculina quadrangularis*)** was recorded on a single line (53), in the centre of Little Loch Broom. The commercially fished species *Nephrops norvegicus* was also recorded on five lines, at either frequent or common abundance, with *Nephrops* burrows also evident.

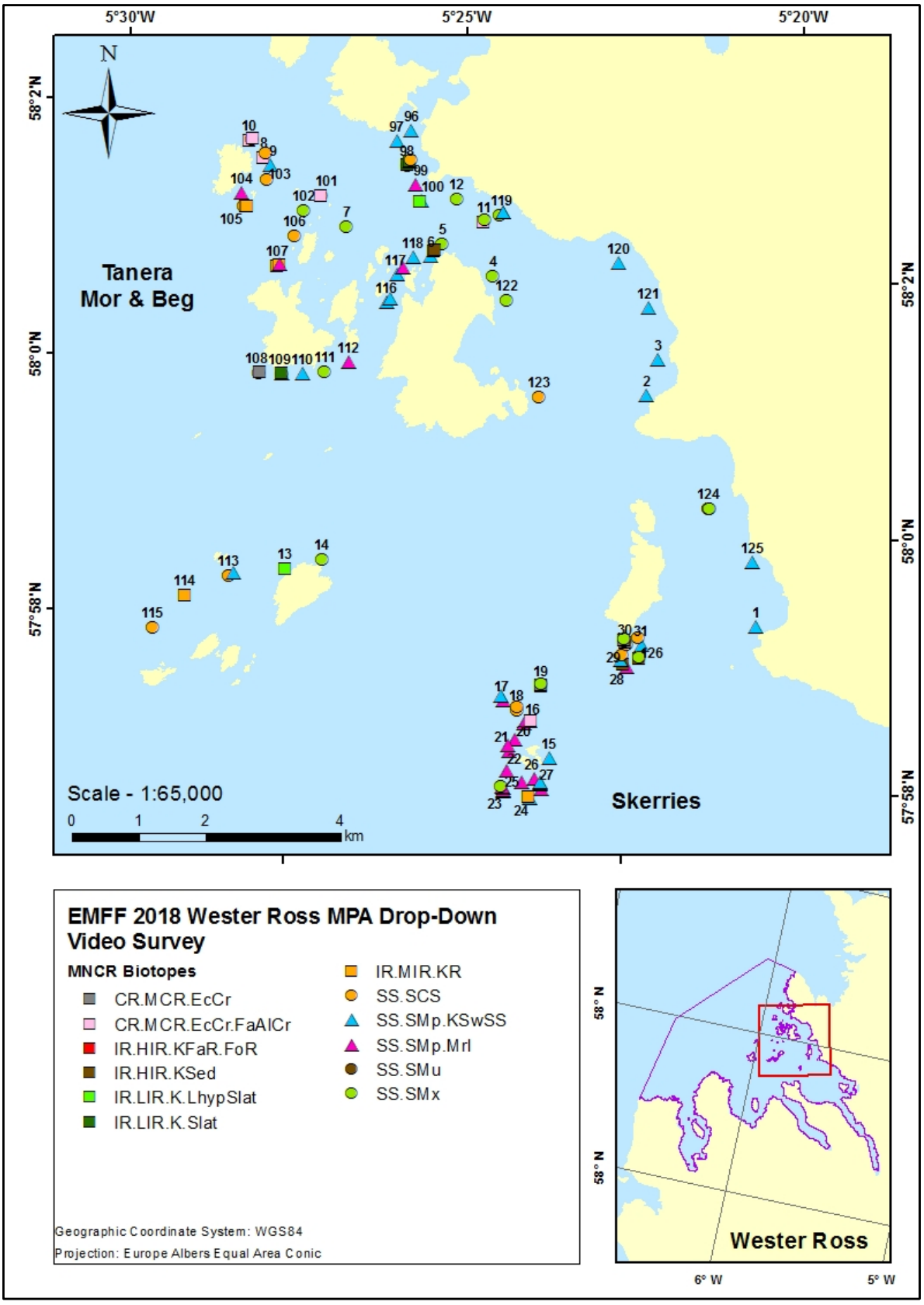

Figure 3.1: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Wester Ross video analysis around Tanera Mor and Beg. Note that only primary biotopes are shown.

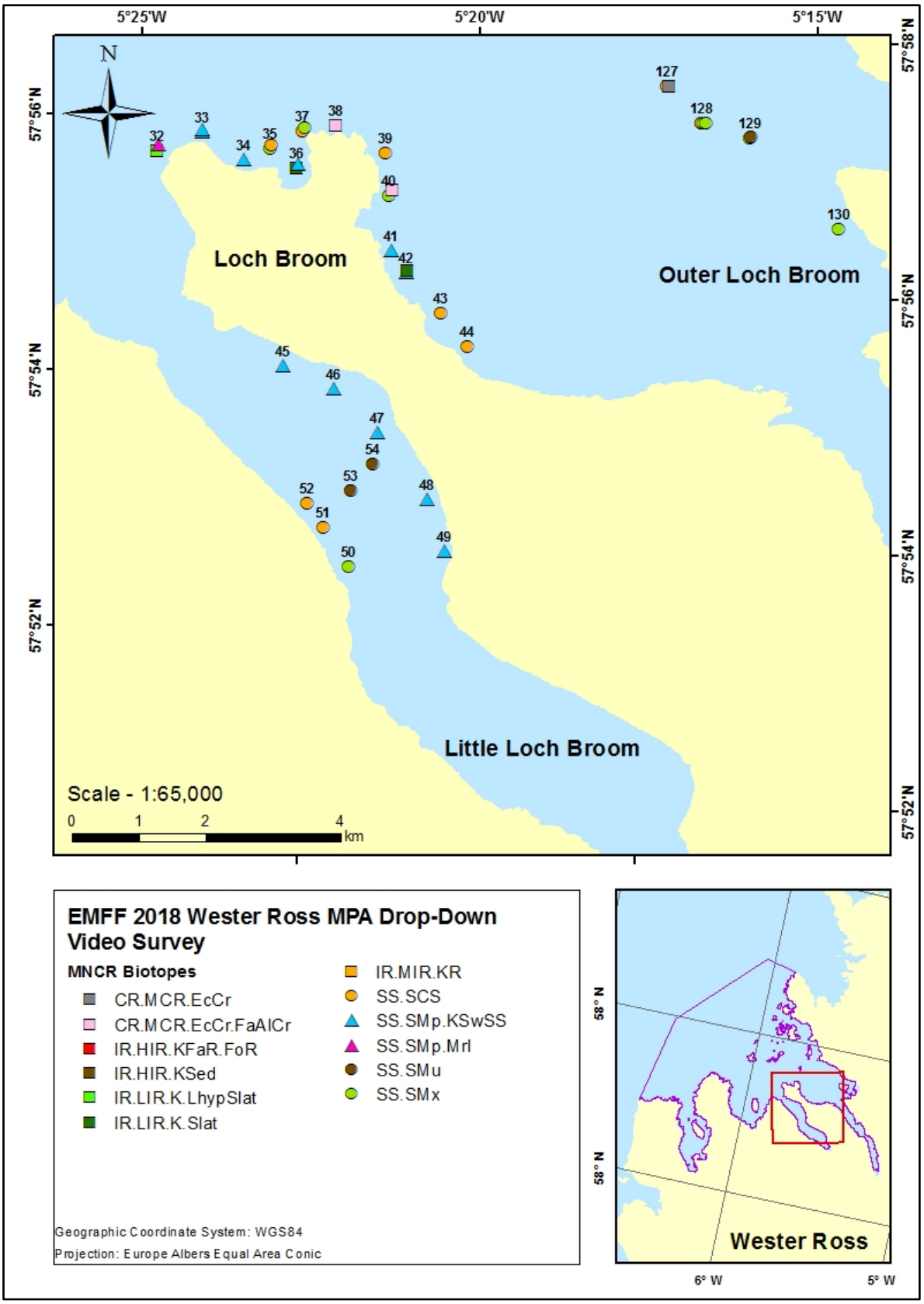

Figure 3.3: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Wester Ross video analysis in and around Loch Broom. Note that only primary biotopes are shown.

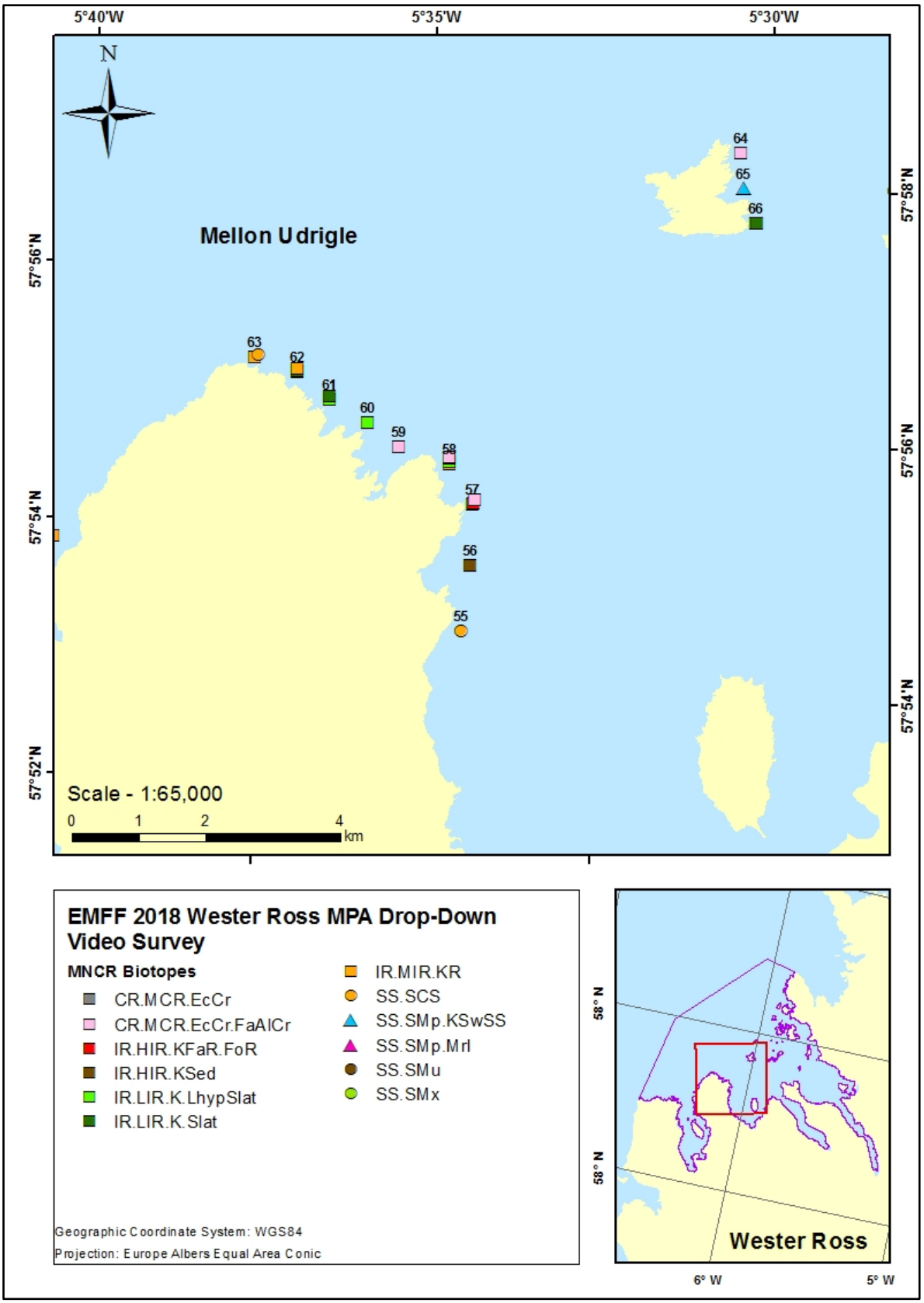

Figure 3.4: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Wester Ross video analysis around Mellon Udrigle. Note that only primary biotopes are shown.

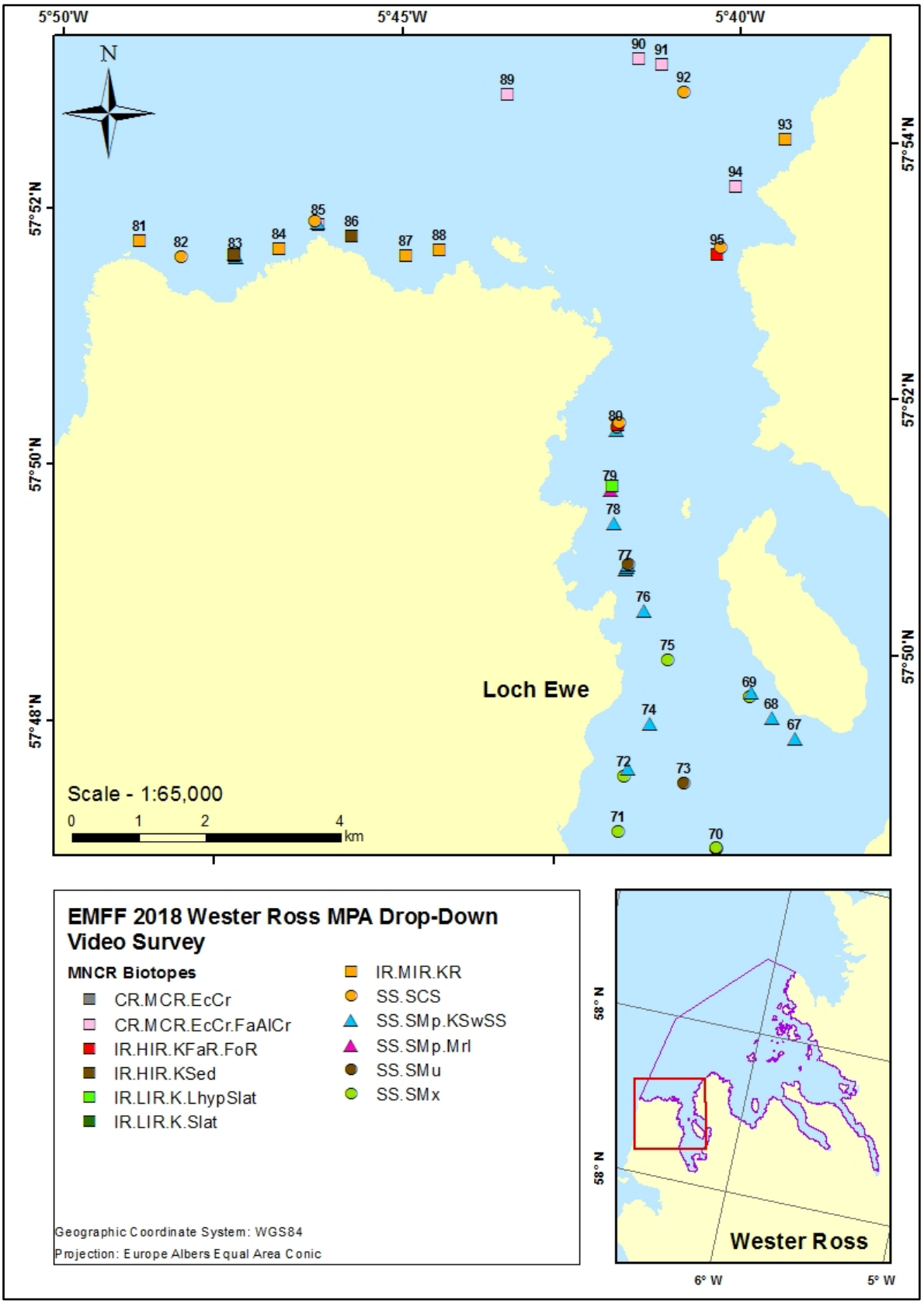

Figure 3.5: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Wester Ross video analysis in and around Loch Ewe. Note that only primary biotopes are shown.

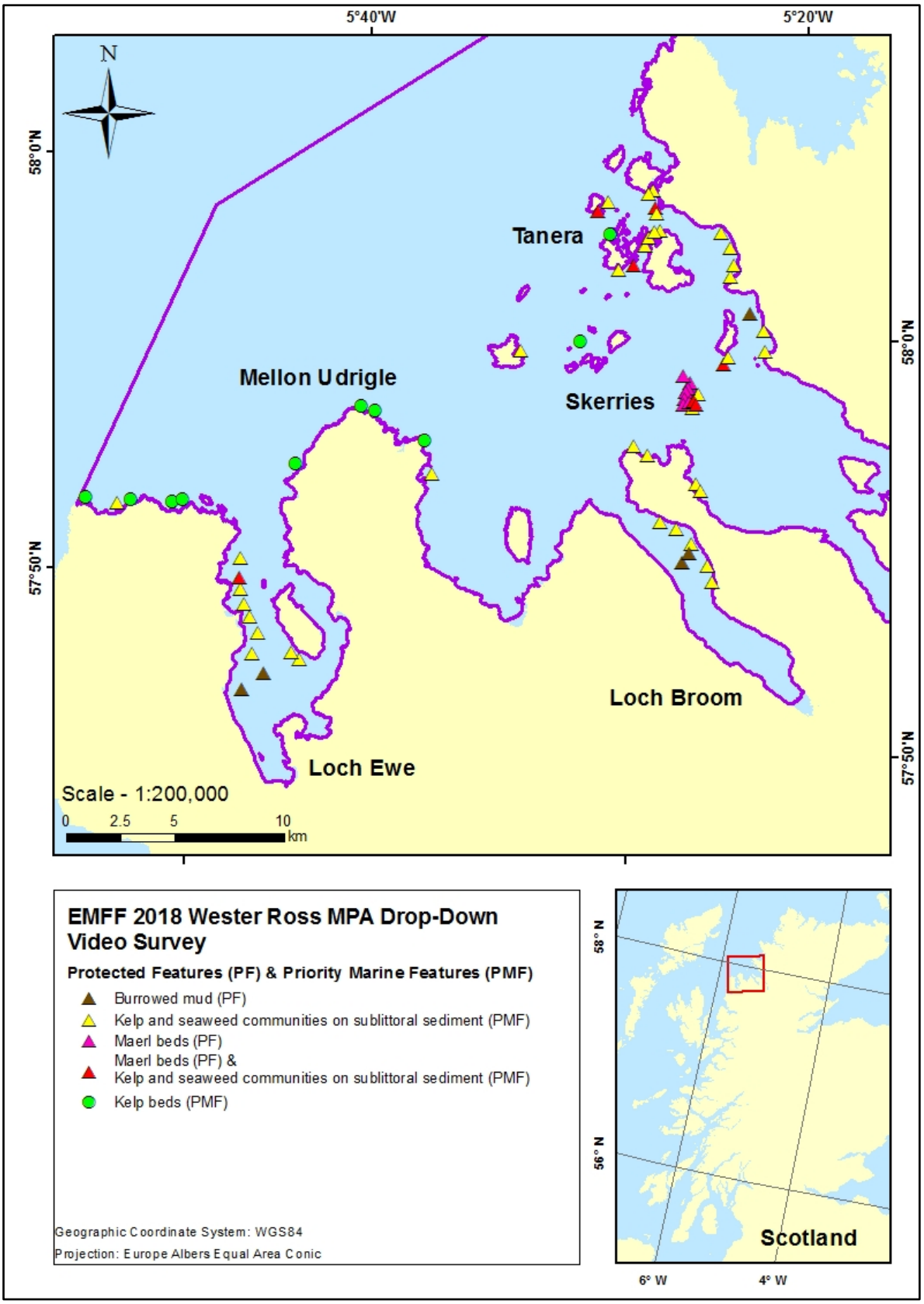

Figure 3.6: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Wester Ross video analysis.

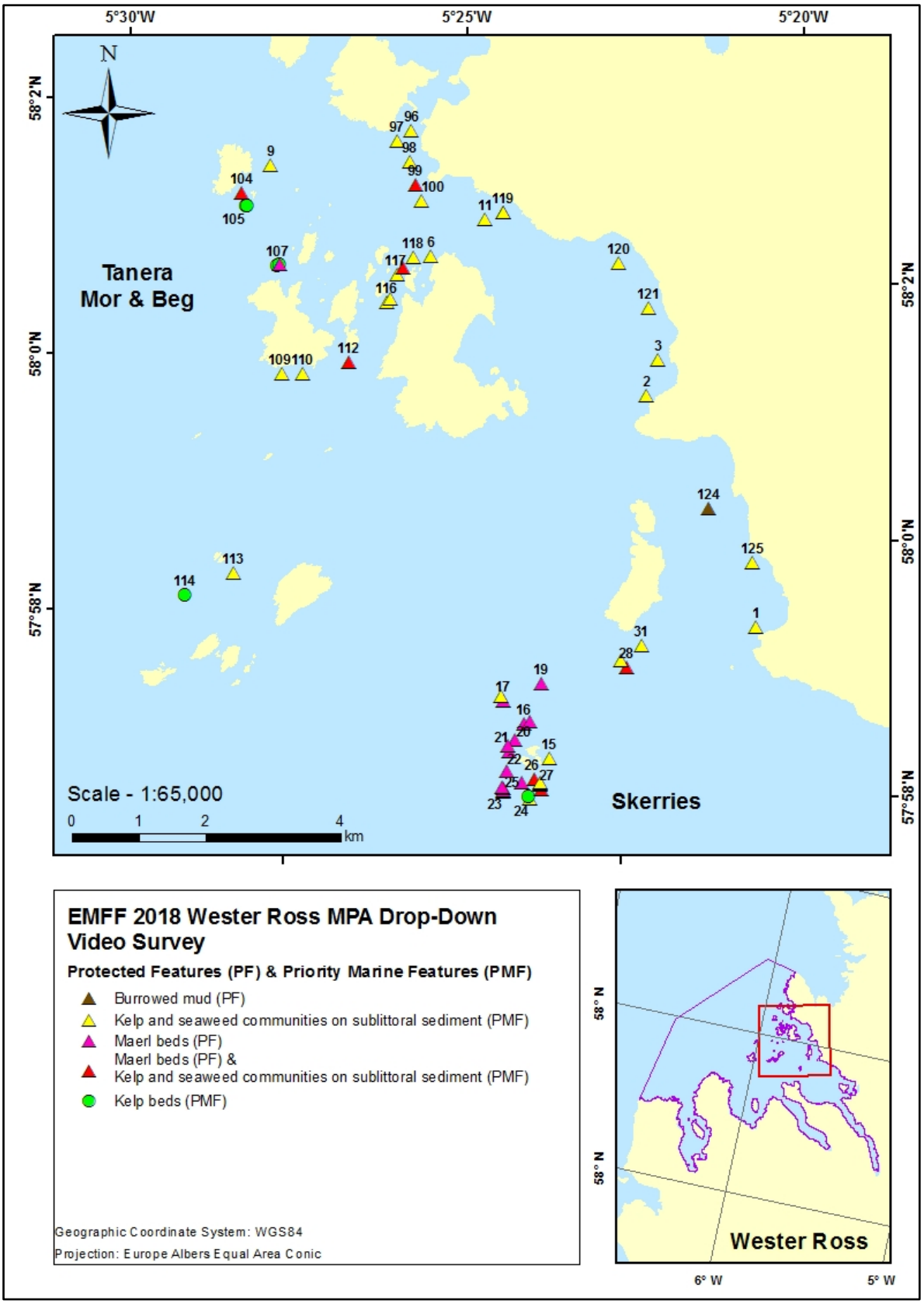

Figure 3.7: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Wester Ross video analysis around Tanera Mor and Beg.

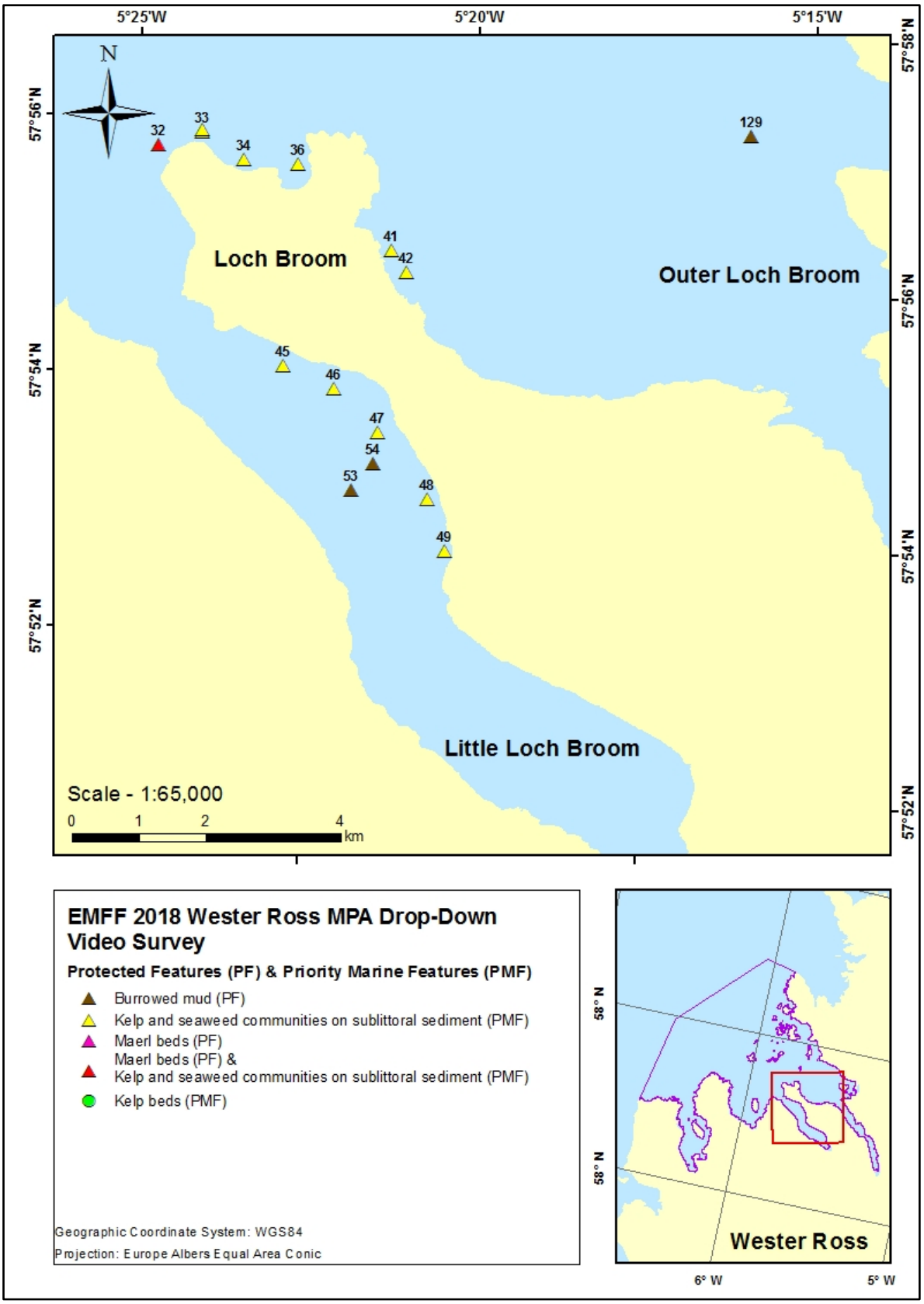

Figure 3.8: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Wester Ross video analysis in and around Loch Broom.

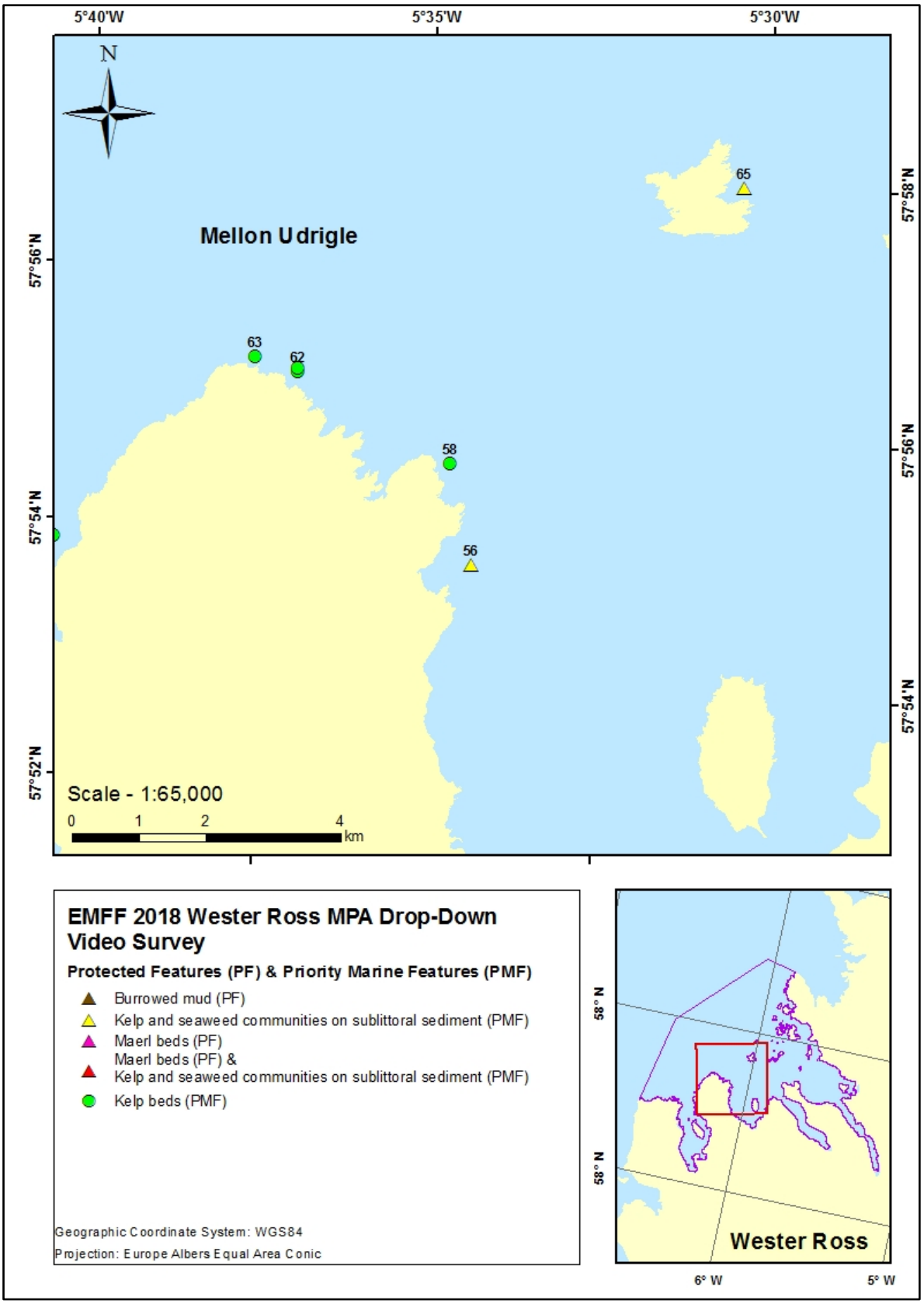

Figure 3.9: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Wester Ross video analysis around Mellon Udrigle.

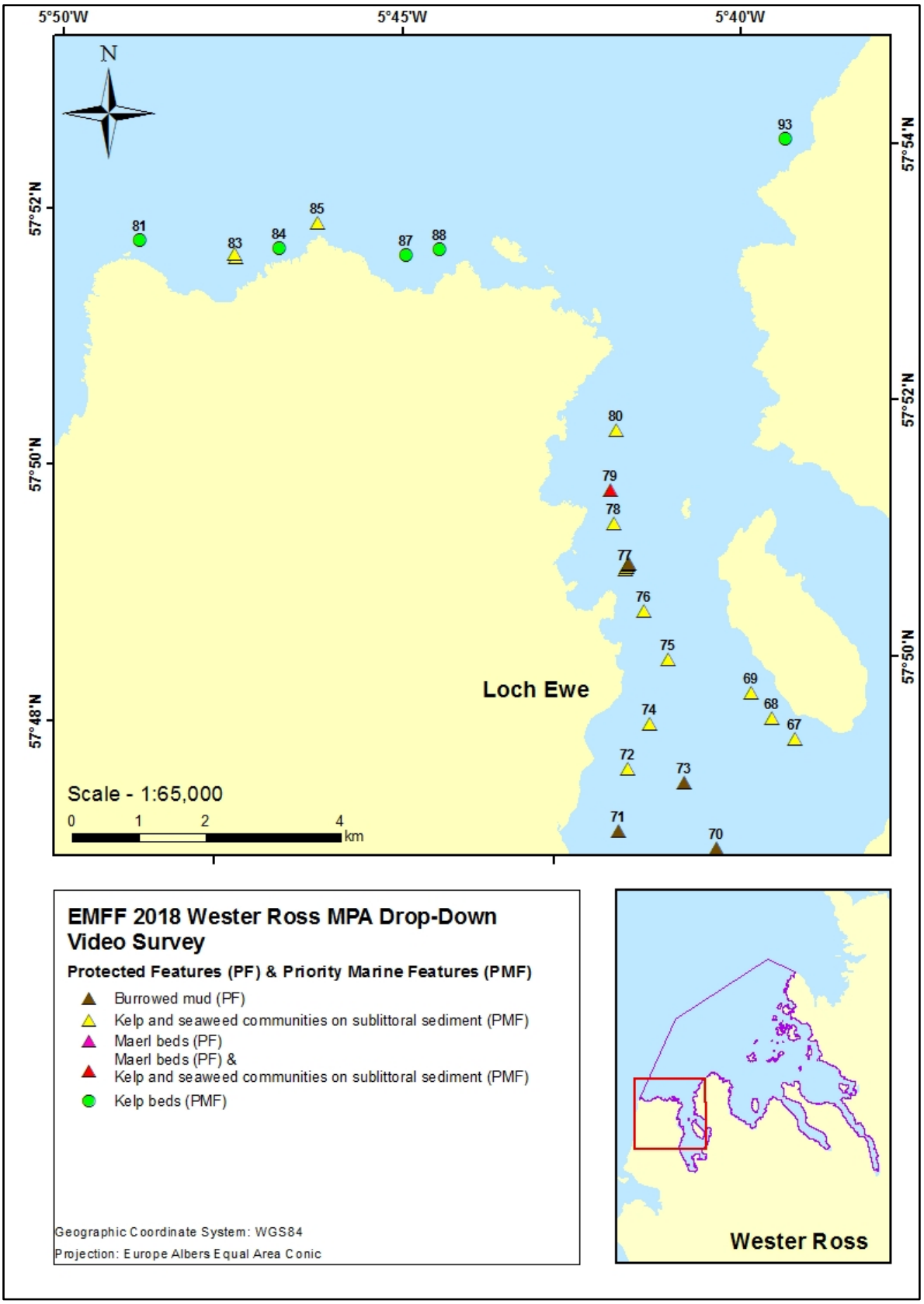

Figure 3.10: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Wester Ross video analysis in and around Loch Ewe.

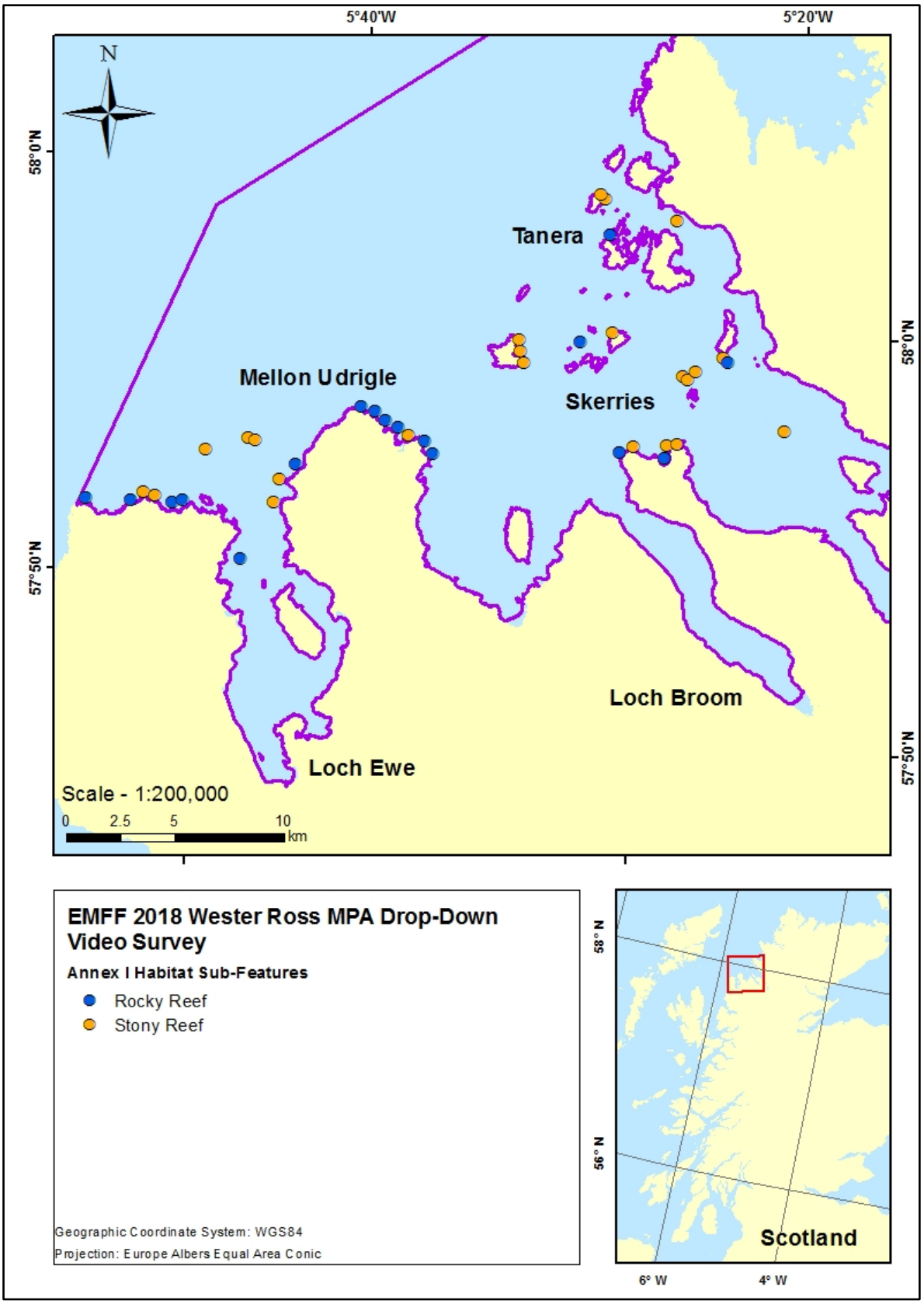

Figure 3.11: Distribution of Annex I habitat reef sub-features identified as part of the Wester Ross video analysis. Note that all levels of 'reefiness' are displayed.

Small Isles

The Small Isles survey area was found to be heterogeneous, characterised by a mix of habitat types including kelp beds on bedrock, macroalgal communities on sediment, crustose communities on cobbles and boulders, and a variety of soft sediment types including coarse, mixed, and sandy sediments, and burrowed mud.

A total of 39 habitats, biotopes and biotope complexes were identified during the analyses. The distribution of the biotopes and PMFs/MPA protected features identified are shown in Figures 3.12-3.19, and the details of the biotopes and biotope complexes identified for each video segment are provided in Annex III.

Areas of Annex I reef were recorded throughout the survey area (Figure 3.20), with a number of different communities observed. Reef habitats, particularly rocky (i.e. bedrock) reef habitats, were generally characterised by kelp. The most commonly recorded kelp communities consisted of either dense stands of *L. hyperborea* or mixed communities of *L. hyperborea* and *S. latissima*. Where the former were observed, the most common biotope assigned was **IR.MIR.KR.Lhyp**, with both forest (.Ft) and park (.Pk) sub-biotopes recorded. The PMF '**kelp beds**' was recorded wherever these component biotopes were identified.

Where mixed kelp communities were observed in areas of significant sediment scour, the biotope **IR.HIR.KSed.XKScrR** ('Mixed kelps with scour-tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock') was recorded. Where sediment scour was less noticeable and/or sediment was more silty, the biotope **IR.LIR.K.LhypSlat** was recorded. Kelp biotopes were generally found to be located on the west coast of Rum and at the Canna West site; areas of rocky reef on the east coast of Rum were instead characterised by dense foliose red seaweeds, particularly by the biotope **IR.MIR.KR.XFoR** ('Dense foliose red seaweeds on silty moderately exposed infralittoral rock').

Where macroalgal communities were absent, areas of reef were instead found to be characterised by the biotope complex **CR.MCR.EcCr** ('Echinoderms and crustose communities'), with the biotope **CR.MCR.EcCr.FaAlCr** most commonly recorded. Fauna was dominated by coralline algae, encrusting bryozoans such as *P. trispinosa*, barnacles and serpulid worms, and high numbers of echinoderms, including the urchin *E. esculentus*, the seastars *P. pulvillus*, *C. papposus*, *A. rubens* and *M. glacialis*. The soft coral *A. digitatum* was observed in high densities on line two; the sub-biotope **CR.MCR.EcCr.FaAlCr.Adig** was therefore assigned. Similarly,

where dense patches of the cup coral *C. smithii* were observed, the sub-biotope **CR.MCR.EcCr.FaAlCr.Car** was assigned.

The northern sea fan, *Swiftia dubia* (formerly *S. pallida*), was present on a total of 14 video segments at ten stations around the Isle of Rum, but was absent from the Canna sites. Where *C. smithii* was observed on rock in conjunction with *S. dubia*, the biotope **CR.MCR.EcCr.CarSwi** ('*Caryophyllia (Caryophyllia) smithii* and *Swiftia pallida* on circalittoral rock') was recorded. However, on lines 54 and 57 cup sponges (tentatively identified as *Axinella infundibuliformis*) were present in high densities together with *S. dubia* and *C. smithii* and the biotope **CR.HCR.XFa.SwiLgAs** ('Mixed turf of hydroids and large ascidians with *Swiftia pallida* and *Caryophyllia smithii* on weakly tide-swept circalittoral rock') was recorded. These areas were also characterised by large ascidians such as *Ascidia virginea* and *Diazona violacea* and by a diverse hydroid turf, including *Abietinaria abietina*, *Nemertesia antennina*, and *N. ramosa*, as well as several other species identified at the family level. The MPA protected feature '**Northern sea fan and sponge communities**' was flagged for all records of *S. dubia*, regardless of the sponge community component; this included video segments where northern sea fans were recorded in low abundances in soft sediment habitats, e.g. line 38_S4. On line 22_S1, the **white cluster anemone** *Parazoanthus anguicomus*, a protected feature of the Small Isles MPA, was identified in association with the northern sea fan and sponge communities.

Soft sediments were recorded on a total of 85 video segments. Where epifauna were absent or sparse and biotope assignment therefore difficult, records were assigned at the habitat level (level 3). The most common soft sediment habitat type recorded was **SS.SCS** ('Sublittoral coarse sediment'), however this encompassed a wide variety of sediment types from gravelly sand to barren low-reefiness cobble stony reefs. Where gravel was largely absent and sands were finer, the habitat **SS.SSa** ('Sublittoral sands and muddy sands') was assigned. Sublittoral mixed sediments (**SS.SMx**) were recorded on 25 video segments; often these sediments supported dense aggregations of the burrowing anemone *C. lloydii* and the biotope **SS.SMx.CMx.ClloMx** was assigned.

Areas of muddy sediment were widespread throughout the survey area. For example, at the Canna East site, on lines 64-67, burrowed sandy mud with dense (common to abundant) aggregations of an unidentified burrowing anemone were observed. Mud habitats were also observed to the east and southeast of Rum on a further 17 video segments at 15 stations. The MPA protected feature '**burrowed mud**' was flagged for all relevant records, and where the density of burrows was deemed sufficient (equivalent to an average of 0.1 complex burrows m^{-2} or 1 simple

burrow m^{-2}, as per the JNCC definition of the habitat) the biotope **SS.SMu.CFiMu.SpnMeg** ('Seapens and burrowing megafauna in circalittoral fine mud') was recorded. While seapens were not present on all burrowed mud video segments, all three British species of seapen (*P. phosphorea*, *V. mirabilis* and *F. quadrangularis*) were recorded in the survey area. The tall seapen *F. quadrangularis* was observed on 10 video segments; where this occurred the sub-biotope **SS.SMu.CFiMu.SpnMeg.Fun** ('Seapens, including *Funiculina quadrangularis*, and burrowing megafauna in undisturbed circalittoral fine mud') was recorded and the species flagged as a protected feature component. The fireworks anemone *Pachycerianthus multiplicatus* was also recorded as a protected feature component on line 52; a single individual was also present on line 34_S1, however this occurred in gravelly mixed sediment rather than in burrowed mud; the record was therefore not flagged as a protected feature.

PMFs recorded included **Kelp and seaweed communities on sublittoral sediment**, which was common at the Canna sites, but also recorded at Guirdil on the northwest coast of Rum. The biota was usually dominated by *S. latissima* together with filamentous red and, to a lesser extent, brown seaweeds, and the biotope **SS.SMp.KSwSS.SlatR** was recorded on 15 video segments. The biotope was recorded on cobbles and pebbles (**.CbPb**), including some areas of cobble reef, and on gravel (**.Gv**).

Maerl (as live maerl 'twiglets' and dead maerl gravel) was recorded on a total of four video segments, however the density of maerl was only sufficient (i.e. >20 %) to assign the PF **Maerl beds** to a single video segment (41_S3). Kelp and seaweed communities were present overlying the maerl on this segment; two PMFs were therefore recorded.

The PMF **Shallow tide-swept coarse sands with burrowing bivalves** was assigned to lines 79 and 80, with bivalve siphons observed in coarse shelly sand.

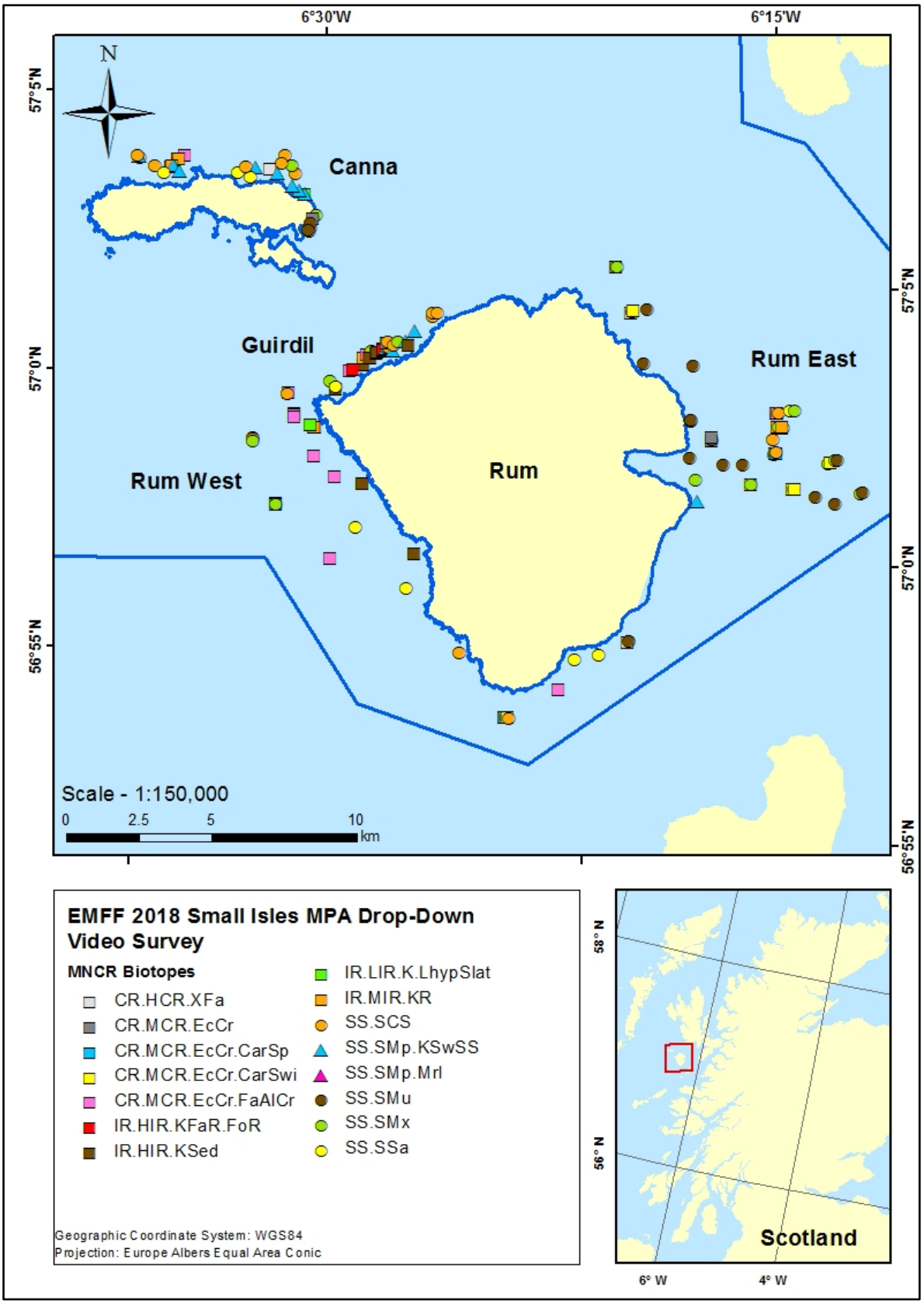

Figure 3.12: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Small Isles video analysis. Note that only primary biotopes are shown.

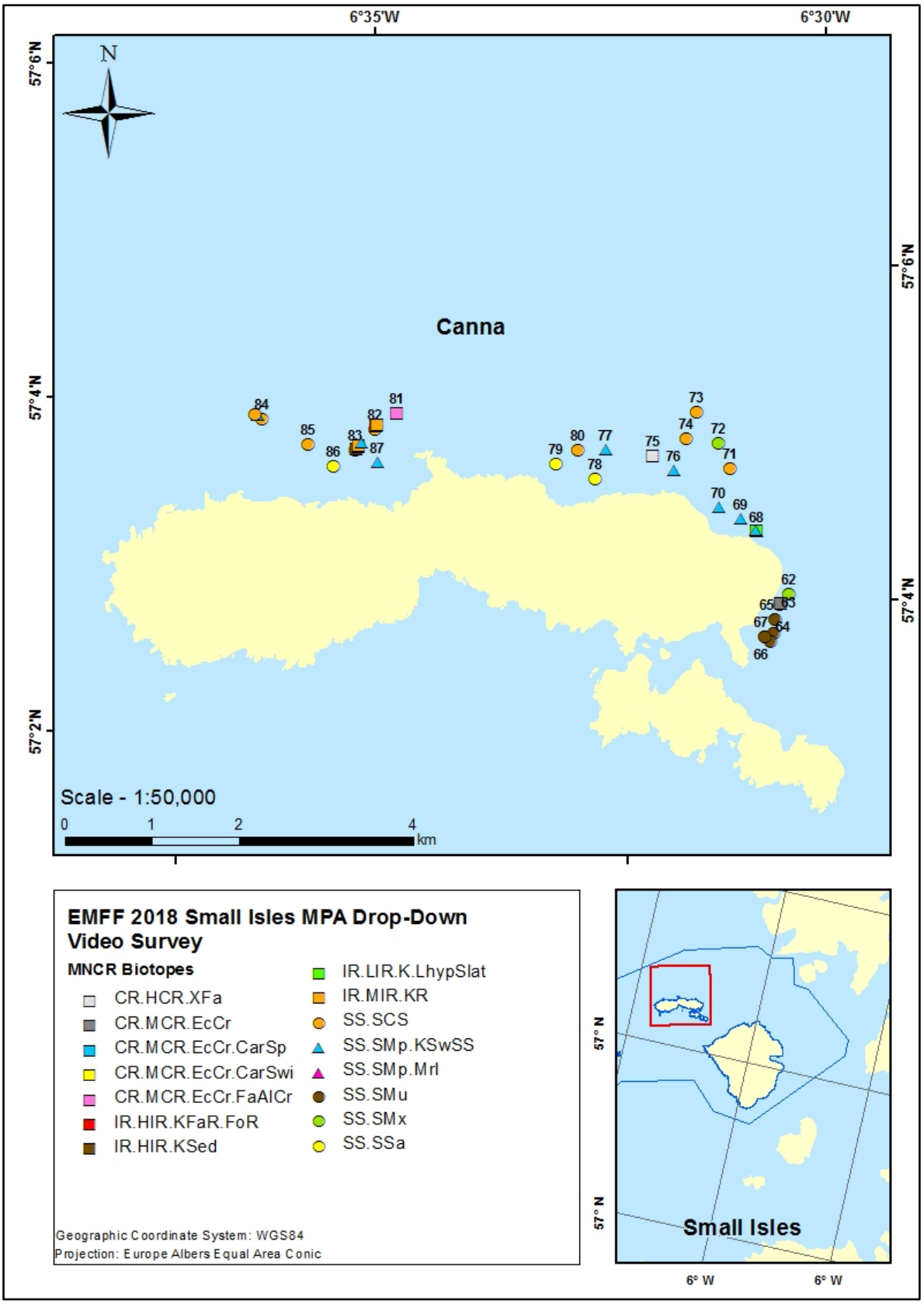

Figure 3.13: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Small Isles video analysis around the Isle of Canna.

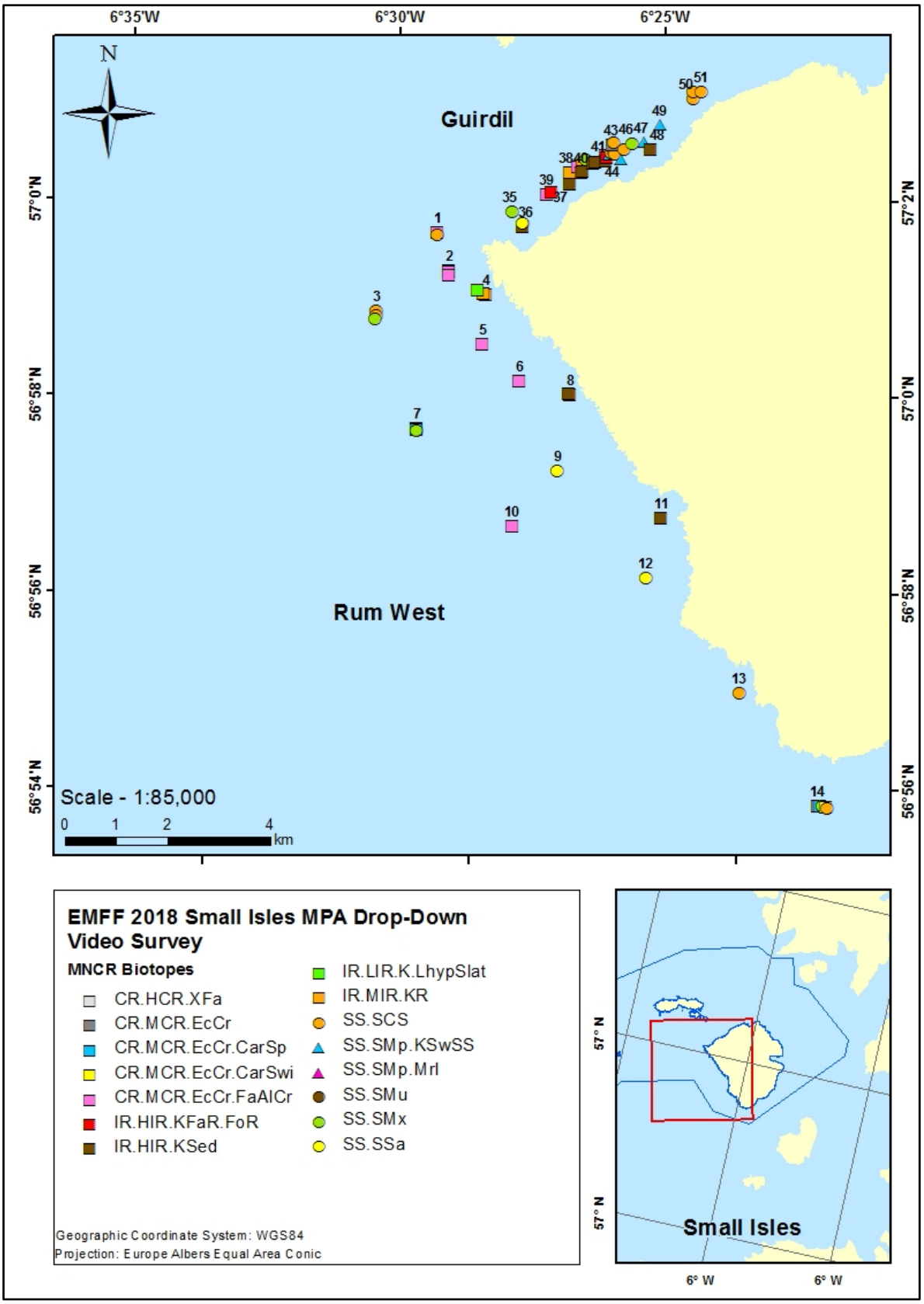

Figure 3.14: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Small Isles video analysis at stations west of Rum.

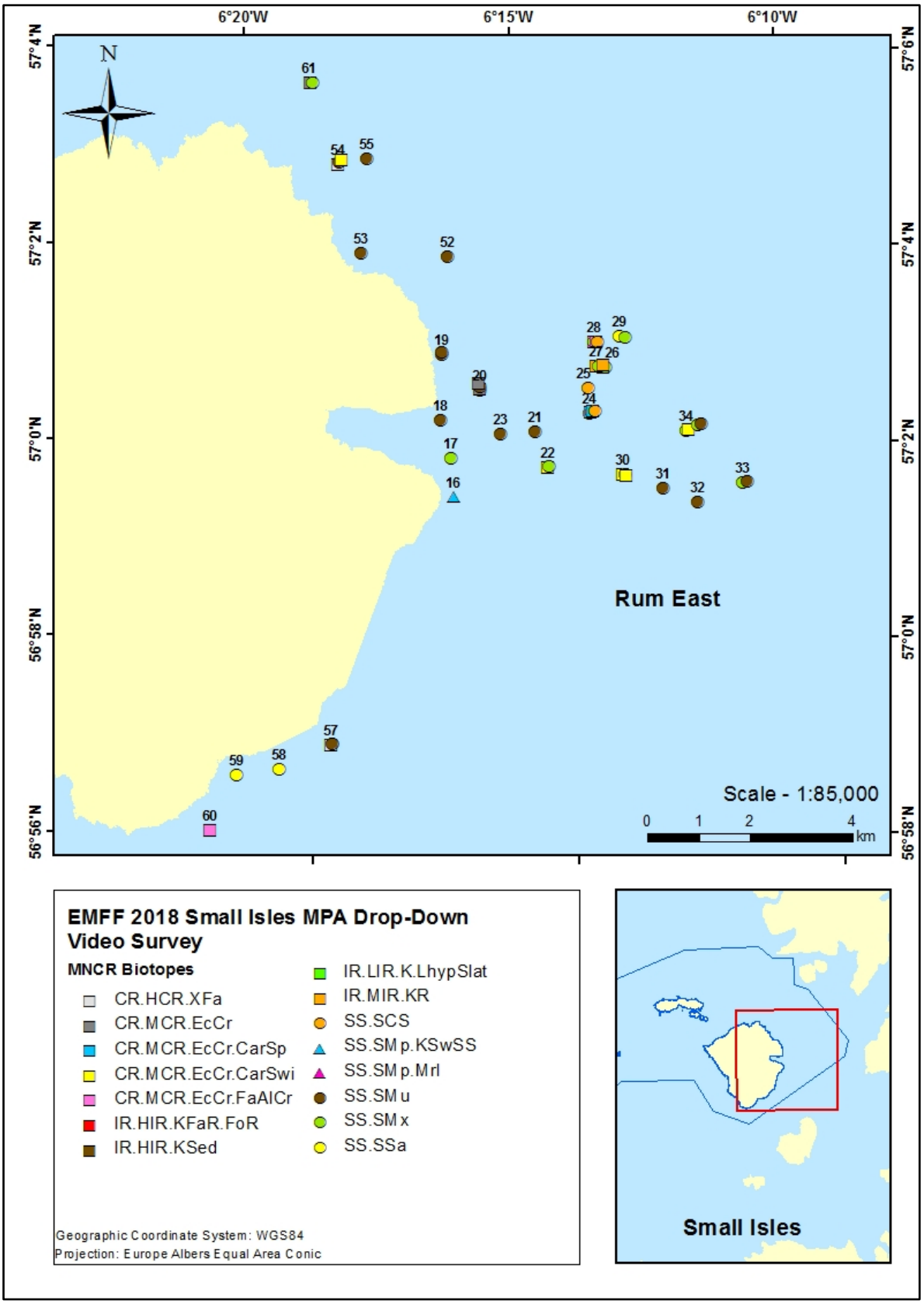

Figure 3.15: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Small Isles video analysis at stations east of Rum.

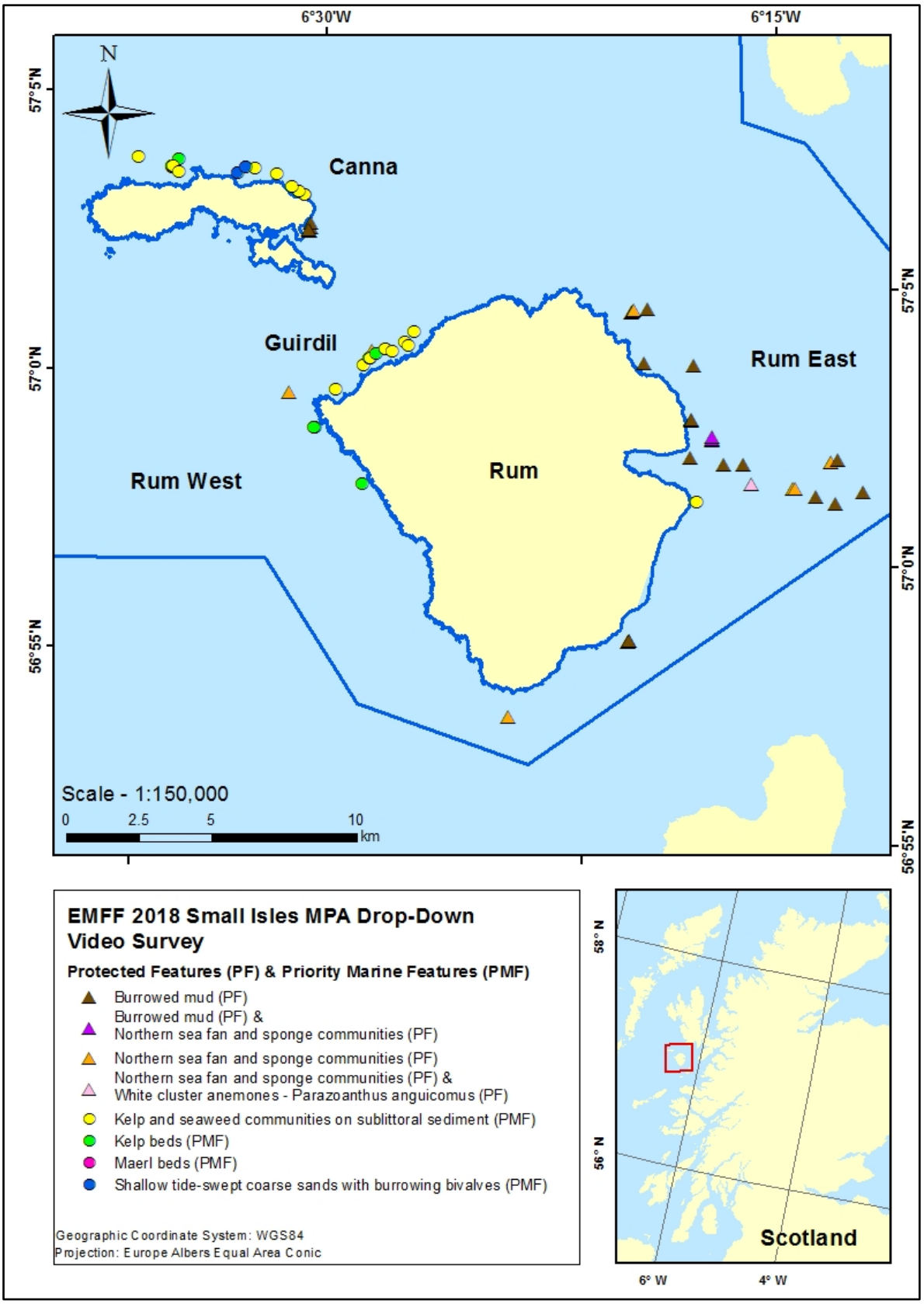

Figure 3.16: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Small Isles video analysis. Note that locations where more than one PMF was identified are shown as separate entries.

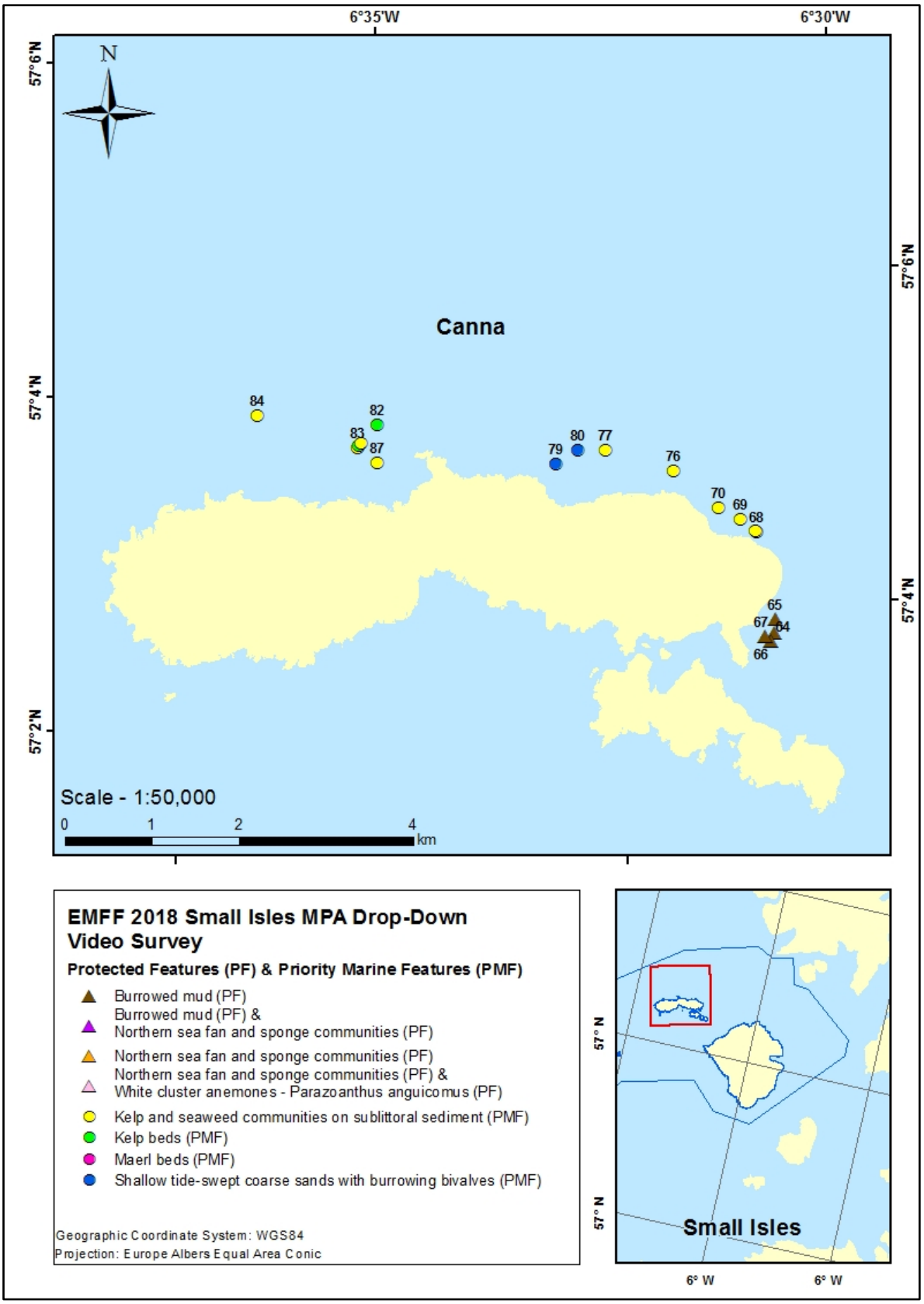

Figure 3.17: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Small Isles video analysis around the Isle of Canna.

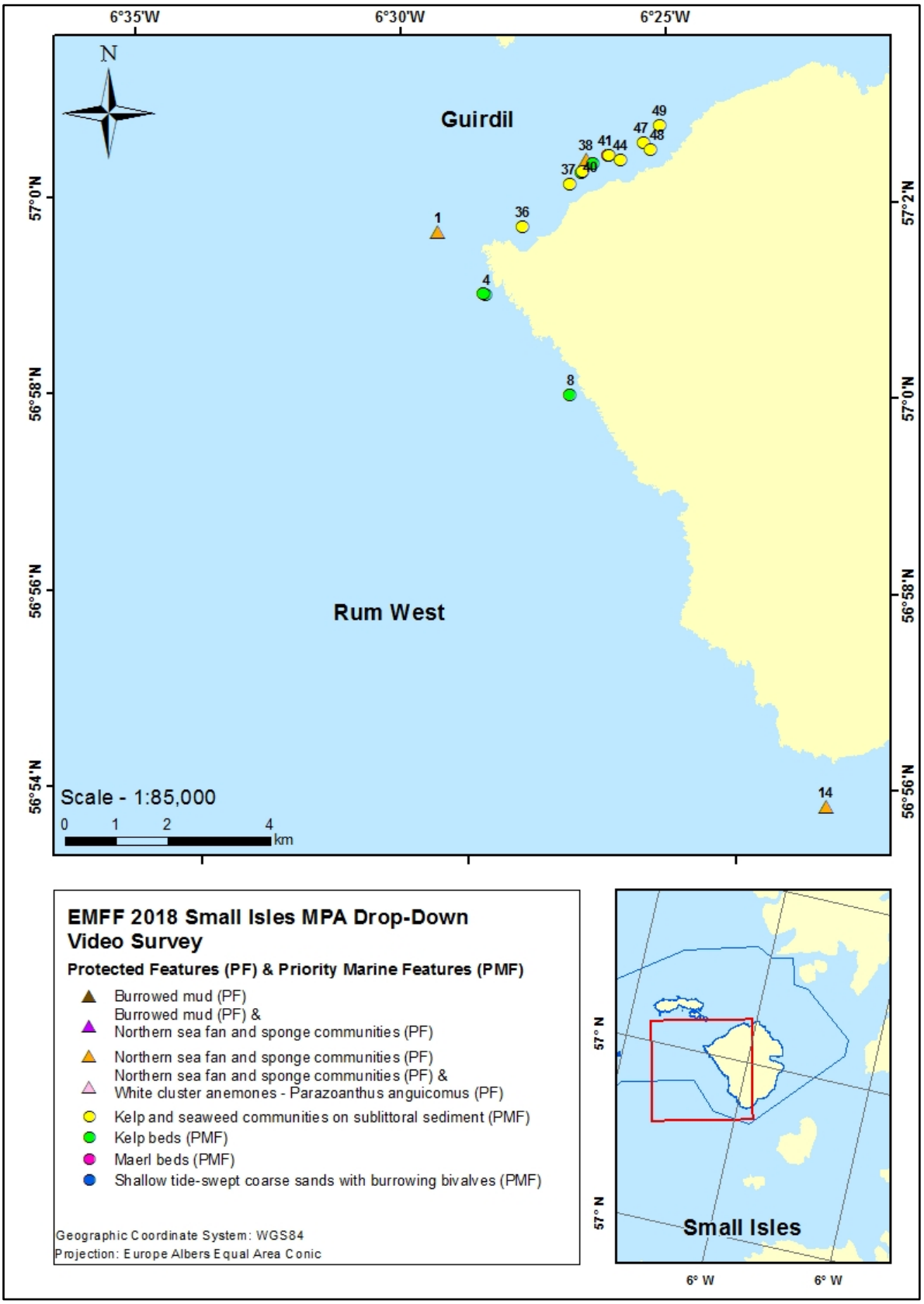

Figure 3.18: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Small Isles video analysis at stations west of Rum.

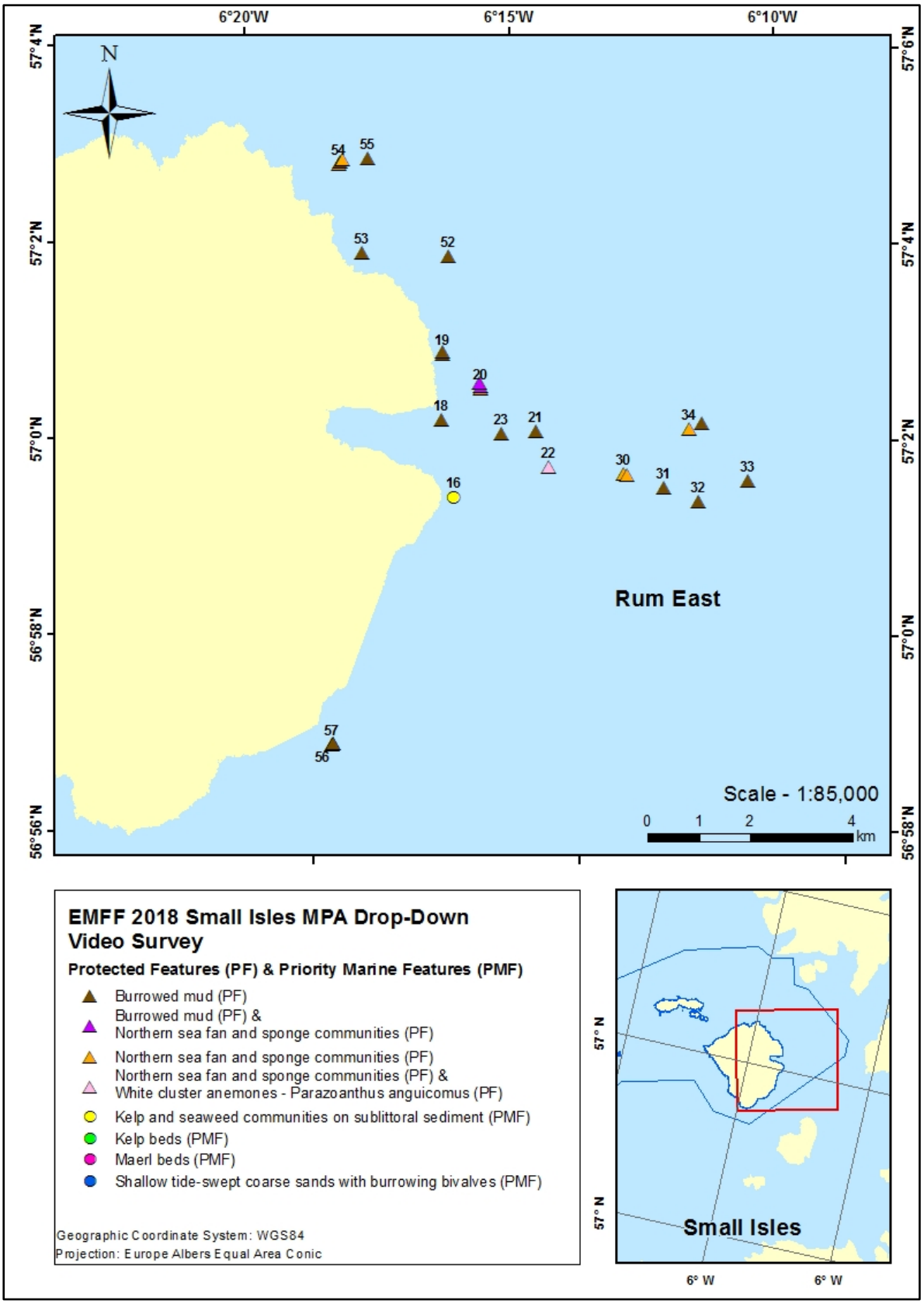

Figure 3.19: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Small Isles video analysis at stations east of Rum.

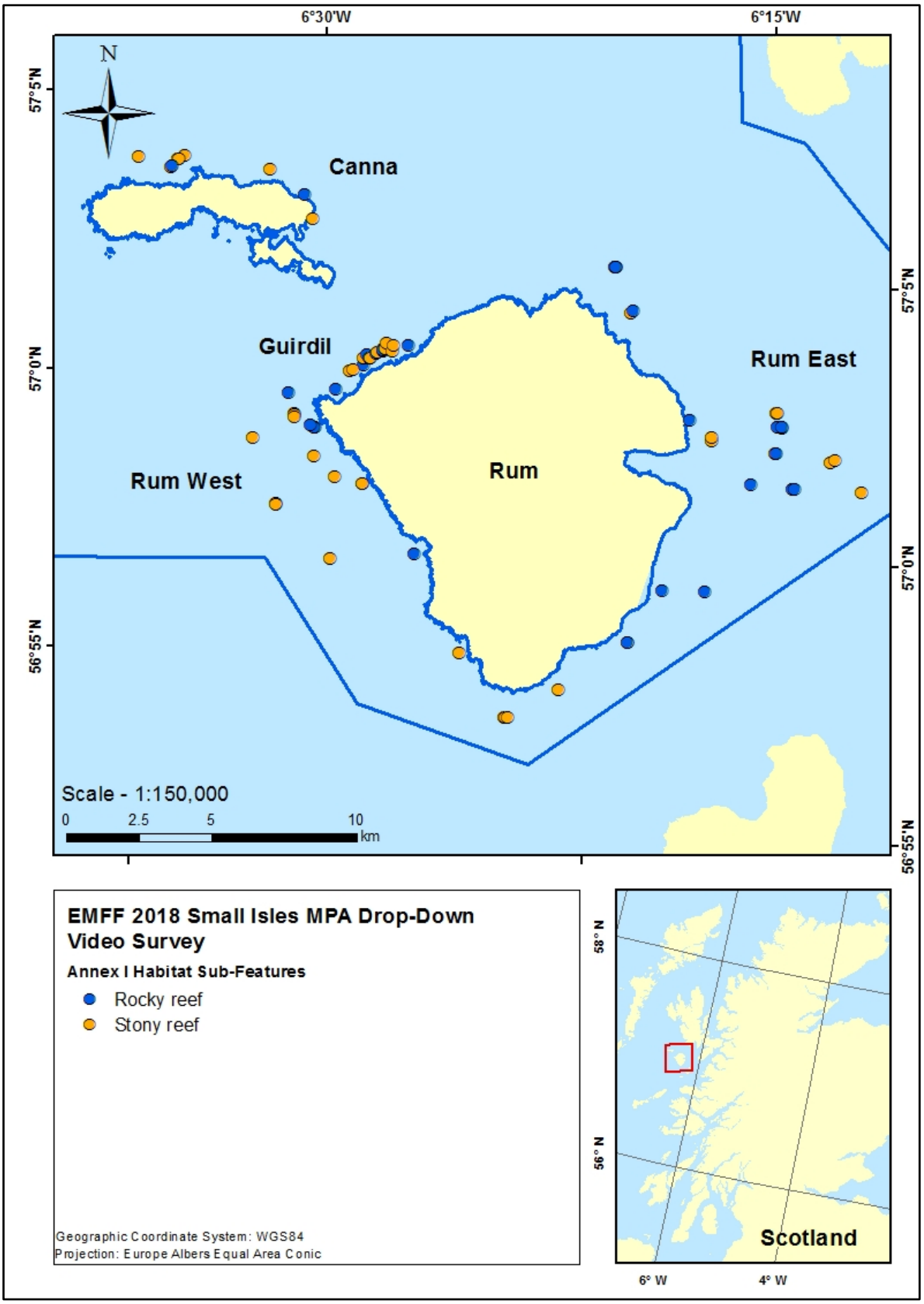

Figure 3.20: Distribution of Annex I habitat reef sub-features identified as part of the Small Isles video analysis. Note that all levels of 'reefiness' are displayed.

Inner Sound and Loch Alsh

The Inner Sound and Loch Alsh survey area was found to be characterised by few habitat types; the most common was macroalgal communities on sediment, however, other soft sediment habitats, particularly coarse and mixed sediments, were also frequently observed. Protected feature habitats recorded included burrowed mud and flame shell beds, and the PMF maerl beds was also recorded.

A total of 29 habitats, biotopes and biotope complexes were identified during the analyses. The distribution of the biotopes and PMFs identified are shown in Figures 3.21-3.30, and the details of the biotopes and biotope complexes identified for each video segment are provided in Annex III.

Only a small number of stations were located within the Lochs Duich, Long and Alsh ('Lochs DLA') MPA boundary (see Figure 3.22); these comprised lines 73-76 within Loch Alsh and lines 46-47, 51-54, 66-68 and 72 at the Kyleakin site. Station 50 was located outside the MPA boundary, and stations 69-71 were located within Loch Carron MPA. No video tows were conducted within the Lochs DLA Reefs Special Area of Conservation (SAC).

L. hians **flame shell beds** (**SS.SMx.IMx.Lim**; '*L. hians* beds in tide-swept sublittoral muddy mixed sediment'), an MPA protected feature common to both MPAs, were identified at a total of 7 stations; 6 of these (stations 46, 47, 53, 54, 67 and 72) were within the Loch Alsh MPA and 1 (station 71) within Loch Carron MPA. The highest densities of *L. hians* nests were observed at station 72, with an assigned SACFOR abundance of common.

At stations 73-76, within Loch Alsh, **burrowed mud** was the only habitat type observed, with seapens and the commercial species *Nephrops norvegicus* recorded at all stations. Due to the presence of *F. quadrangularis*, all lines in this area were assigned the biotope **SS.SMu.CFiMu.SpnMeg.Fun** and *F. quadrangularis* recorded as a protected feature component. Tall seapens were observed in particularly high densities (i.e. common) on lines 73 and 75.

Burrowed mud was also recorded on a further nine video segments around the Isle of Scalpay, although *F. quadrangularis* was only present at station 55. At station 65, mounds similar to those produced by the echiuran *Maxmuelleria lankesteri* were observed in high densities, together with occasional to frequent *Bonellia viridis*, a species closely related to *M. lankesteri*. For this reason, the biotope

SS.SMu.CFiMu.MegMax (‘Burrowing megafauna and *Maxmuelleria lankesteri* in circalittoral mud’) was assigned to segments on this line.

Maerl beds (**SS.SMp.Mrl**) were observed on 18 video segments at a total of 15 stations, all outside of the MPAs. Small amounts of live maerl and/or maerl gravel were observed at a further two sites however the 20% cover threshold for assigning the PMF was not met. On line 70, a small quantity (<1 % cover) of ‘hedgehog’ maerl was also observed. Maerl beds were primarily distributed at the Crowlins and Applecross sites, although maerl beds were also observed at stations 43-45 northeast of the isle of Scalpay and at station 12. However, the highest densities of maerl were observed at the very north of the Applecross site, at stations 38-42, with up to 70 % coverage by live maerl ‘twiglets’ recorded.

The most commonly recorded biotope in the survey area was **SS.SMp.KSwSS.SlatR** , which was recorded on a total of 39 video segments, with examples found at every site except for (inner) Loch Alsh. These biotopes occurred on a number of substrate types, including clean gravels (**.Gv**), cobbles and pebbles (**.CbPb**), as well as overlying maerl beds and flame shell beds, although where other PMFs / protected features were present SS.SMp.KSwSS.SlatR was recorded as a secondary biotope/PMF. Communities were generally dominated by *S. latissima* together with a dense covering of filamentous red and brown seaweeds, although at some stations *S. latissima* was found to be present in very low (<1%) abundances. Fauna generally observed in these habitats included the burrowing anemone *C. lloydii* (in which case the biotope **SS.SMx.CMx.CIloMx** was recorded as a secondary biotope) the brittlestar *Ophiocomina nigra*, feather stars, and queen scallop *Aequipecten opercularis*, which was recorded in very high abundances (common to abundant) on 20 video segments.

Annex I reefs were infrequently observed in the survey area (Figure 3.31), with rocky reef identified at just six stations. Areas of potential stony reef were more common, but generally consisted of patchy cobbles and boulders overlying soft sediment and were deemed to be of low ‘reefiness’ value. The majority of potential reef features were located around the Isle of Scalpay, however, they were also found to be present at the Crowlins and Applecross sites. While no video tows were conducted within the Lochs DLA SAC, potential Annex I rocky reef, composed of a ‘stepped’ bedrock slope, was observed at station 75 (75_S1) within Loch Alsh.

A variety of biotopes were associated with reef features. Rarely these included **kelp beds**, with the *L. hyperborea* dominated biotope **IR.MIR.KR.Lhyp** recorded at two stations at east Scalpay. Sediment-affected kelp communities (**IR.HIR.KSed**;

‘Sediment-affected or disturbed kelp and seaweed communities’) were also recorded at stations 46-47 and 66 at Kyleakin, however due to poor video quality and/or dense macroalgal cover the substrate type could not be determined and Annex I reefs were not recorded.

Where fauna was associated with hard substrate, the most commonly observed communities were dominated by large solitary ascidians in silty conditions. The most common species recorded included *Ascidia mentula, A. virginea*, *Ascidiella aspersa* and *Ciona intestinalis*, as well as the large colonial ascidian *D. violacea*. Other ascidian species recorded included *Polycarpa scuba*, *Pyura microcosmus* and *Corella parallelogramma*. Feather stars (likely *Antedon* sp. based on colouration) were also occasionally observed in high densities. The fauna present were indicative of the biotope **CR.LCR.BrAs.AmenCio** (‘Solitary ascidians, including *Ascidia mentula* and *Ciona intestinalis*, on wave-sheltered circalittoral rock’), or the sub-biotope **CR.LCR.BrAs.AmenCio.Ant** (‘Solitary ascidians, including *Ascidia mentula* and *Ciona intestinalis*, with *Antedon* spp. on wave-sheltered circalittoral rock’), however these communities were observed not only on bedrock and boulders, but also in coarse or muddy mixed sediment. As no soft sediment biotope was found to be an appropriate match for the observed communities, in these cases the .AmenCio biotope was assigned together with a secondary soft sediment level 3 biotope (**SS.SCS** or **SS.SMx**) with the physical mis-match noted.

Other features of interest recorded in the survey area included the presence of shells of the horse mussel *Modiolus modiolus* at stations 9 and 10, however, no live specimens were positively identified. At station 76 in Loch Alsh aggregations of the northern feather star *L. celtica* were observed at common densities on burrowed muddy mixed sediment. The PMF **northern feather star aggregations** was therefore recorded at this station.

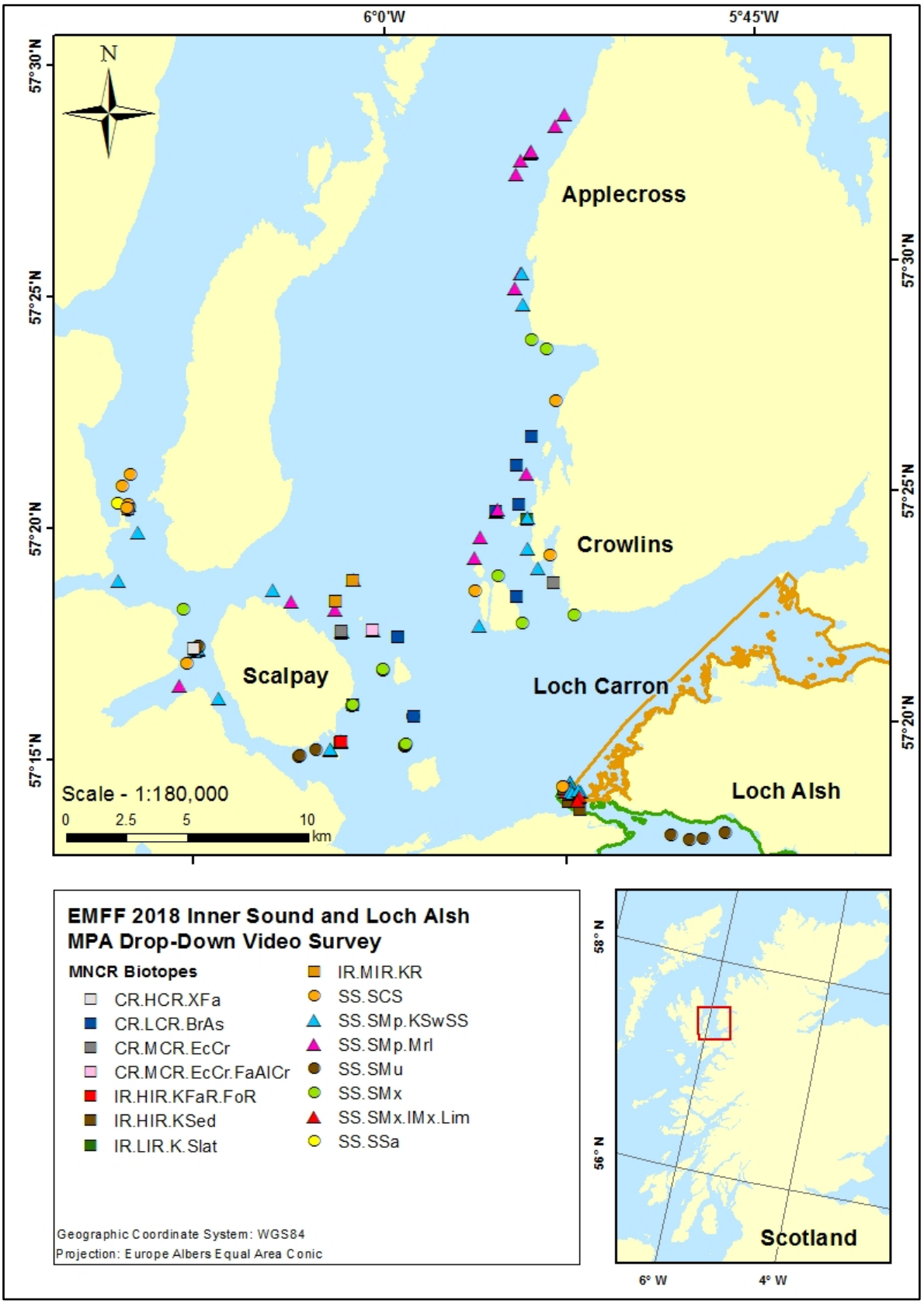

Figure 3.21: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Inner Sound and Loch Alsh video analysis. Note that only primary biotopes are shown.

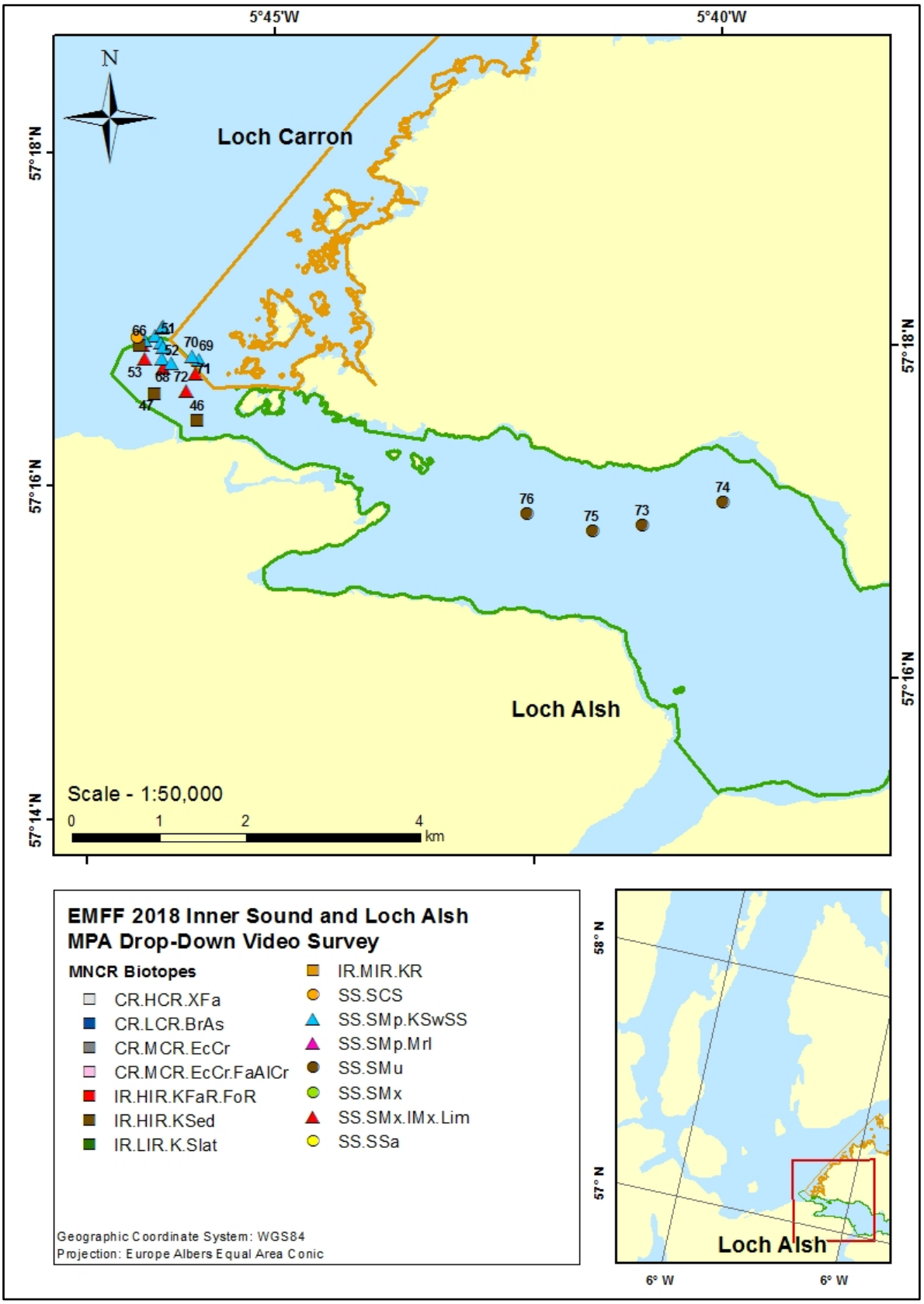

Figure 3.22: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Inner Sound and Loch Alsh video analysis in and adjacent to the Lochs Duich, Long and Alsh MPA and Loch Carron MPA.

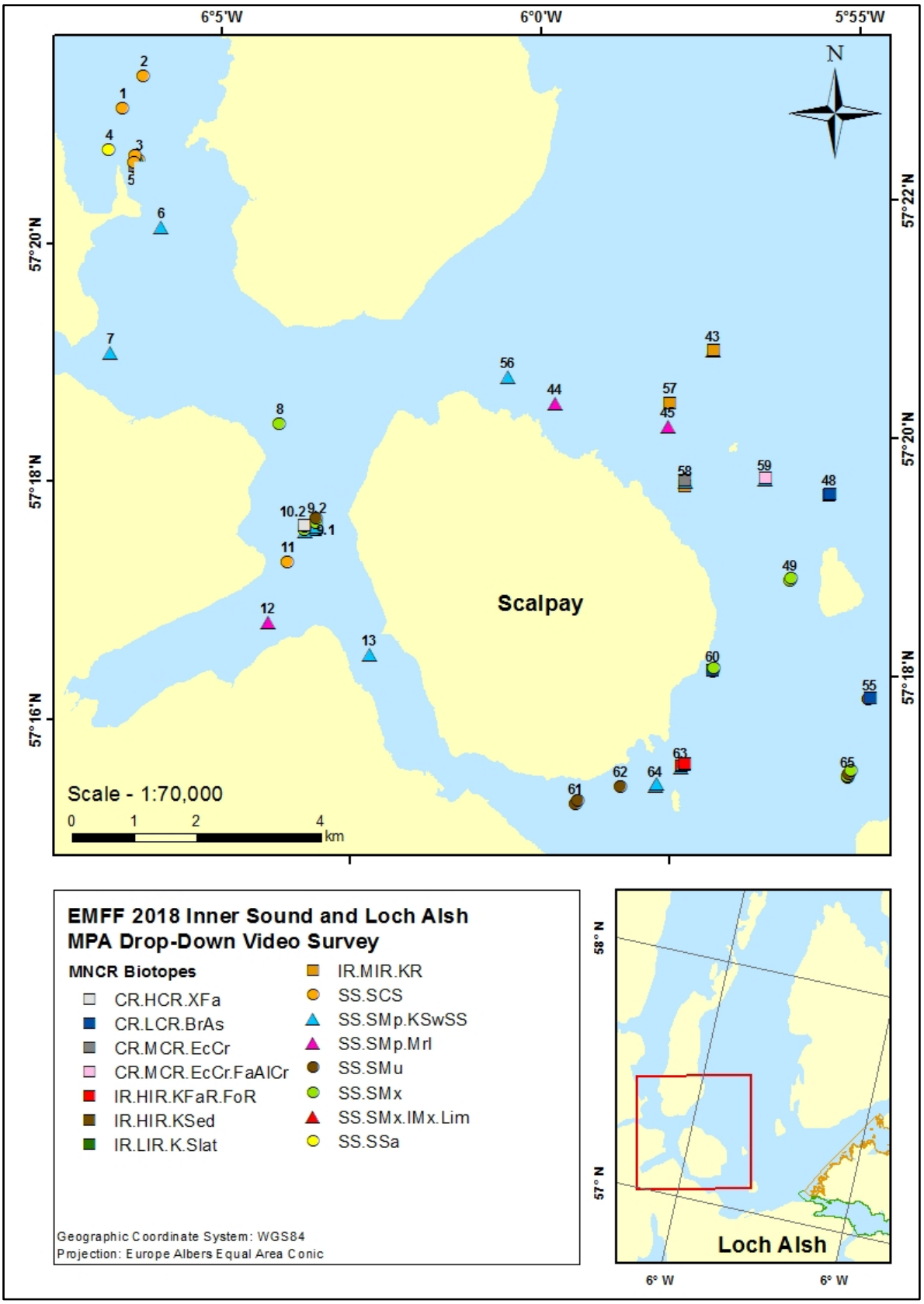

Figure 3.23: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Inner Sound and Loch Alsh video analysis around Scalpay.

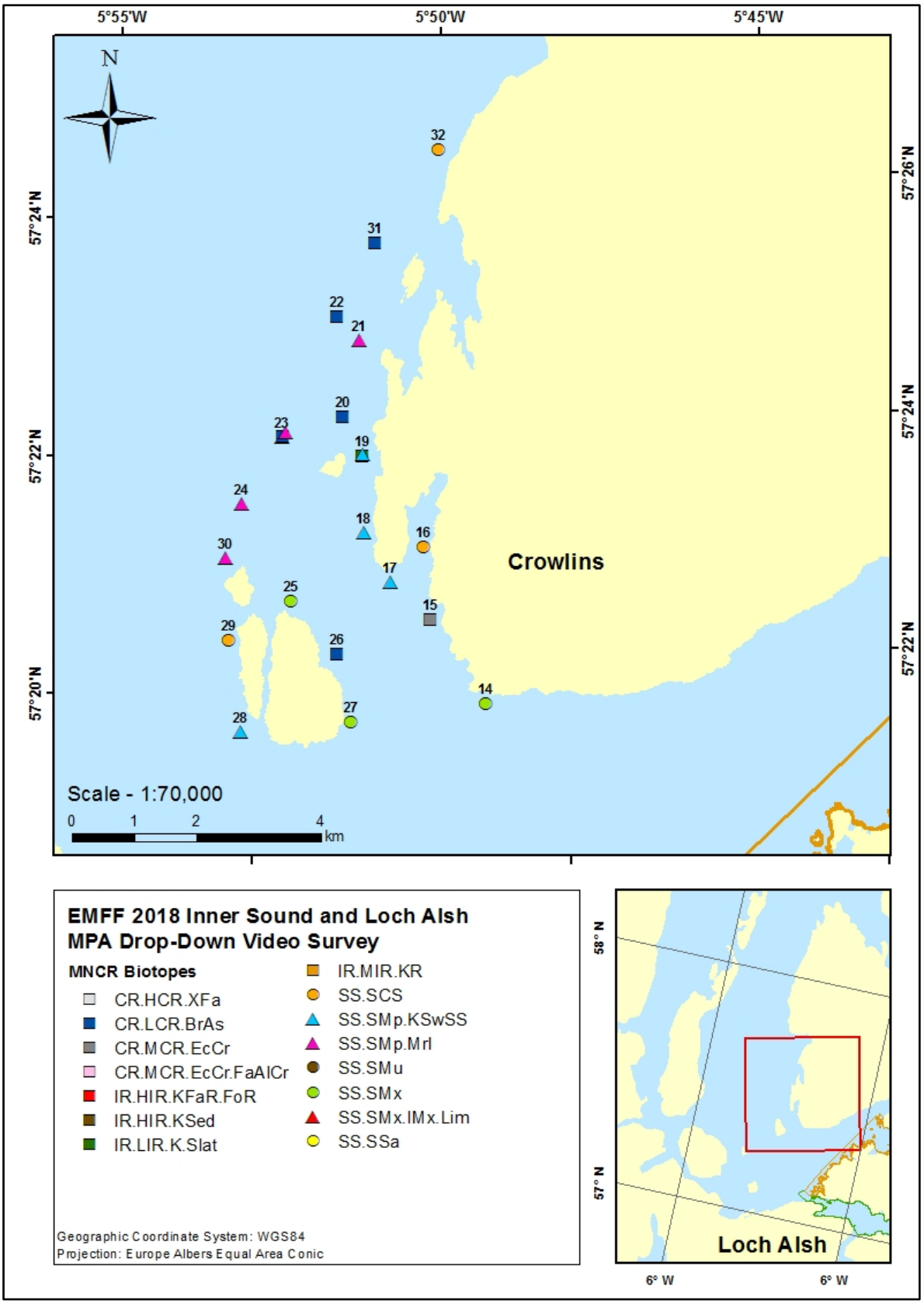

Figure 3.24: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Inner Sound and Loch Alsh video analysis around Crowlins.

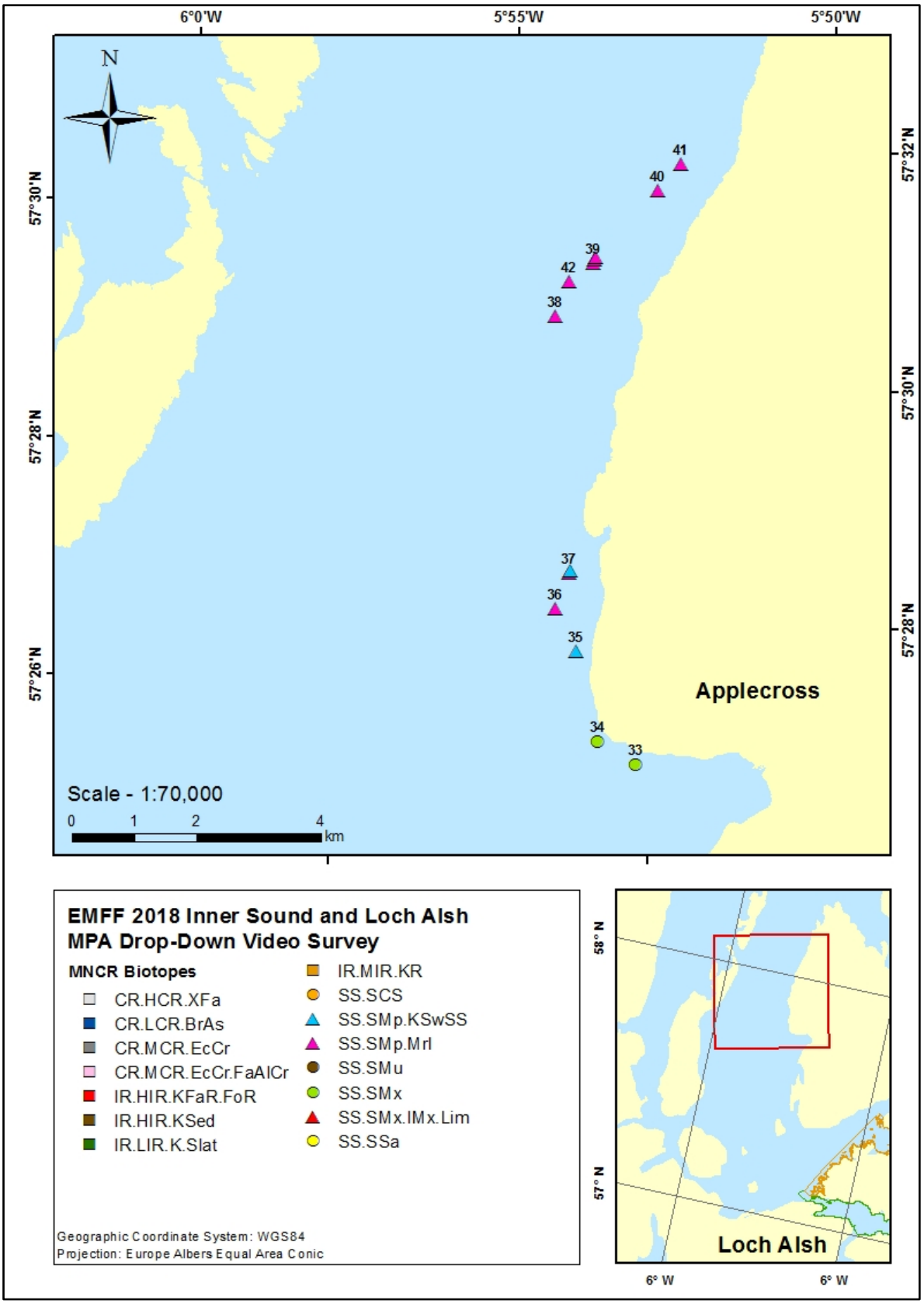

Figure 3.25: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the Inner Sound and Loch Alsh video analysis around Applecross.

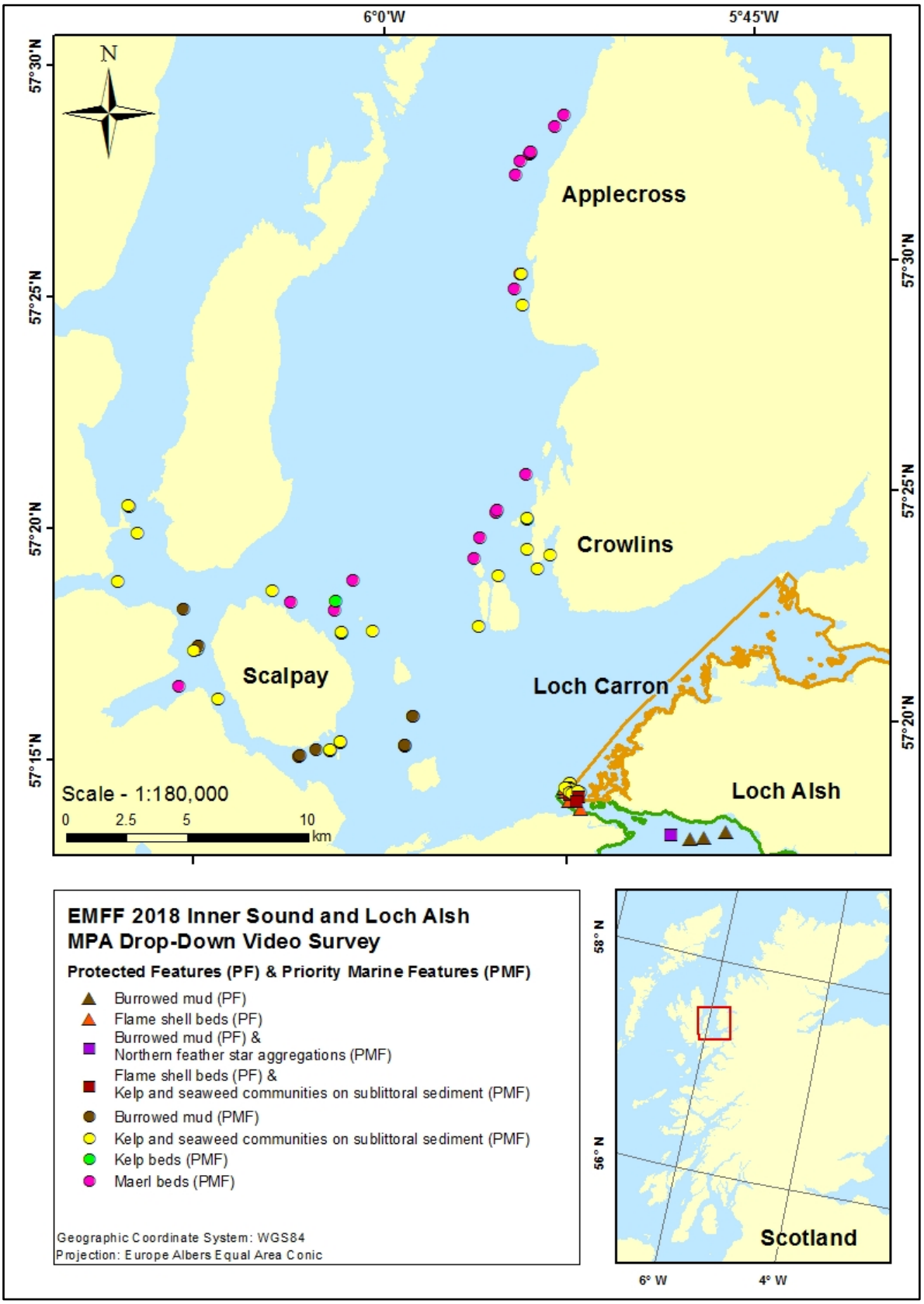

Figure 3.26: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Inner Sound and Loch Alsh video analysis. Note that locations where more than one PMF was identified are shown as separate entries

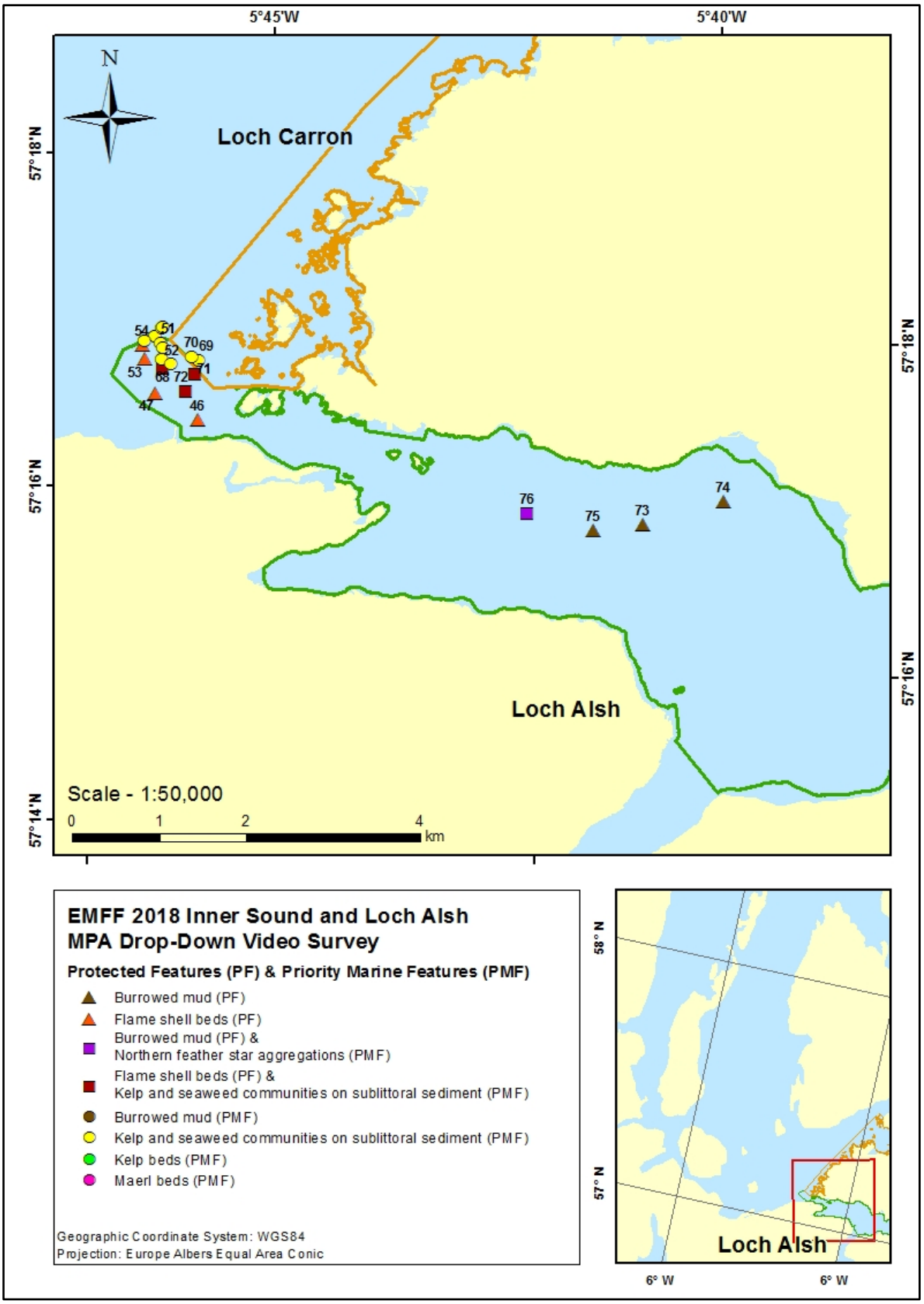

Figure 3.27: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Inner Sound and Loch Alsh video analysis in and adjacent to the Lochs Duich, Long and Alsh MPA and Loch Carron MPA.

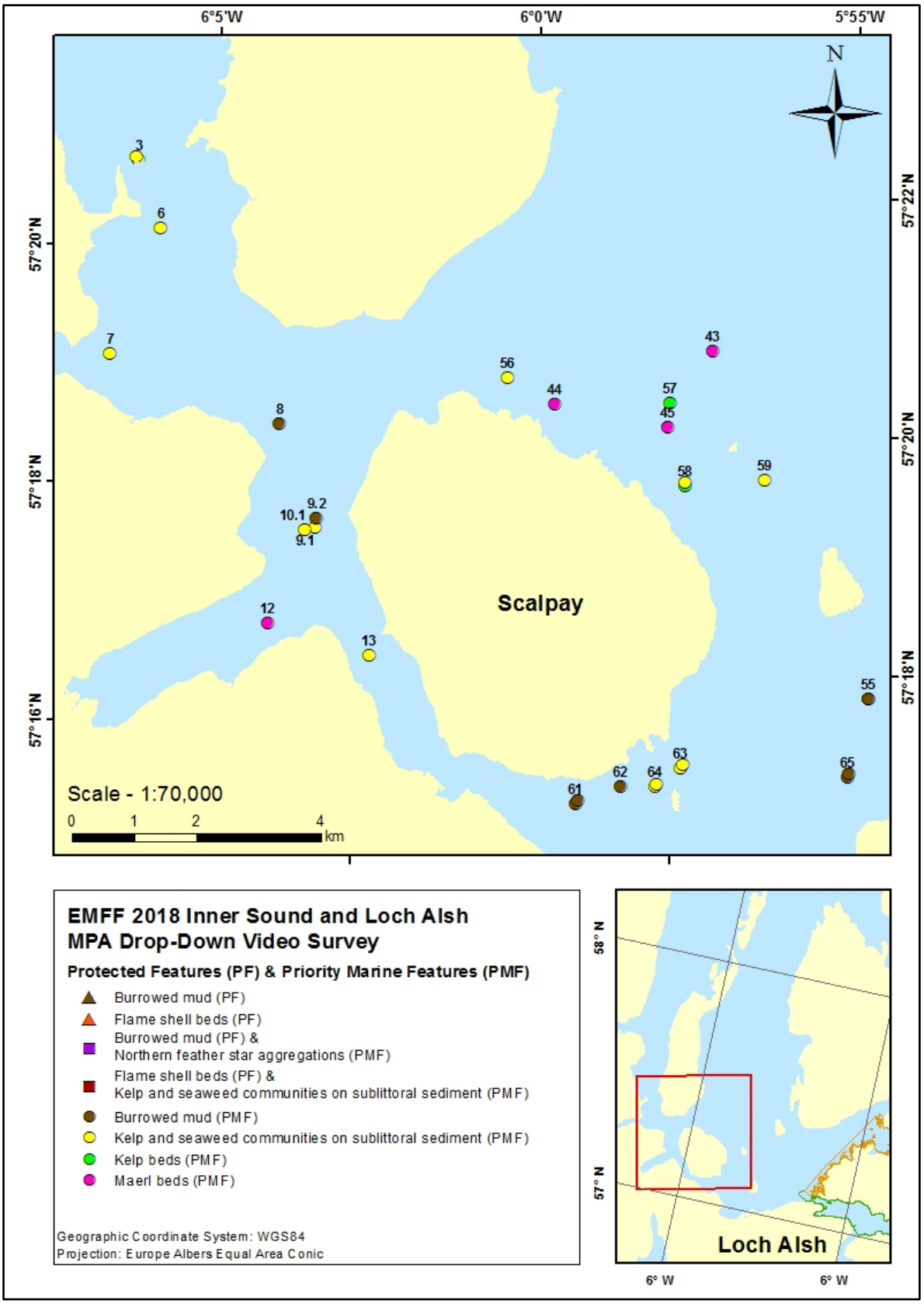

Figure 3.28: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Inner Sound and Loch Alsh video analysis around Scalpay.

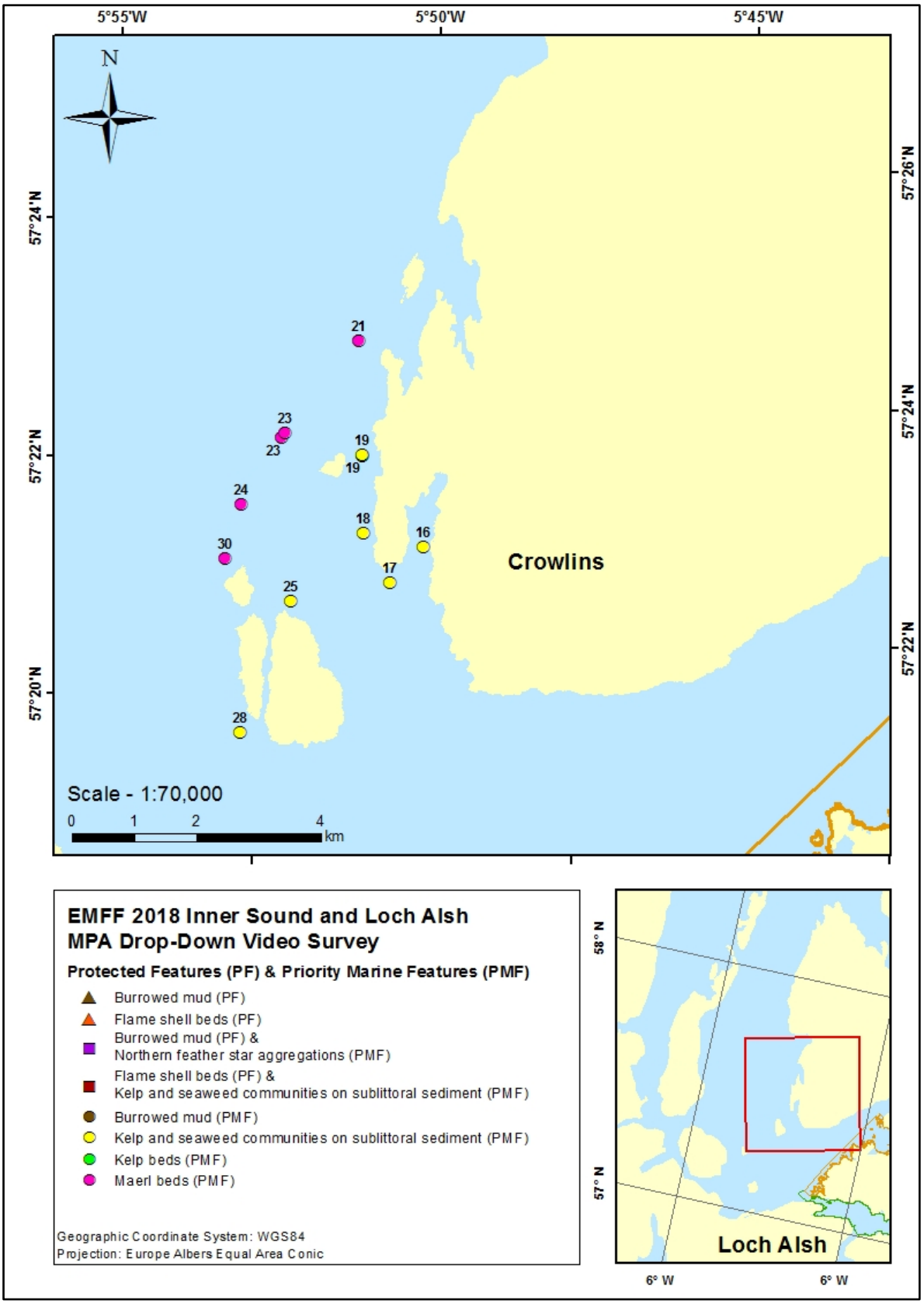

Figure 3.29: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Inner Sound and Loch Alsh video analysis around Crowlins.

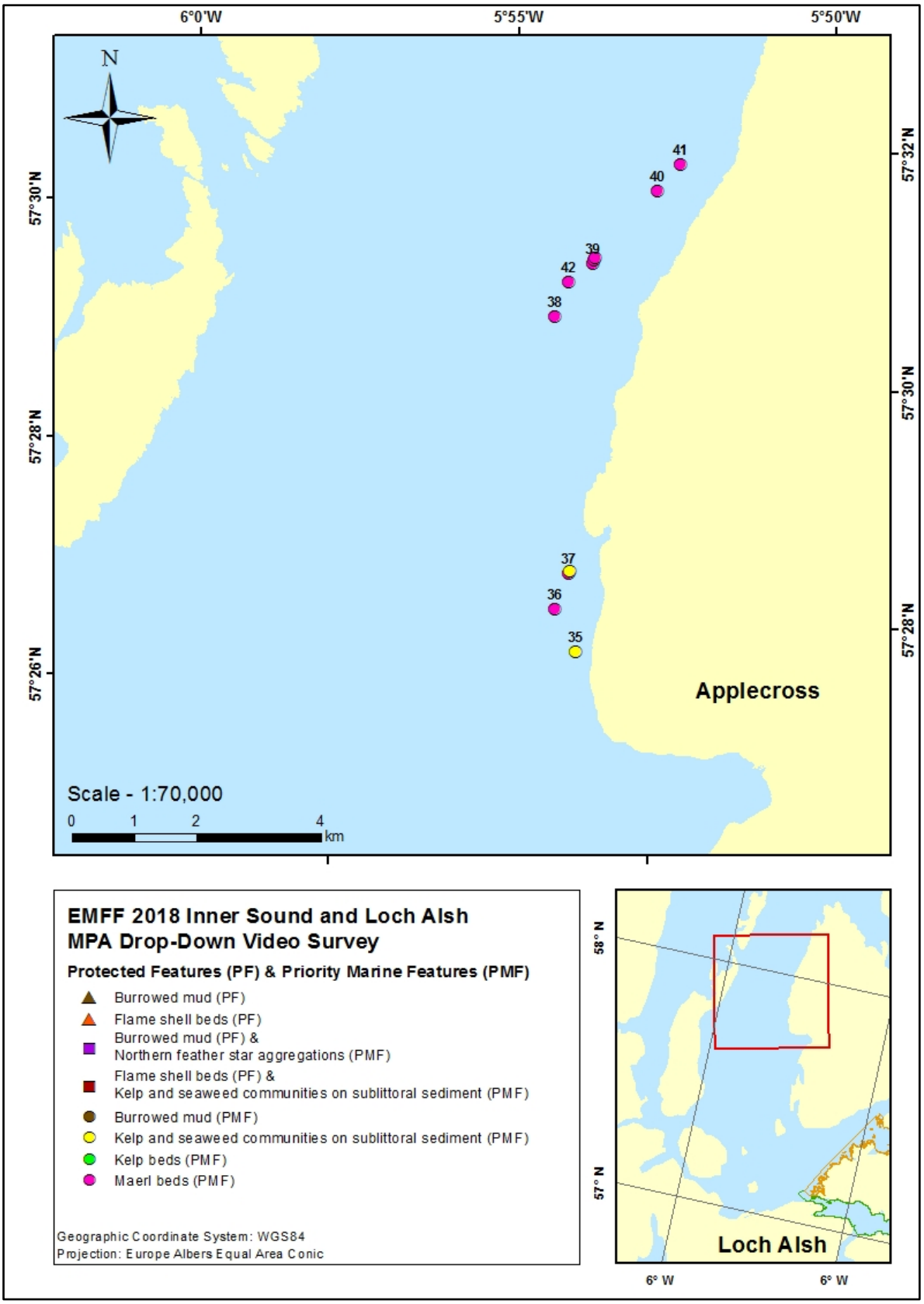

Figure 3.30: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the Inner Sound and Loch Alsh video analysis around Applecross.

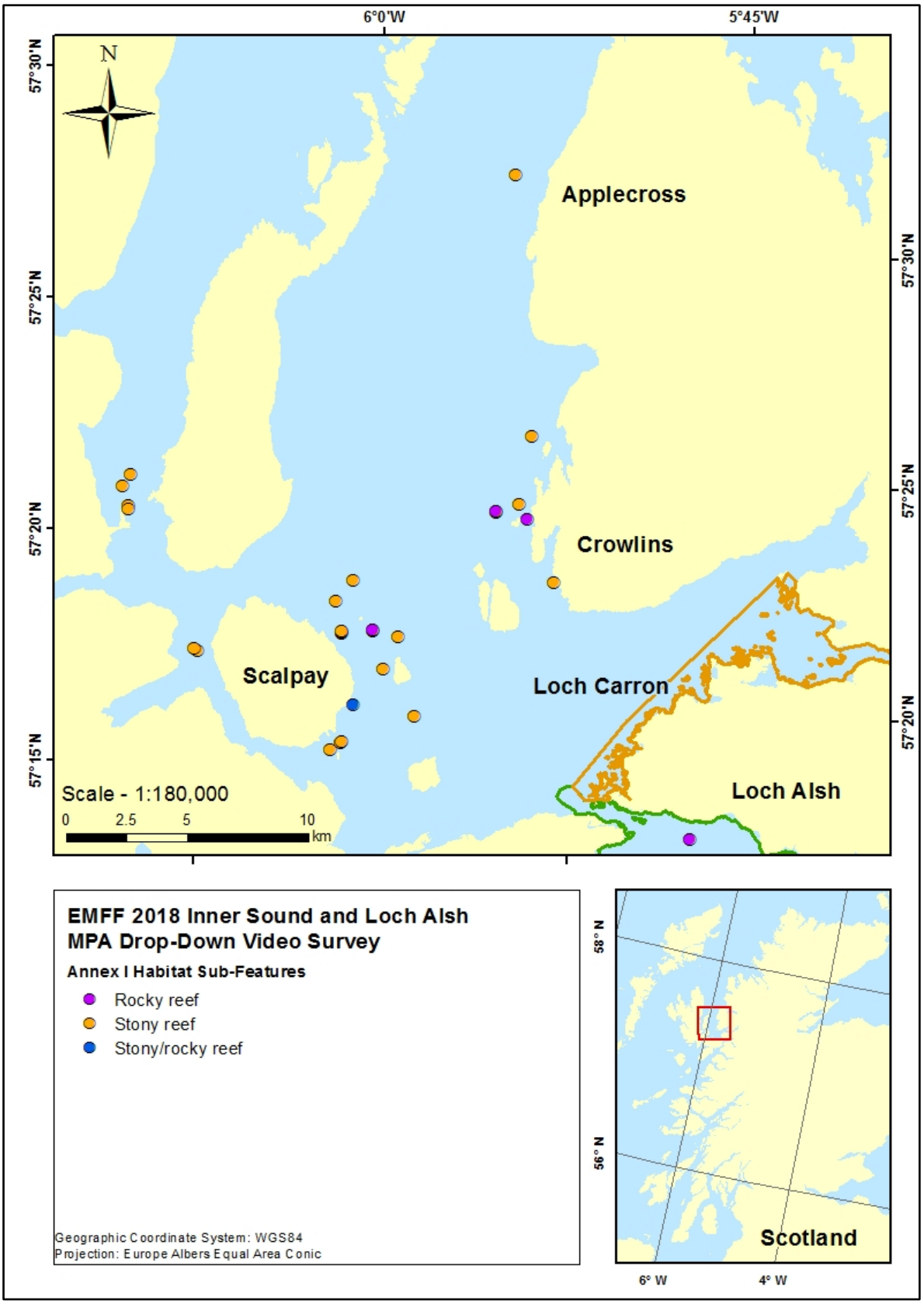

Figure 3.31: Distribution of Annex I habitat reef sub-features identified as part of the Inner Sound and Loch Alsh video analysis. Note that all levels of 'reefiness' are displayed.

South Arran and Clyde Sea

The South Arran and Clyde Sea survey area was found to be most commonly characterised by kelp and red seaweed dominated habitats. Other habitats recorded included mixed sediments, sandy muds, maerl beds and seagrass beds.

A total of 17 biotopes and biotope complexes were identified during the analyses. The distribution of the biotopes and PMFs identified are shown in Figures 3.22-3.41. The details of the biotopes and biotope complexes identified for each video segment are provided in Annex III.

A total of 69 stations were located within the South Arran MPA boundary, (see Figure 3.22); the remainder were located on the western side of the Isle of Bute, the Isle of Inchmarnock, the southern tip of Tighnabruaich and the Skipness area on the east of Kintyre.

The most commonly recorded biotopes in the survey area were **SS.SMp.Mrl** and **SS.SMp.KSwSS.SlatR**, which were each recorded on a total of 50 video segments. Often these biotopes occurred together, with patchy **maerl beds** forming a mosaic habitat with kelp and seaweeds on silty and/or gravelly mixed sediments; both biotopes (and PMFs/protected features) were therefore recorded, with **SS.SMp.Mrl** recorded as the primary biotope in all cases.

The biotope **SS.SMp.KSwSS.SlatR** was identified at all survey sites with the exception of Whiting Bay. The related biotope **SS.SMp.KSwSS.Bon** ('Mats of *Bonnemaisonia* [*hamifera*] on infralittoral muddy gravel') was recorded at 3 stations (43, 48 and 54), two of these occurring on medium 'reefiness' stony reef composed of both cobbles and boulders.

Maerl biotopes were identified at most sites, including a total of 27 video tows within the South Arran MPA. The highest densities of maerl (up to 40 % living and/or dead rhodoliths), were found primarily at the North Brodick site (stations 14, 17-19, 24), Holy Island (stations 1-2) and Tighnabruich (station 90). The highest percentages of live maerl were found at West Pladda, within the South Arran MPA (station 30–15 %; stations 27, 33, 35, 37–10%). Both live 'twiglets' and 'hedgehogs' were identified at the West Pladda site (stations 33-36).

The PMF **burrowed mud** was observed at 5 sites in the western Bute and Kyles of Bute areas (stations 68, 84, 85, 87, 88). These sites were characterised by *Nephrops* burrows with a sparse epibenthic faunal assemblage. The *Nephrops*

burrows were frequently inhabited by *Munida rugosa*; in this instance no *Nephrops* were recorded. The seapen *V. mirablis* was recorded at station 88, this was the only species of seapen recorded within the burrowed mud habitat.

Zostera sp. (cf. *marina*) was recorded at a total of 15 stations, all at the Whiting Bay site in South Arran MPA. Seagrass beds were recorded at seagrass densities of 5 % or greater, in line with the guidance in Tyler-Walters *et al*. (2016). The biotope **SS.SMp.SSgr.Zmar** ('*Zostera marina/agustifolia* beds on lower shore or infralittoral clean or muddy sand') and the MPA protected feature '**seagrass beds**' was assigned to 12 stations (119-128 and 131-133). The epibenthic faunal assemblage at these stations was sparse, however bivalve siphons and small gastropods were observed at all stations at which seagrass was present.

The burrowing holothurian *N. mixta* was identified at 21 stations, however, was only recorded in sufficient densities (i.e. frequent or greater) to qualify as the biotope **SS.SCS.CCS.Nmix** ('*Neopentadactlya mixta* in circalittoral shell gravel or coarse sand') at 6 stations (40, 42, 44, 45, 50, 53), all located at the Iron Ledges site within South Arran MPA. Where this biotope was recorded the MPA protected feature '**maerl or coarse shell gravel with burrowing sea cucumbers**' was also recorded. At these stations *N. mixta* was found to be burrowing in areas of (primarily dead) maerl and maerl gravel, however the biotope **SS.SMp.Mrl.Pcal.Nmix** ('*Phymatolithon calcareum* maerl beds with *Neopentadactyla mixta* and other echinoderms in deeper infralittoral clean gravel or coarse sand') was not recorded due to the low (<20 %) percentages of maerl present. This biotope was however recorded on 3 tows where maerl coverage met the conditions for assignment of the maerl bed biotope complex and associated PMF/protected feature; 2 within the South Arran MPA (37, 60) and one at Skipness (109).

The biotope **SS.SMx.CMx.OphMx** was recorded at 3 stations (56, 57, 62) at the Holy Island site, with the brittlestar *O. nigra* recorded at abundances of 10-99 m^{-2} at all 3 stations together with a comparatively high total number of species (up to 33 species in poor quality imagery).

Annex I reef habitat was sparsely recorded in the survey area (Figure 3.42); in all cases the 'stony reef' sub-type was observed. Reef habitat was found at a total of ten stations, primarily at Iron Ledges and West Pladda in South Arran MPA, with one station each at the western Bute and Holy Island sites.

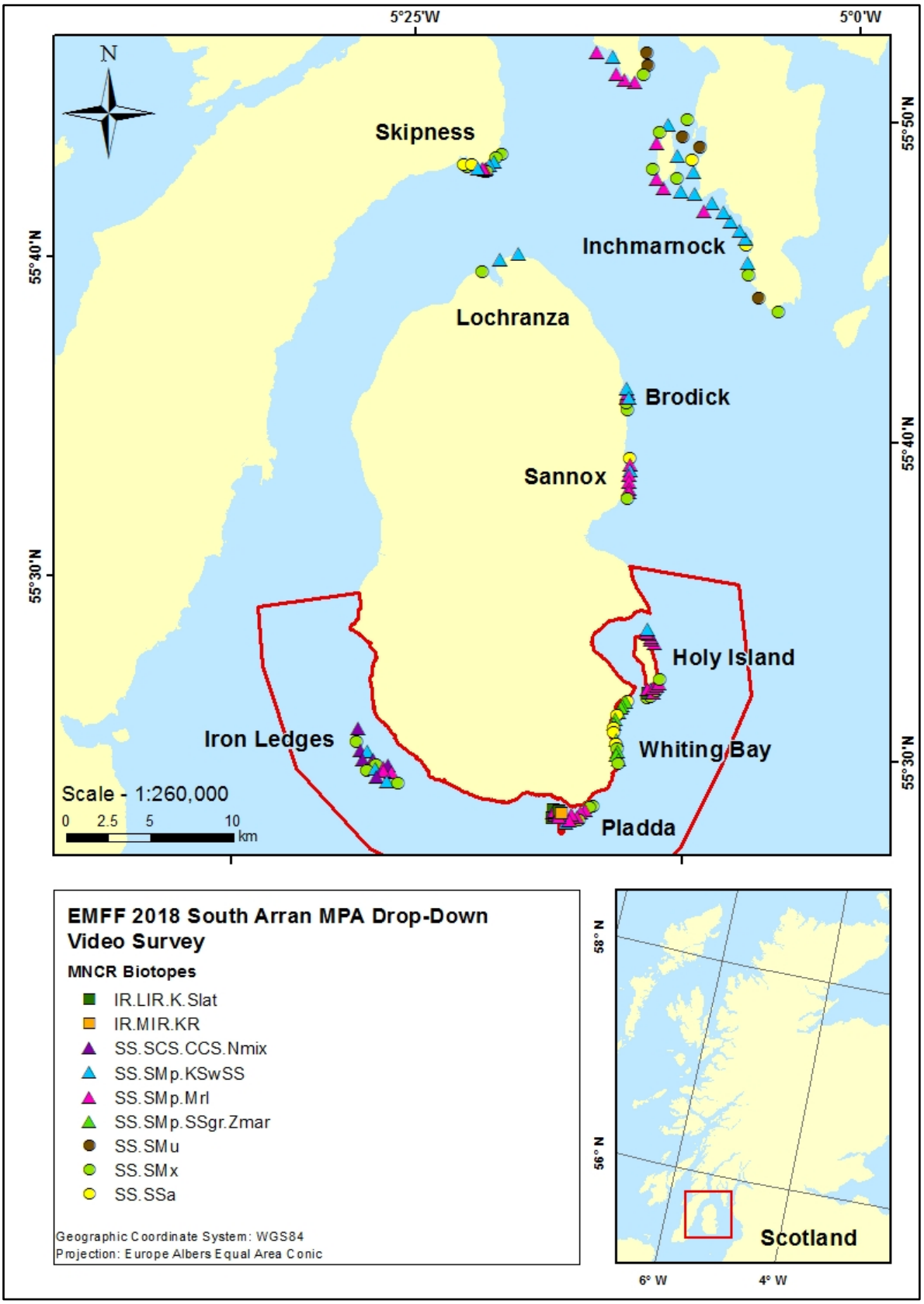

Figure 3.32: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the South Arran and Clyde Sea video analysis. Note that only primary biotopes are shown.

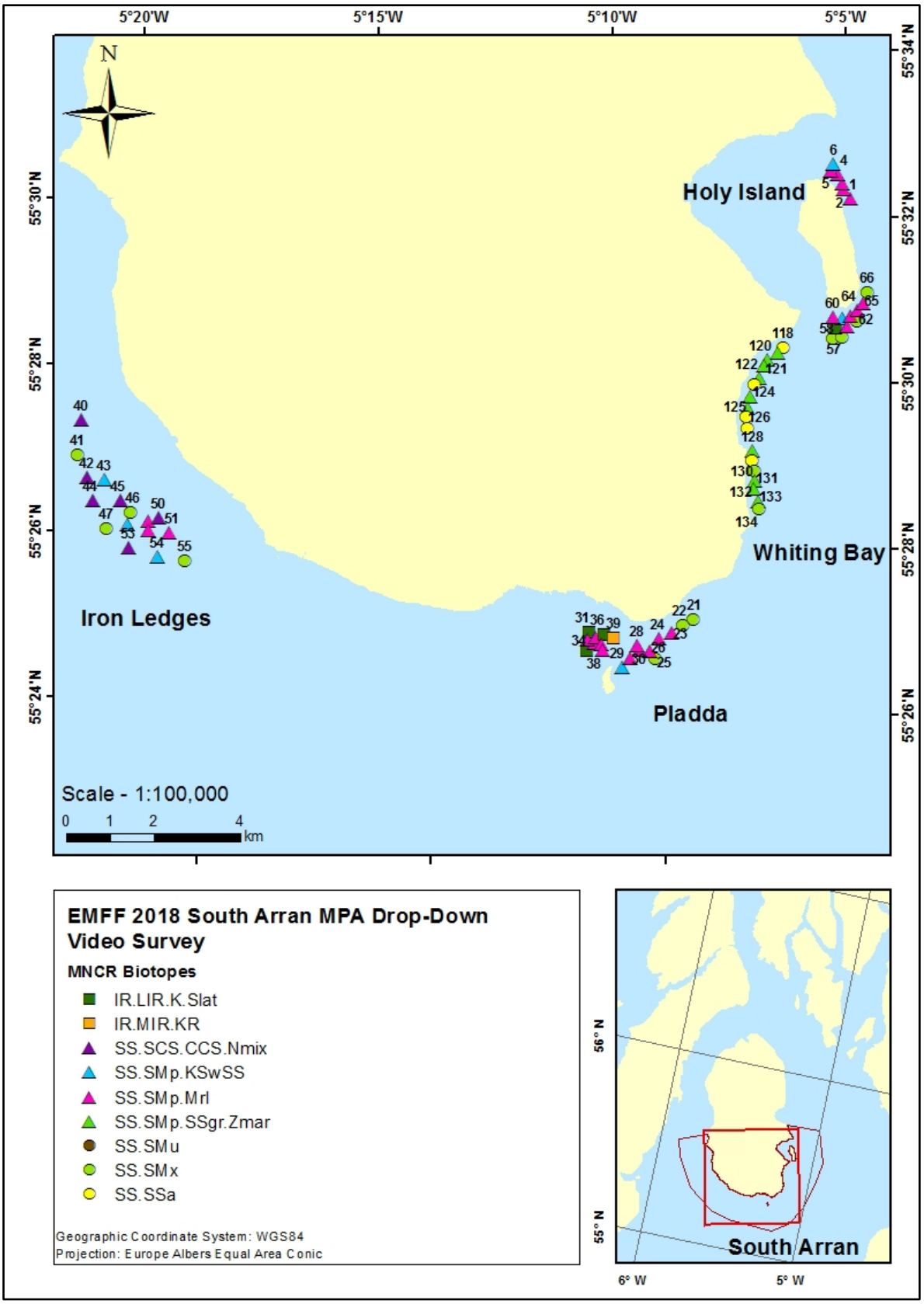

Figure 3.33: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the South Arran and Clyde Sea video analysis at sites around South Arran

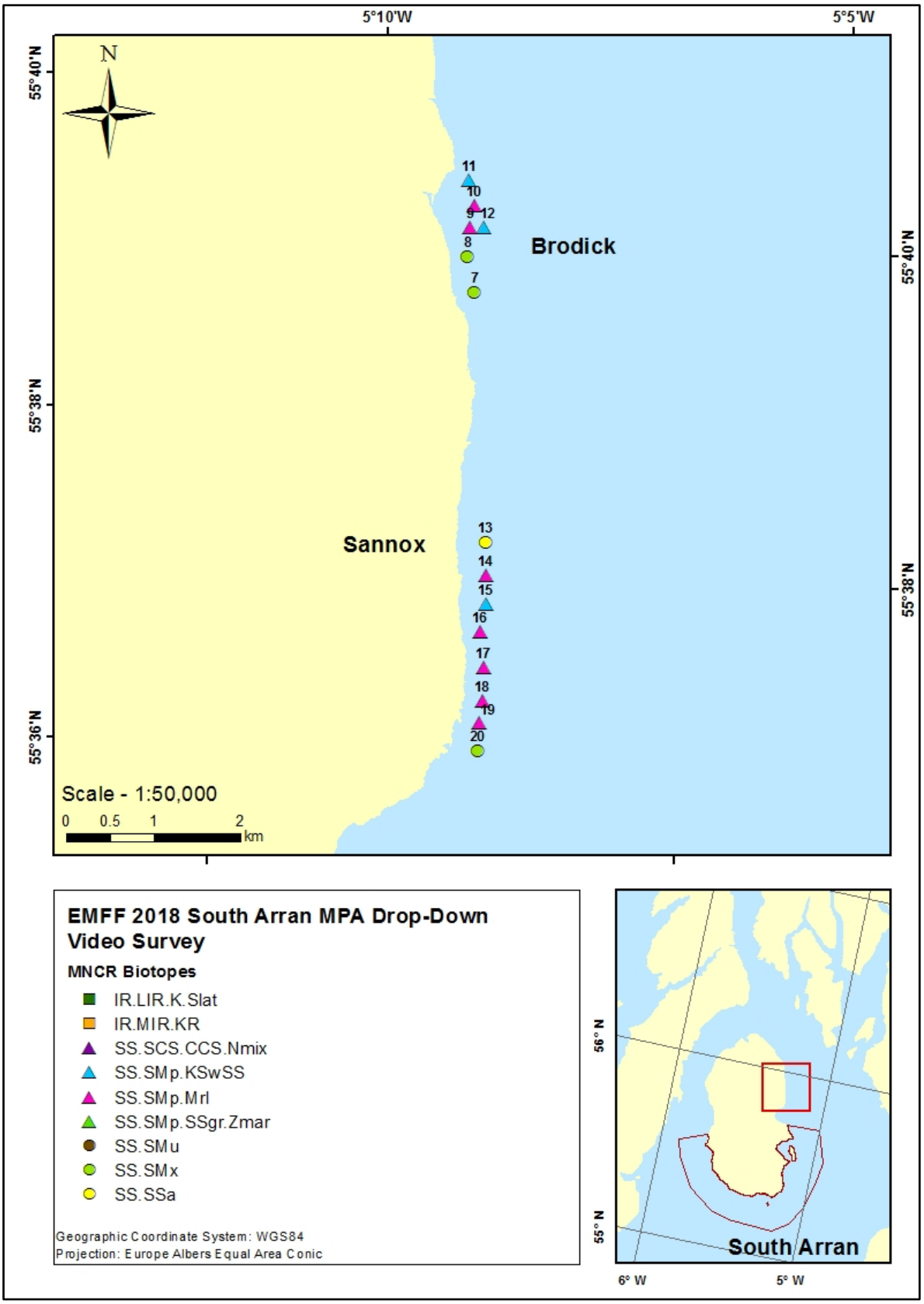

Figure 3.34: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the South Arran and Clyde Sea video analysis at Sannox and Brodick sites on the Isle of Arran.

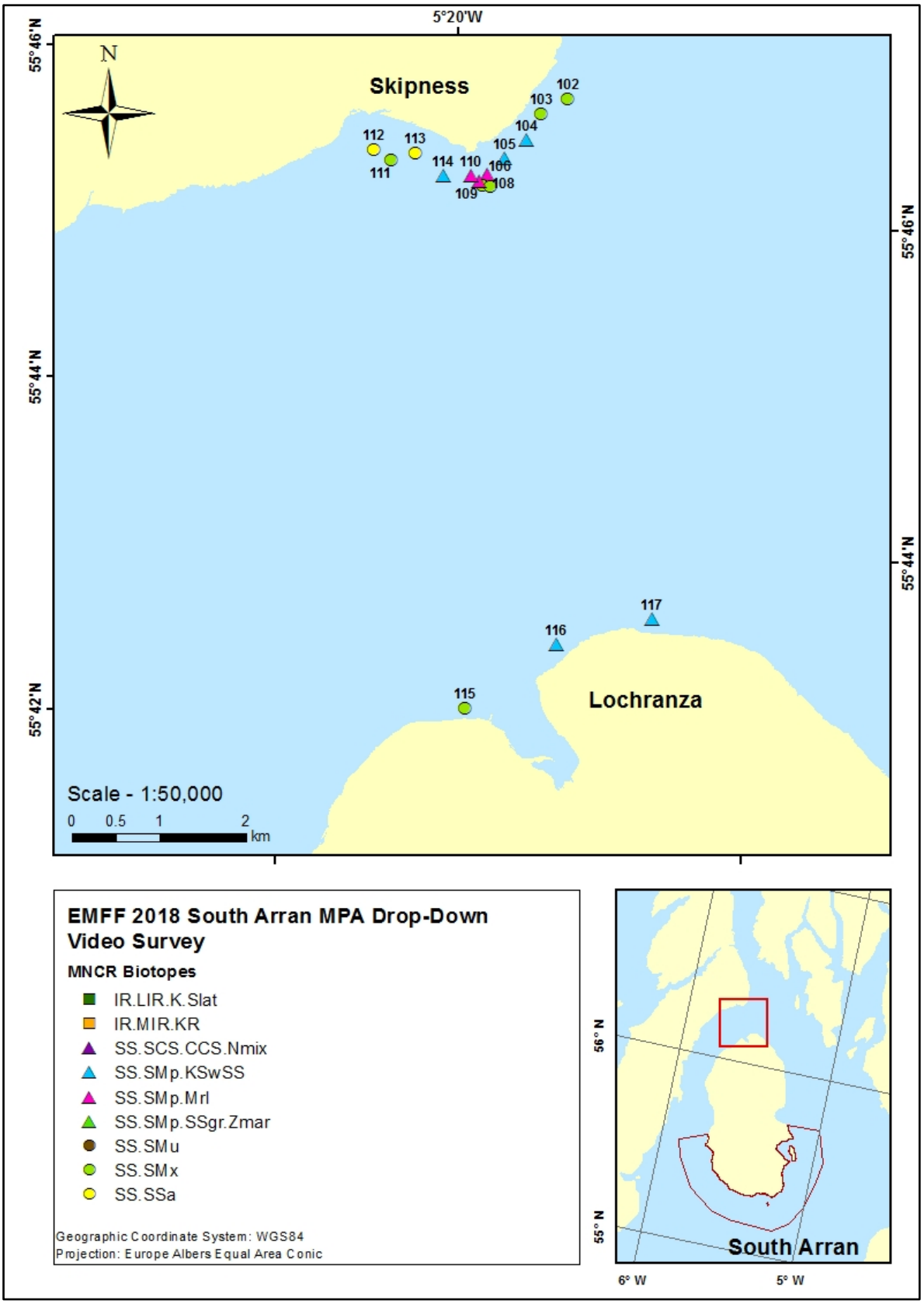

Figure 3.35: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the South Arran and Clyde Sea video analysis at Lochranza, north Arran, and around Skipness.

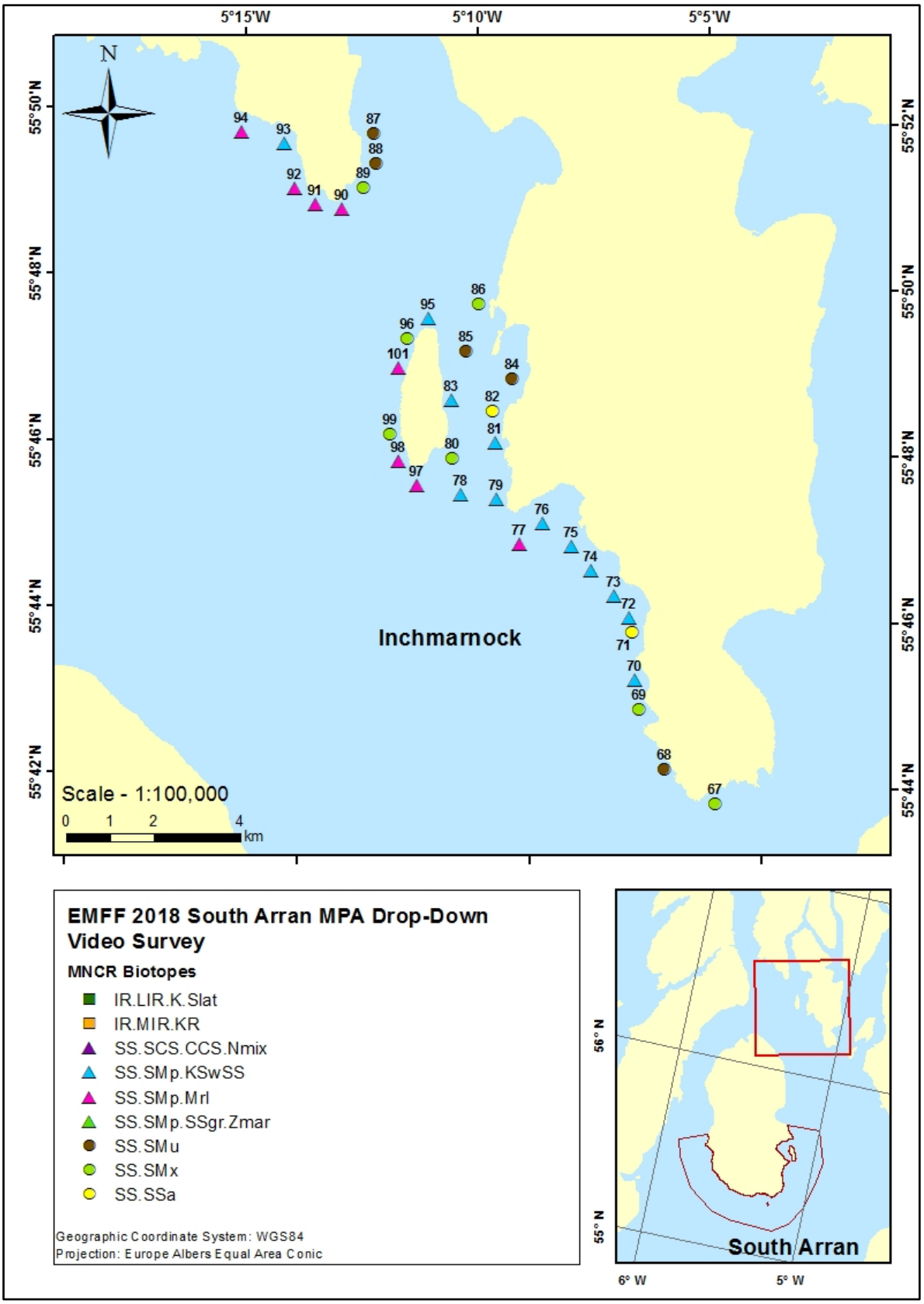

Figure 3.36: Distribution of MNCR biotopes (Connor et al., 2004) identified as part of the South Arran and Clyde Sea video analysis around Inchmarknock.

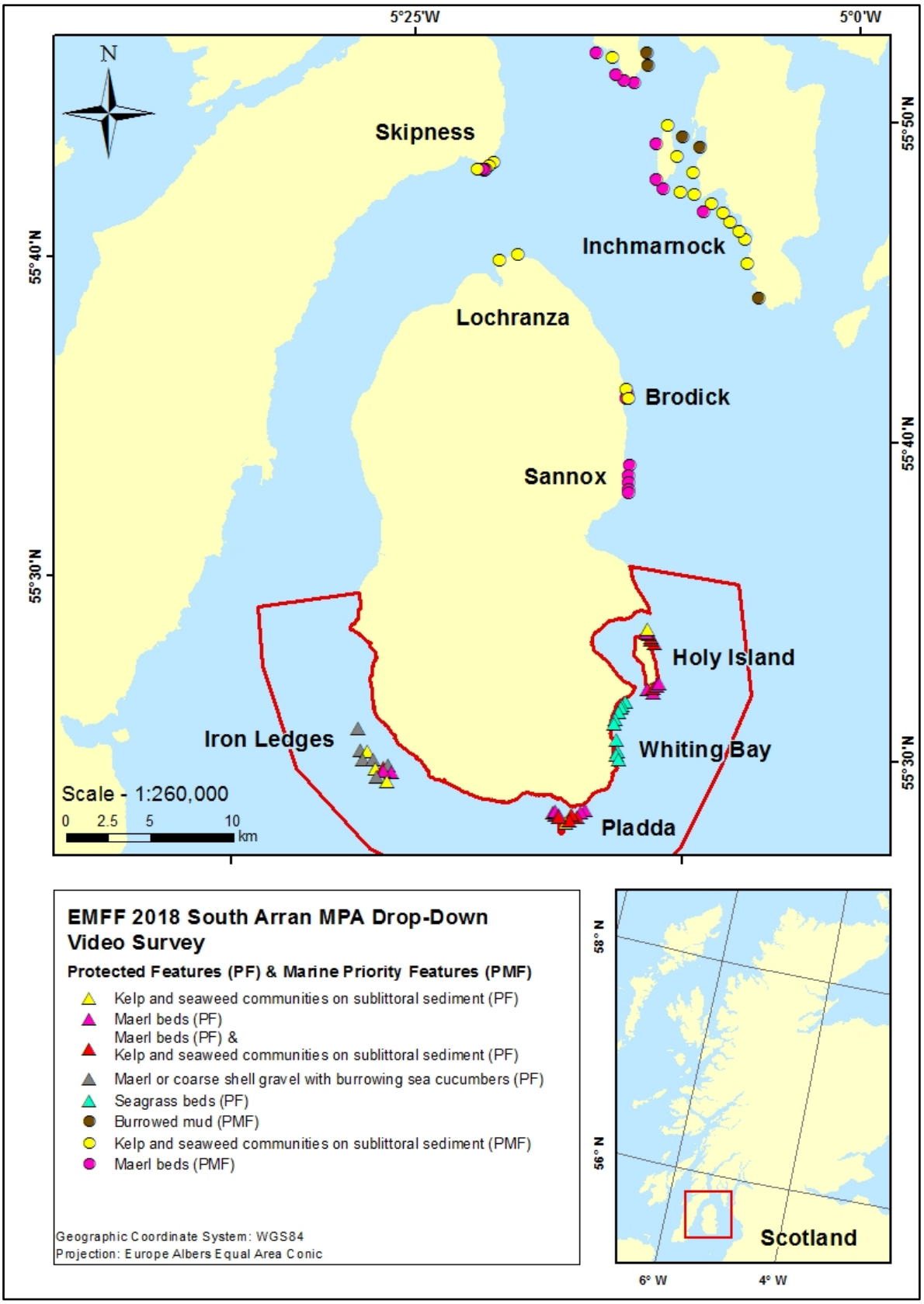

Figure 3.37: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the South Arran and Clyde Sea video analysis. Note that locations where more than one PMF was identified are shown as separate entries.

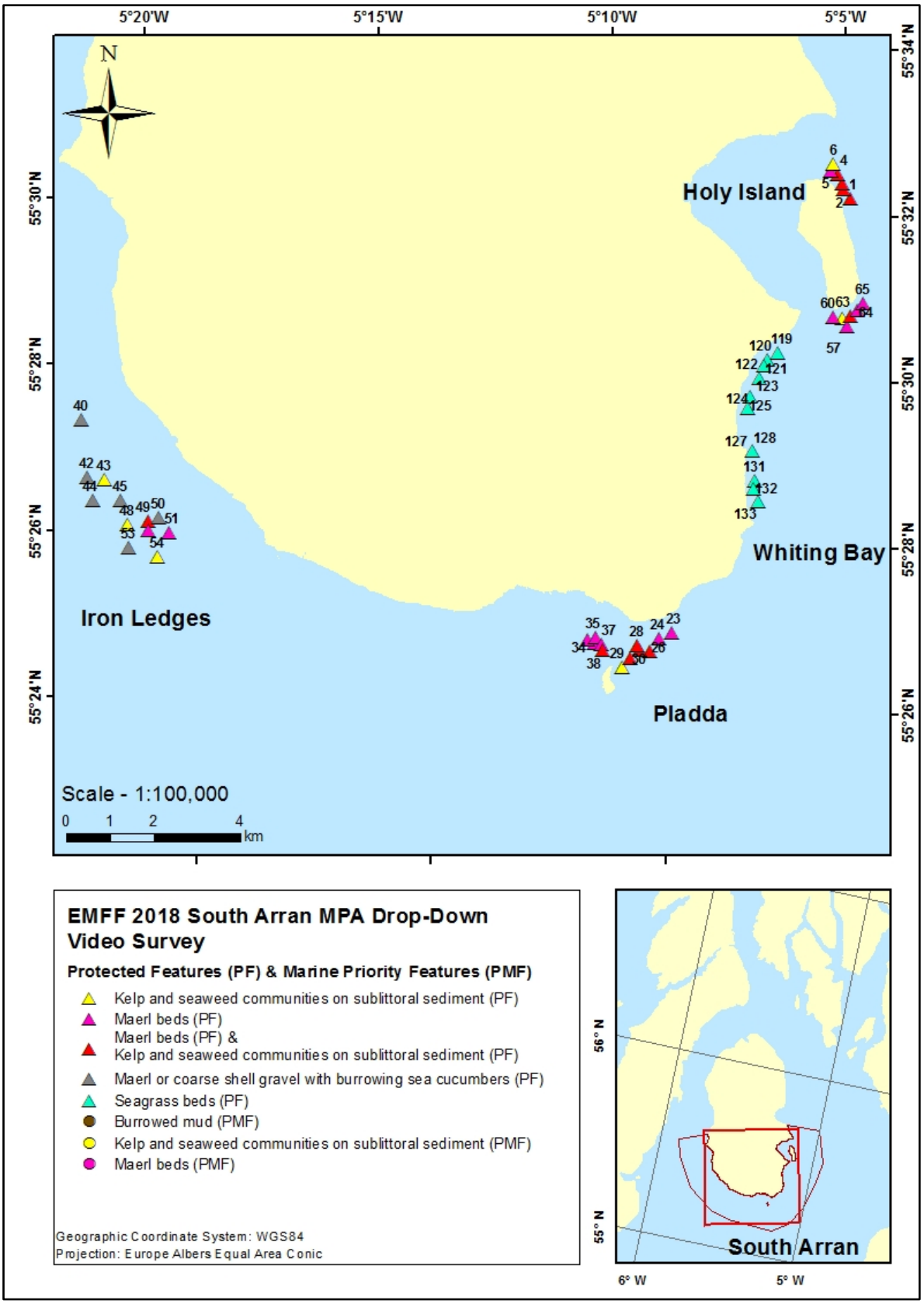

Figure 3.38: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the South Arran and Clyde Sea video analysis at sites around South Arran.

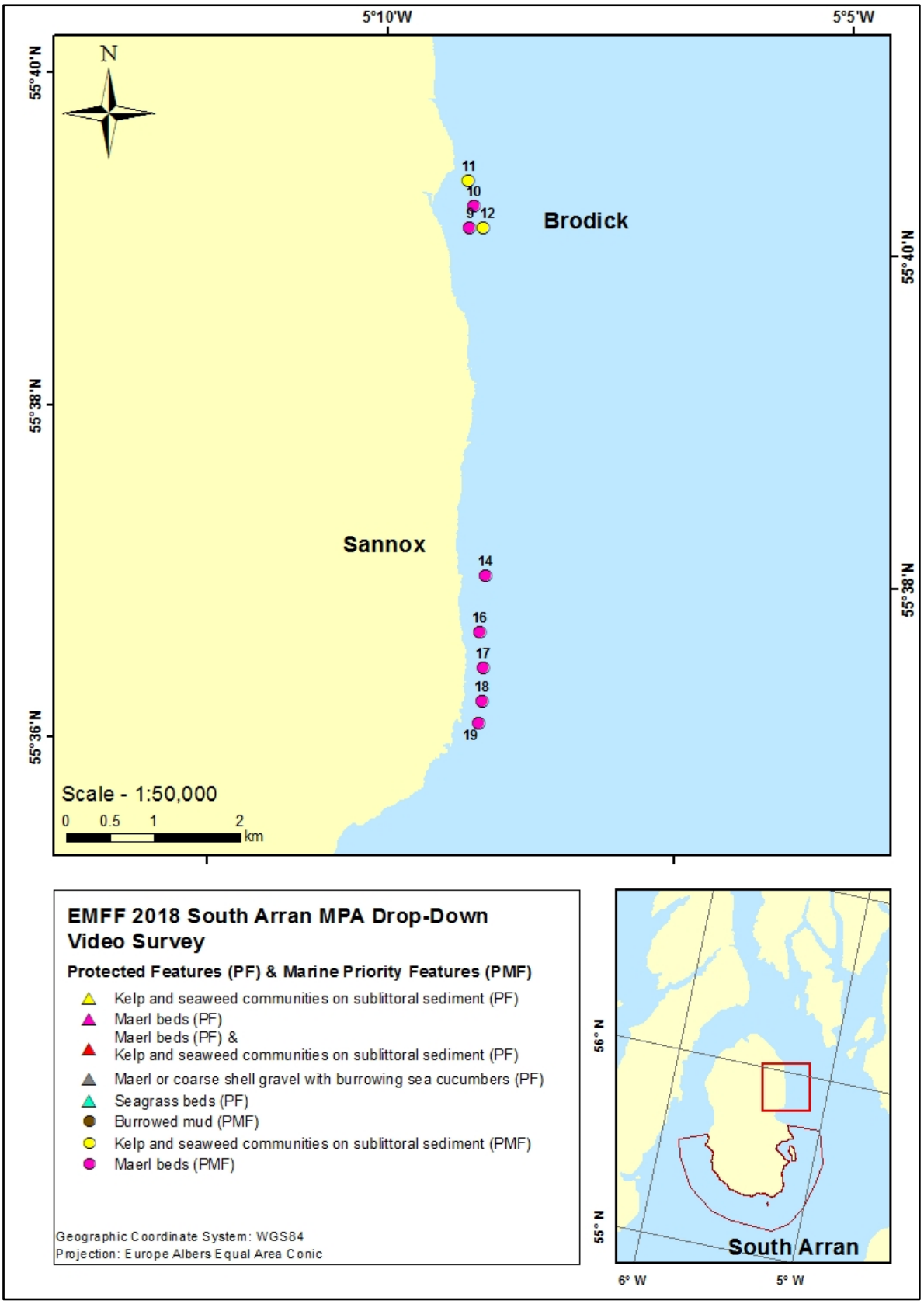

Figure 3.39: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the South Arran and Clyde Sea video analysis at Sannox and Brodick sites on the Isle of Arran.

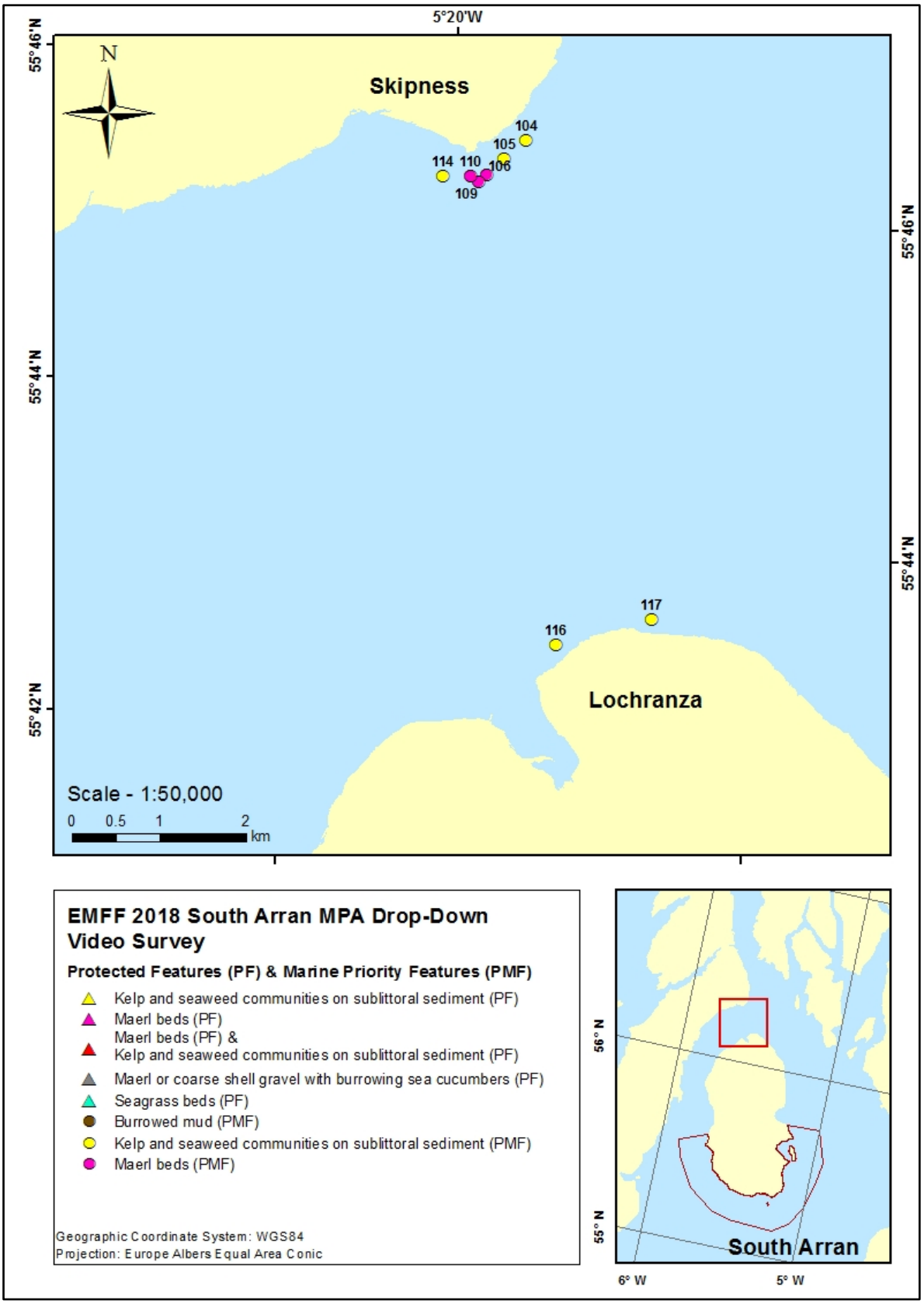

Figure 3.40: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the South Arran and Clyde Sea video analysis at Lochranza, north Arran, and around Skipness.

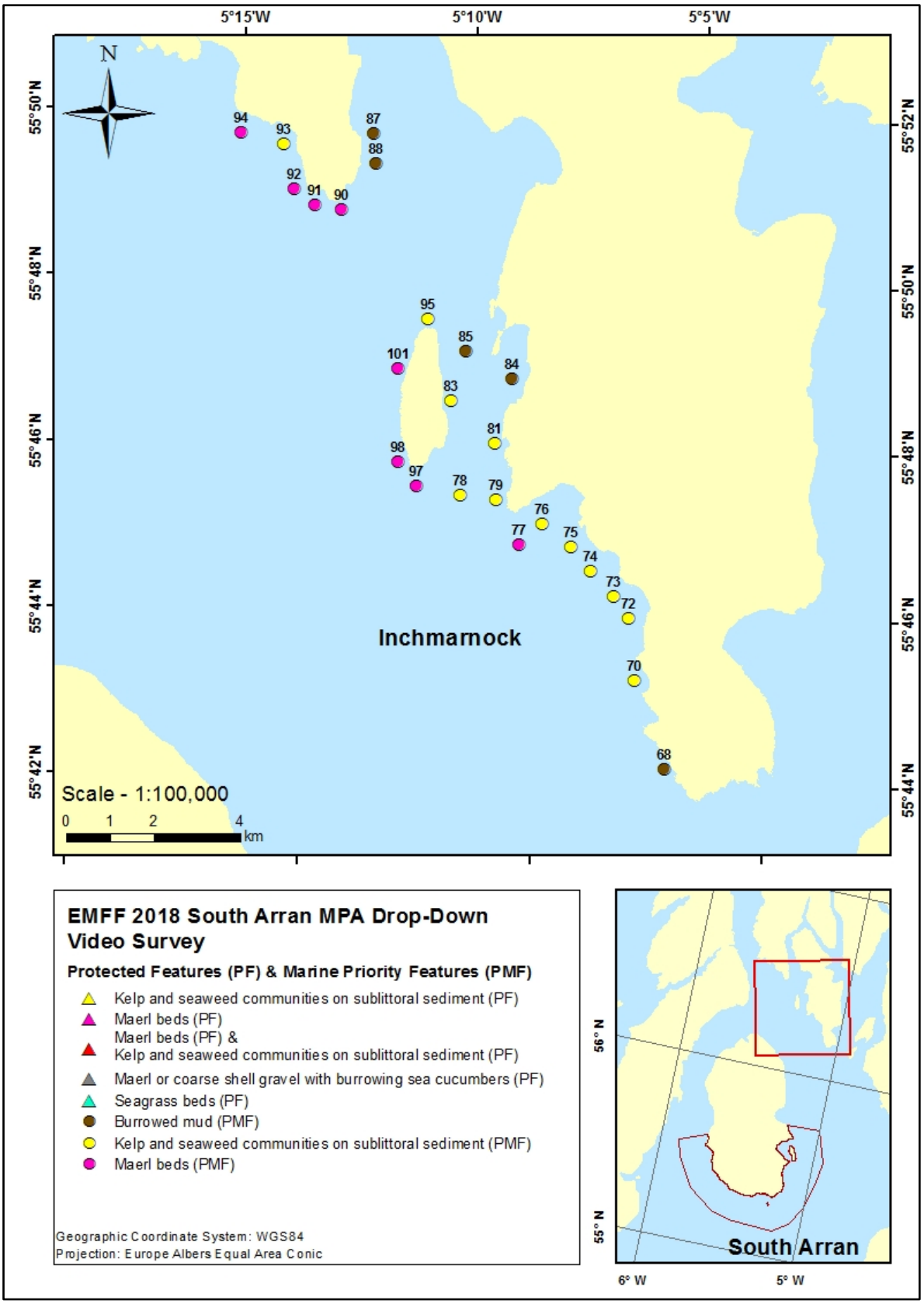

Figure 3.41: Distribution of MPA protected features and Priority Marine Features (PMFs) identified as part of the South Arran and Clyde Sea video analysis around Inchmarnock.

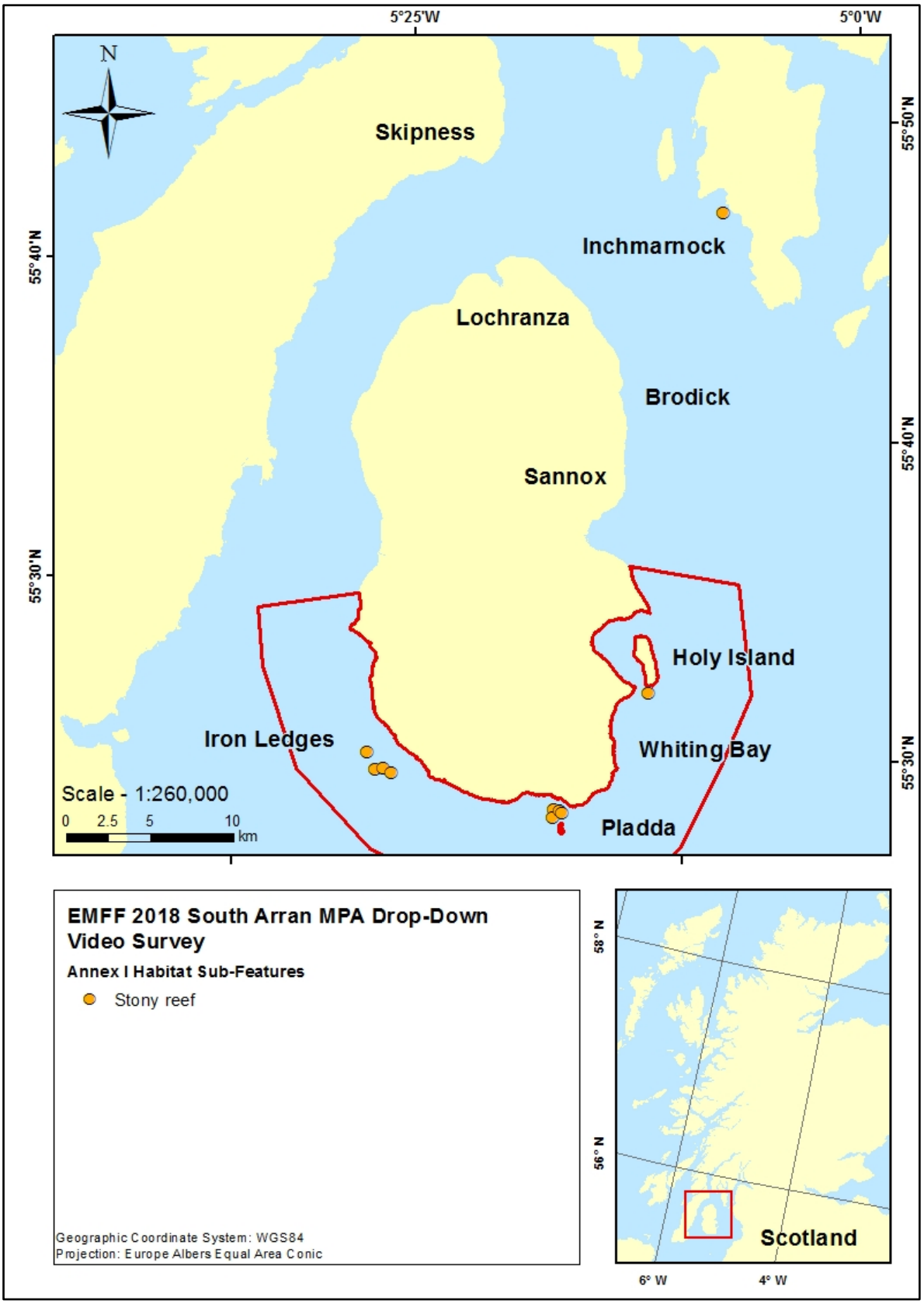

Figure 3.42: Distribution of Annex I habitat reef sub-features identified as part of the South Arran and Clyde Sea video analysis. Note that all levels of 'reefiness' are displayed.

Discussion

A summary of the distribution of PMFs and MPA protected features identified in the analysis of the 2018 video data is provided in Annex V. This section provides a summary of the distribution of PMFs and MPA protected features in relation to MPA boundaries.

Wester Ross

All video tows conducted as part of the Wester Ross survey were located within the Wester Ross MPA. A total of four protected feature biotopes were identified.

Burrowed mud (**SS.SMu.CFiMu.SpnMeg**) was generally restricted to the inner areas of Loch Ewe and Little Loch Broom. The habitat in these areas was characterised by slightly mixed (i.e. gravelly) muds, however, complex burrows – including *Nephrops* burrows – were common, qualifying the area as the OSPAR habitat 'Seapens and Burrowing Megafauna Communities' (SPBMC). In addition, frequent to common seapens (particularly *V. mirabilis* and *P. phosphorea*) were observed. Seapens were generally in good condition with no fouling, however on line 53 two *F. quadrangularis* (which were only identified at this station) were observed lying flat on the seabed.

Maerl beds (**SS.SMp.Mrl**) were identified on a total of 18 video tows, and were primarily distributed around Carn nan Sgeir, although maerl beds were also identified from tows conducted around Tanera Mor and Beg. A single maerl bed record was located in Loch Ewe, and another south of Horse Island. The highest densities of live maerl were observed at the Skerries site, on lines 20, 21, 23 and 27 (30-40% coverage), although the highest overall densities of maerl (i.e. live and dead combined) were observed on section 107_S3 (95% total coverage, with 20% live) at the Tanera Mor and Beg site.

Kelp and seaweed communities on sublittoral sediment was the most commonly identified protected feature in the Wester Ross survey area. Two component biotopes were identified; the most common was **SS.SMp.KSwSS.SlatR**, which was widely distributed within the Wester Ross MPA, being identified at 12 of the 17 sites surveyed. The biotope **SS.SMp.KSwSS.SlatCho** ('*Saccharina latissima* and *Chorda filum* on sheltered upper infralittoral muddy sediment') was also identified from a single station (125) South of Achiltibuie.

The PMF kelp beds, which is currently not a protected feature of the Wester Ross MPA, was identified on a total of 15 video segments, primarily distributed at the

Mellon Udrigle, West of Loch Ewe and Tanera Mor and Beg sites, with kelp forest (**.Ft**), grazed forest (**.GzFt**) and kelp park (**.Pk**) sub-biotopes recorded.

Small Isles

All video tows conducted as part of the Small Isles survey were located within the Small Isles MPA. A total of three protected feature biotopes were identified.

Burrowed mud was found to be widely distributed in the survey area, with the biotope **SS.SMu.CFiMu.SpnMeg** recorded on 13 video segments. The sub-biotope **SS.SMu.CFiMu.SpnMeg.Fun**, with its component protected feature species *F. quadrangularis*, was recorded on ten of these segments, all on the east and southeast coast of Rum. At station 52, the component protected feature species *P. multiplicatus* was also present.

The northern sea fan *S. dubia* was recorded on a total of 14 video segments at ten stations around the Isle of Rum, with the MPA protected feature 'northern sea fan and sponge communities' recorded for each of these segments. However, due to the fact that *S. dubia* was at times observed in low abundances on cobbles in otherwise soft sediment habitats, and to the fact that the very poor visibility experienced on some lines prevented accurate biotope assignment, the component biotopes **CR.MCR.EcCr.CarSwi** and **CR.HCR.XFa.SwiLgAs** were only recorded on seven and two video segments respectively. The component protected feature species *P. anguicomus* was identified in association with the northern sea fan and sponge communities habitat on a single line (22_S1).

A total of three PMF biotopes were also recorded within the Small Isles MPA survey area. The biotope **SS.SMp.Mrl** and associated PMF 'maerl beds' was recorded on a single short (25 m length) video segment (41_S3), with coverage of live maerl recorded at 30%. The biotope **SS.SMp.KSwSS.SlatR**, a component of the PMF 'kelp and seaweed communities on sublittoral sediment' was observed on 15 video segments. This biotope was recorded on cobbles and pebbles (**.CbPb**), gravel (**.Gv**) and, when present as a mosaic habitat with the sand-scoured biotope **IR.HIR.KSed.XKScrR**, sand (**.Sa**). Kelp beds, recorded as the component biotope **IR.MIR.KR.Lhyp**, were observed at a total of five stations at the West of Rum, Guirdil and Canna West sites.

The PMF 'shallow tide-swept coarse sands with burrowing bivalves' was assigned to lines 79 and 80, with bivalve siphons observed in coarse shelly sand in water depths of <20 m. The component biotope **SS.SCS.ICS.MoeVen** ('*Moerella* spp. with venerid

bivalves in infralittoral gravelly sand') was, however, not assigned due to a lack of information regarding the infaunal community present. It is possible that this PMF was also present at other shallow sandy sites, however, additional information regarding infaunal community structure (e.g. from grab sampling) may be required to confirm this.

Inner Sound and Loch Alsh

Only a small number of stations were located within the Lochs DLA MPA; these comprised lines 73-76 within Loch Alsh and lines 46-47, 51-54, 66-68 and 72 at the Kyleakin site. Stations 69-71 were located within Loch Carron MPA.

Within the Lochs DLA MPA both protected features of the MPA – burrowed mud and flame shell beds – were observed. Flame shell beds (**SS.SMx.IMx.Lim**) were identified at six stations. The highest densities of *L. hians* nests were observed at station 72, with an assigned SACFOR abundance of common. At stations 53, 54 and 67 *L. hians* nests were frequent, and on lines 46 and 47 *L. hians* nests were occasional in abundance. However, the video quality on all these lines was compromised due to fast tow speeds, as well as 'shaking' and spinning of the camera and camera frame. In addition, the seabed tended to be covered by dense macroalgal communities, consisting primarily of *S. latissima*, *Desmarestia ligulata*, and filamentous red and brown seaweeds. It is therefore possible that the abundance of *L. hians* nests at these stations was higher than recorded.

Burrowed mud with common complex burrows was observed at all four stations within Loch Alsh (73-76). The presence of the protected feature component species *F. quadrangularis* at all four stations meant that the biotope **SS.SMu.CFiMu.SpnMeg.Fun** was recorded. Tall seapens were observed in particularly high densities (i.e. common) on lines 73 and 75. While no fouling was observed on any of the seapens, a few individuals were observed lying flat on the seabed at stations 73-75.

Within Lochs DLA MPA two PMF features were identified. Aggregations of the limited mobility species *L. celtica* were observed on burrowed muddy mixed sediment on line 76. In addition, the kelp and seaweed communities on sublittoral sediment biotope component **SS.SMp.KSwSS.SlatR** was recorded at five stations at Kyleakin.

No video tows were conducted within the Lochs DLA Reefs SAC, however, Annex I reef, consisting of a ‘stepped’ bedrock slope covered in a veneer of silty sediment, was observed at station 75 (75_S1) in the middle of Loch Alsh.

The protected feature ‘flame shell beds’ was identified at one of the three stations within Loch Carron MPA (71). The PMF ‘kelp and seaweed communities on sublittoral sediment’ biotope component **SS.SMp.KSwSS.SlatR** was recorded at all three stations.

Outside of the MPAs, five PMF biotopes were recorded. Burrowed mud was recorded at the East Scalpay site, primarily as the component biotope **SS.SMu.CFiMu.SpnMeg**, although the biotope **SS.SMu.CFiMu.MegMax** was also recorded at station 65. The PMF component species *F. quadrangularis* was observed on a single video segment (55_S3). Maerl beds (**SS.SMp.Mrl**) were recorded on 18 video segments at a total of 15 stations, with particularly good examples of the habitat observed at the Applecross site (stations 38-42), with up to 70 % live maerl coverage recorded. Kelp beds were recorded at two stations (57-58) at the East Scalpay site as the component biotope **IR.MIR.KR.Lhyp**. The PMF ‘kelp and seaweed communities on sublittoral sediment’ biotope component **SS.SMp.KSwSS.SlatR** was recorded at every site outside of the MPAs, although several records represented impoverished versions of the biotope with relatively sparse *S. latissimi* observed.

South Arran and Clyde Sea

A total of 69 video tows conducted as part of the South Arran and Clyde Sea survey were located within the South Arran MPA boundary. A total of five protected feature biotopes were identified.

Maerl beds (**SS.SMp.Mrl**) were identified at all sites within the South Arran MPA with the exception of Whiting Bay. Density of live maerl was, however, generally low, with the highest coverage (10-15%) observed at the Pladda sites. Density of dead maerl and maerl gravel was generally higher at all sites. The sub-biotope **SS.SMp.Mrl.Pcal.Nmix** was recorded at two stations within the South Arran MPA, however, it should be noted that due to constraints associated with video analysis the species of maerl present was not known and this sub-biotope was assigned purely due to the presence of populations of the burrowing sea cucumber *N. mixta* within the maerl bed. The ‘maerl or coarse shell gravel with burrowing sea cucumbers’ protected feature component biotope **SS.SCS.CCS.Nmix** was recorded at six stations, all at the Iron Ledges site. Some dead maerl was observed (<15%) at

these locations, however, sediments were generally dominated by silty pebbles and gravel with patches of more mixed sediments also present. Densities of *N. mixta* were highest (i.e. common) at stations 42 and 53.

Seagrass beds were recorded at a total of 12 stations, all within Whiting Bay. As tows were conducted in subtidal areas (depths 2-6 m below chart datum), the component biotope **SS.SMp.SSgr.Zmar** was assigned to all records. While species could not be confirmed from the video alone, it is likely that, based on e.g. colour, estimated leaf length/width etc. that the species present was *Zostera marina*. Densities of up to abundant (40-79%) were recorded, indicating that Whiting Bay represents a good example of the seagrass beds feature.

Kelp and seaweed communities on sublittoral sediment were identified from several stations within the MPA, with two component biotopes recorded; in addition to **SS.SMp.KSwSS.SlatR**, the biotope **SS.SMp.KSwSS.Bon**, which is generally restricted to the northwest coast of Scotland (Connor *et al*., 2004), was identified at the Iron Ledges site in South Arran MPA.

No PMFs were identified within the South Arran MPA that were not protected features. Outside of the MPA, a total of four PMF component biotopes were identified. The kelp and seaweed communities on sublittoral sediment component biotope **SS.SMp.KSwSS.SlatR** was observed at several sites at Inchmarnock, North Brodick, Skipness and Lochranza, with the component biotope **SS.SMp.KSwSS.SlatCho** also recorded at the Sannox North of Brodick site. Maerl beds (**SS.SMp.Mrl**) were similarly commonly recorded, particularly at North Brodick and Inchmarnock, though live maerl densities were generally low (< 5%). Burrowed mud was recorded at five stations, all at the Inchmarnock site, although the component biotope **SS.SMu.CFiMu.SpnMeg** was only recorded on line 88; the poor visibility experienced at the remaining stations meant that the biotopes were recorded at the biotope complex level.

Limitations

Most of the videos assessed in this area were ‘poor’ quality. This was due to a number of factors, including high transit speed, which caused significant motion blur in some cases, and low lighting levels, which made identification of biota difficult. As such, small or cryptic fauna may not have been identified, several species identifications are to a low level (e.g. ‘unidentified red algae (foliose)’; ‘unidentified faunal turf’) or tentative. The low light levels were particularly problematic for the identification of seaweeds (red and brown seaweeds were often indistinguishable)

and of live vs dead maerl. Efforts were made to accurately quantify all observed biota however species abundances from videos flagged as ‘poor’ should be treated with caution. The quality of the footage collected using the GoPro camera on the Inner Sound and Loch Alsh survey was significantly better than that obtained by the EMFF camera system, with clearer image, better lighting and with the camera pointed at an oblique angle, making identification of biota easier.

Biotope assignments were based primarily on the biota present, however where the biota was sparse, biotopes were generally recorded at the habitat complex level (level 3). Assessment of substrate types, and hence assignment of coarse/sandy/muddy sediment habitat complexes, was based on expert judgement. Without supporting data from sediment sample analysis there can be some uncertainty in the assessment of the quantities of sand and mud present. Some biotopes may therefore be subject to change.

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Appendix 1

Protected Features of the MPAs covered in this report

Listing the protected features of Wester Ross MPA, Small Isles MPA, Lochs Duich, Long and Alsh MPA, Loch Carron MPA (some video tows were conducted inside the Loch Carron MPA boundary as part of the Inner Sound Loch Alsh survey) and South Arran MPA. In addition, the features for which the Lochs Duich, Long and Alsh SAC was designated have also been listed, including characteristics of Annex I reef sub-features.

Table A1.1

Wester Ross MPA protected features.

Protected features	Component biotope code/ species name
Seabed habitats	
Burrowed mud	**SS.SMu.CFiMu.SpnMeg** **SS.SMu.CFiMu.MegMax** *Funiculina quadrangularis* *Pachycerianthus multiplicatus*
Circalittoral muddy sand communities	**SS.SSa.CMuSa**
Flame shell beds	**SS.SMx.IMx.Lim**
Kelp and seaweed communities on sublittoral sediment	**SS.SMp.KSwSS**
Maerl beds	**SS.SMp.Mrl**
Maerl or coarse shell gravel with burrowing sea cucumbers	**SS.SCS.CCS.Nmix**
Low / limited mobility species	
Northern feather star aggregations on mixed substrata	*Leptometra celtica* on mixed substrates (not reef) at SACFOR abundance of >= Common

Table A1.2

Loch Carron MPA protected features.

Protected features	Component biotope code/ species name
Flame shell beds	**SS.SMx.IMx.Lim**
Maerl beds	**SS.SMp.Mrl**

Table A1.3

Small Isles MPA protected features.

Protected features	Component biotope code/ species name
Seabed habitats	
Burrowed mud	**SS.SMu.CFiMu.SpnMeg** **SS.SMu.CFiMu.MegMax** *Funiculina quadrangularis* *Pachycerianthus multiplicatus*
Circalittoral sand and mud communities	**SS.SMu.CSaMu.AfilMysAnit** **SS.SSa.OSa**
Horse mussel beds	**SS.SBR.SMus.ModT** **SS.SBR.SMus.ModMx** **SS.SBR.SMus.ModHAs** **SS.SBR.SMus.ModCvar**
Northern sea fan and sponge communities	**CR.MCR.EcCr.CarSwi** **CR.HCR.XFa.SwiLgAs** **CR.HCR.DpSp**
Low / limited mobility species	
Northern feather star aggregations on mixed substrata	*Leptometra celtica* on mixed substrates at SACFOR abundance of >= Common
Fan mussel aggregations	*Atrina fragilis* (>1 on a single video sample)
White cluster anemones	*Parazoanthus anguicomus* where present as part of the Northern sea fan and sponge communities feature

Table A1.4

Lochs Duich, Long and Alsh MPA protected features.

Protected features	Component biotope code/ species name
Burrowed mud	**SS.SMu.CFiMu.SpnMeg** **SS.SMu.CFiMu.MegMax** *Funiculina quadrangularis* *Pachycerianthus multiplicatus*
Flame shell beds	**SS.SMx.IMx.Lim**

Table A1.5

South Arran MPA protected features.

Protected features	Component biotope code/ species name
Seabed habitats	
Burrowed mud	**SS.SMu.CFiMu.SpnMeg** **SS.SMu.CFiMu.MegMax** *Funiculina quadrangularis* *Pachycerianthus multiplicatus*
Kelp and seaweed communities on sublittoral sediment	**SS.SMp.KSwSS**
Maerl beds	**SS.SMp.Mrl**
Maerl or coarse shell gravel with burrowing sea cucumbers	**SS.SCS.CCS.Nmix**
Seagrass beds	**LS.LMp.LSgr.Znol** **SS.SMp.SSgr.Zmar** **SS.SMp.SSgr.Rup**
Shallow tide-swept coarse sands with burrowing bivalves	**SS.SCS.ICS.MoeVen**
Low / limited mobility species	
Ocean quahog aggregations	*Arctica islandica* - multiple, clumped, confirmed siphon observations on a remote video sample or several individuals in a single grab sample

Table A1.6

Lochs Duich, Long and Alsh Reefs SAC designated features.

Annex I habitats that are a primary reason for selection of this site	**Site feature description**
1170 Reefs	This site is an extensive area of extremely sheltered reefs within a system of fjordic sea lochs in north-west Scotland. There is considerable diversity within the site, with areas of sheltered sublittoral rock supporting unusual assemblages of encrusting sponges and solitary ascidians, and, on shallower reefs, tide-swept kelp forests influenced by brackish water. Loch Duich is particularly notable for its well-developed communities of brachiopods and sea anemones on sheltered bedrock. Characteristic species include the sea anemone *Protanthea simplex*, the fan-worm *Sabella pavonina*, and the brachiopods *Neocrania anomala* and *Terebratulina retusa*. The reefs in Kyle Rhea and Kyle Akin are subject to some of the strongest tidal streams in the UK, and the bedrock in Kyle Rhea supports rich communities typically dominated by the hydroids *Tubularia indivisa* and *Sertularia argentea*, the barnacle *Balanus crenatus*, anemones, sponges and ascidians. Tide-swept reefs in Loch Alsh also support unusually dense beds of the brittlestar *Ophiopholis aculeata*, an extremely rare feature in the UK. The sheltered reefs in Loch Long, the second most brackish of the large Scottish sea lochs, are unusual in that they are subject to variable salinities and support communities characterised by encrusting sponges and large numbers of ascidians, such as *Ascidia virginea*, *Boltenia echinata* and *Pyura squamulosa*.
Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site	Not Applicable

Annex I habitats that are a primary reason for selection of this site	Site feature description
Annex II species that are a primary reason for selection of this site	Not Applicable
Annex II species present as a qualifying feature, but not a primary reason for site selection	Not Applicable

Table A1.7

Lochs Duich Long and Alsh SAC, ANNEX I HABITATS AND SUB-TYPES.

Annex I habitat	Sub-types	Characteristics and JNCC classification codes
Reefs *See EUR 28 for details of physiographic parameters*	Bedrock	Criteria outlined in **JNCC 432** (Irving, 2009) & commentary provided in **JNCC 546** (Parry, 2015). *Bedrock. Rock / sediment mosaic where bedrock >10%.* **Classification codes** - **LR** & **CR**. **IR** where reef extends from the sublittoral uninterrupted into the intertidal (littoral) zone.
	Stony	Criteria outlined in **JNCC 432** & commentary provided in **JNCC 546**. *Boulders and cobbles (>64 mm) >10% cover. Elevated from surrounding seabed (few cm to >5 m); covers an area >25 m^2. Epibiota dominated.* *Rock / sediment mosaic where rock >10% & stony reef criteria met.* **Classification codes** - **LR** & **CR**. **IR** where reef extends from the sublittoral uninterrupted into the intertidal (littoral) zone.
	Biogenic (Horse mussel beds)	Annex I biogenic *Modiolus modiolus* reef habitat defined in **JNCC 531** (Morris, 2015). **Classification codes** - **SS. SBR.SMus** [**SS.SBR.SMus.ModT**; **SS.SBR.SMus.ModMx**; **SS.SBR.SMus.ModHAs** & **SS.SBR.SMus.ModCvar]**.
	Biogenic (Blue mussel beds)	**Classification codes** - **SS.SBR.SMus.MytSS**. Also - **LS.LBR.LMus** where reef extends from sublittoral uninterrupted into the intertidal zone.

Annex I habitat	Sub-types	Characteristics and JNCC classification codes
	Biogenic (Cold-water coral reefs)	**Classification codes** - **SS.SBR.CrI** & code trunk **.Bi.CorRee** (*Biogenic structure - cold water coral reef* in deep sea section of the classification)
	Biogenic (Serpulid aggregations)	**Classification code** - **SS.SBR.PoR.Ser**
	Biogenic (*Sabellaria* reefs)	Annex I biogenic *Sabellaria spinulosa* reef habitat defined in **JNCC 405**. **Classification codes** - **SS.SBR.PoR.SspiMx**, **SS.SBR.PoR.SalvMx** & **CR.MCR.Csab**. **LS.LBR.Sab.Salv** (*S. alveolota*) in shallow subtidal and into the intertidal where reef extends from the sublittoral uninterrupted.

Appendix 2

Metadata for analysed video segments

Table A2.1

Metadata from Wester Ross survey.

'Video Tow no' indicates the transect number, and 'Segment no' indicates different habitats along that transect. Note that 'Trackplot' and 'Waypoint' positions are those derived from the Garmin handheld GPS and 'Overlay' positions are derived from the SD video feed.

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Horse Island	30/07/2018	1	S1	10:21:45	57.98410	-5.31447	10:26:57	57.98428	-5.31590	Trackplot
Badentarbert bay	30/07/2018	2	S1	10:52:09	58.01112	-5.35410	10:57:19	58.01150	-5.35473	Trackplot
South Achiltibuie	30/07/2018	3	S1	11:05:04	58.01598	-5.35337	11:10:18	58.01627	-5.35327	Trackplot
Tanera Mor and Beg	30/07/2018	4	S1	11:26:23	58.02213	-5.39873	11:32:28	58.02315	-5.39922	Trackplot
Tanera Mor and Beg	30/07/2018	5	S1	11:43:07	58.02490	-5.41302	11:49:16	58.02587	-5.41237	Trackplot
Tanera Mor and Beg	30/07/2018	6	S1	12:00:36	58.02292	-5.41540	12:04:49	58.02375	-5.41468	Trackplot
Tanera Mor and Beg	30/07/2018	6	S2	12:04:49	58.02375	-5.41468	12:06:11	58.02402	-5.41445	Trackplot
Tanera Mor and Beg	30/07/2018	6	S3	12:06:11	58.02402	-5.41445	12:06:19	58.02405	-5.41443	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Tanera Mor and Beg	30/07/2018	7	S1	12:18:17	58.02437	-5.43777	12:24:37	58.02553	-5.43702	Trackplot
Tanera Mor and Beg	30/07/2018	8	S1	12:38:19	58.03097	-5.46218	12:40:38	58.03163	-5.46188	Trackplot
Tanera Mor and Beg	30/07/2018	8	S2	12:40:38	58.03163	-5.46188	12:45:36	58.03297	-5.46145	Trackplot
Tanera Mor and Beg	30/07/2018	9	S1	12:55:03	58.03000	-5.46007	13:00:50	58.03160	-5.45927	Trackplot
Tanera Mor and Beg	30/07/2018	10	S1	13:09:40	58.03270	-5.46658	13:12:22	58.03307	-5.46598	Trackplot
Tanera Mor and Beg	30/07/2018	10	S2	13:12:22	58.03307	-5.46598	13:13:04	58.03313	-5.46583	Trackplot
Tanera Mor and Beg	30/07/2018	10	S3	13:13:04	58.03313	-5.46583	13:15:54	58.03355	-5.46530	Trackplot
Dornie Sound	30/07/2018	11	S1	14:06:14	58.02905	-5.40397	14:08:36	58.02935	-5.40390	Trackplot
Dornie Sound	30/07/2018	11	S2	14:08:36	58.02935	-5.40390	14:12:41	58.02978	-5.40365	Trackplot
Dornie Sound	30/07/2018	12	S1	14:19:42	58.03123	-5.41197	14:26:59	58.03203	-5.41113	Trackplot
Summer Isles	30/07/2018	13	S1	14:59:07	57.97803	-5.43387	15:04:56	57.97887	-5.43298	Trackplot
Summer Isles	30/07/2018	14	S1	15:10:31	57.98030	-5.42520	15:16:08	57.98058	-5.42312	Trackplot
Skerries	30/07/2018	15	S1	15:40:46	57.96093	-5.35793	15:46:54	57.96095	-5.35647	Trackplot
Skerries	30/07/2018	16	S1	15:54:57	57.96477	-5.36615	16:01:26	57.96522	-5.36488	Trackplot
Skerries	30/07/2018	16	S2	16:01:26	57.96522	-5.36488	16:02:46	57.96532	-5.36458	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Skerries	30/07/2018	16	S3	16:02:46	57.96532	-5.36458	16:03:56	57.96537	-5.36415	Trackplot
Skerries	31/07/2018	17	S1	08:17:38	57.96717	-5.37260	08:23:17	57.96762	-5.37328	Trackplot
Skerries	31/07/2018	17	S2	08:23:17	57.96762	-5.37328	08:25:46	57.96782	-5.37368	Trackplot
Skerries	31/07/2018	18	S1	08:35:04	57.96633	-5.36862	08:40:43	57.96673	-5.36902	Trackplot
Skerries	31/07/2018	18	S2	08:40:43	57.96673	-5.36902	08:42:14	57.96682	-5.36907	Trackplot
Skerries	31/07/2018	19	S1	08:50:45	57.97015	-5.36410	08:52:23	57.97032	-5.36423	Trackplot
Skerries	31/07/2018	19	S2	08:52:23	57.97032	-5.36423	08:53:40	57.97052	-5.36425	Trackplot
Skerries	31/07/2018	19	S3	08:53:40	57.97052	-5.36425	08:58:05	57.97097	-5.36457	Trackplot
Skerries	31/07/2018	20	S1	09:08:06	57.96240	-5.36757	09:16:17	57.96310	-5.36807	Trackplot
Skerries	31/07/2018	21	S1	09:22:30	57.96070	-5.36842	09:28:47	57.96135	-5.36897	Trackplot
Skerries	31/07/2018	21	S2	09:28:47	57.96135	-5.36897	09:31:29	57.96162	-5.36930	Trackplot
Skerries	31/07/2018	22	S1	09:38:47	57.95803	-5.36798	09:45:56	57.95875	-5.36892	Trackplot
Skerries	31/07/2018	23	S1	09:53:03	57.95535	-5.36750	09:53:34	57.95540	-5.36760	Trackplot
Skerries	31/07/2018	23	S2	09:53:34	57.95540	-5.36760	09:56:03	57.95568	-5.36790	Trackplot
Skerries	31/07/2018	23	S3	09:56:03	57.95568	-5.36790	09:57:24	57.95580	-5.36808	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Skerries	31/07/2018	23	S4	09:57:24	57.95580	-5.36808	09:59:16	57.95600	-5.36840	Trackplot
Skerries	31/07/2018	23	S5	09:59:16	57.95600	-5.36840	10:01:13	57.95618	-5.36870	Trackplot
Skerries	31/07/2018	24	S1	10:08:19	57.95515	-5.36057	10:10:49	57.95540	-5.36093	Trackplot
Skerries	31/07/2018	24	S2	10:10:49	57.95540	-5.36093	10:11:46	57.95550	-5.36102	Trackplot
Skerries	31/07/2018	25	S1	10:29:17	57.95698	-5.36357	10:38:19	57.95798	-5.36475	Trackplot
Skerries	31/07/2018	26	S1	10:44:23	57.95777	-5.36072	10:50:34	57.95848	-5.36155	Trackplot
Skerries	31/07/2018	27	S1	10:57:28	57.95667	-5.35838	11:02:10	57.95722	-5.35883	Trackplot
Skerries	31/07/2018	27	S2	11:02:10	57.95722	-5.35883	11:04:10	57.95742	-5.35892	Trackplot
Skerries	31/07/2018	27	S3	11:04:10	57.95742	-5.35892	11:04:46	57.95752	-5.35900	Trackplot
Skerries	31/07/2018	27	S4	11:04:46	57.95752	-5.35900	11:05:32	57.95765	-5.35908	Trackplot
Skerries	31/07/2018	28	S1	11:21:08	57.97512	-5.34417	11:25:17	57.97545	-5.34498	Trackplot
Skerries	31/07/2018	28	S2	11:25:17	57.97545	-5.34498	11:29:48	57.97585	-5.34590	Trackplot
Skerries	31/07/2018	28	S3	11:29:48	57.97585	-5.34590	11:30:07	57.97588	-5.34597	Trackplot
Skerries	31/07/2018	29	S1	11:35:35	57.97665	-5.34575	11:41:43	57.97738	-5.34692	Trackplot
Skerries	31/07/2018	30	S1	11:46:19	57.97803	-5.34540	11:48:28	57.97832	-5.34565	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Skerries	31/07/2018	30	S2	11:48:28	57.97832	-5.34565	11:50:41	57.97853	-5.34605	Trackplot
Skerries	31/07/2018	30	S3	11:50:41	57.97853	-5.34605	11:51:27	57.97862	-5.34615	Trackplot
Skerries	31/07/2018	30	S4	11:51:27	57.97862	-5.34615	11:52:31	57.97878	-5.34627	Trackplot
Skerries	31/07/2018	30	S5	11:52:31	57.97878	-5.34627	11:53:26	57.97887	-5.34645	Trackplot
Skerries	31/07/2018	31	S1	12:01:50	57.97840	-5.34160	12:08:30	57.97937	-5.34280	Trackplot
Skerries	31/07/2018	31	S2	12:08:30	57.97937	-5.34280	12:09:54	57.97955	-5.34300	Trackplot
Little Loch Broom	31/07/2018	32	S1	13:02:10	57.93083	-5.40840	13:05:40	57.93160	-5.40835	Trackplot
Little Loch Broom	31/07/2018	32	S2	13:05:40	57.93160	-5.40835	13:07:17	57.93197	-5.40823	Trackplot
Little Loch Broom	31/07/2018	33	S1	13:14:41	57.93460	-5.39845	13:16:05	57.93478	-5.39857	Trackplot
Little Loch Broom	31/07/2018	33	S2	13:16:05	57.93478	-5.39857	13:19:46	57.93527	-5.39860	Trackplot
Little Loch Broom	31/07/2018	34	S1	13:28:24	57.93210	-5.38668	13:33:31	57.93263	-5.38668	Trackplot
Little Loch Broom	31/07/2018	35	S1	13:40:47	57.93442	-5.38053	13:45:28	57.93502	-5.38050	Trackplot
Little Loch Broom	31/07/2018	35	S2	13:45:28	57.93502	-5.38050	13:46:04	57.93508	-5.38052	Trackplot
Little Loch Broom	31/07/2018	36	S1	13:53:19	57.93263	-5.37313	13:56:53	57.93312	-5.37307	Trackplot
Little Loch Broom	31/07/2018	36	S2	13:56:53	57.93312	-5.37307	13:58:24	57.93330	-5.37312	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Little Loch Broom	31/07/2018	37	S1	14:04:18	57.93767	-5.37363	14:07:10	57.93812	-5.37332	Trackplot
Little Loch Broom	31/07/2018	37	S2	14:07:10	57.93812	-5.37332	14:09:29	57.93845	-5.37328	Trackplot
Little Loch Broom	31/07/2018	38	S1	14:19:44	57.93942	-5.36562	14:24:52	57.94008	-5.36555	Trackplot
Little Loch Broom	31/07/2018	39	S1	14:35:16	57.93730	-5.35193	14:40:27	57.93838	-5.35225	Trackplot
Little Loch Broom	31/07/2018	40	S1	14:50:08	57.93172	-5.34877	14:54:40	57.93258	-5.34832	Trackplot
Little Loch Broom	31/07/2018	40	S2	14:54:40	57.93258	-5.34832	14:55:16	57.93270	-5.34827	Trackplot
Little Loch Broom	31/07/2018	41	S1	15:06:27	57.92467	-5.34503	15:11:41	57.92537	-5.34500	Trackplot
Little Loch Broom	31/07/2018	42	S1	15:19:12	57.92222	-5.34012	15:21:46	57.92257	-5.33997	Trackplot
Little Loch Broom	31/07/2018	42	S2	15:21:46	57.92257	-5.33997	15:24:22	57.92287	-5.34010	Trackplot
Little Loch Broom	31/07/2018	43	S1	15:34:08	57.91793	-5.32953	15:39:17	57.91878	-5.32982	Trackplot
Little Loch Broom	31/07/2018	44	S1	15:49:07	57.91440	-5.32105	15:52:13	57.91475	-5.32120	Trackplot
Little Loch Broom	31/07/2018	44	S2	15:52:13	57.91475	-5.32120	15:54:14	57.91502	-5.32117	Trackplot
Little Loch Broom	01/08/2018	45	S1	08:57:58	57.90648	-5.36543	09:03:43	57.90675	-5.36473	Trackplot
Little Loch Broom	01/08/2018	46	S1	09:10:09	57.90492	-5.35177	09:15:32	57.90532	-5.35128	Trackplot
Little Loch Broom	01/08/2018	47	S1	09:22:54	57.90050	-5.33852	09:28:13	57.90070	-5.33803	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Little Loch Broom	01/08/2018	48	S1	09:38:01	57.89320	-5.32243	09:43:33	57.89355	-5.32215	Trackplot
Little Loch Broom	01/08/2018	49	S1	09:52:44	57.88693	-5.31558	09:58:08	57.88737	-5.31528	Trackplot
Little Loch Broom	01/08/2018	50	S1	10:16:07	57.88218	-5.33825	10:18:03	57.88227	-5.33790	Trackplot
Little Loch Broom	01/08/2018	51	S1	10:27:06	57.88667	-5.34677	10:32:39	57.88697	-5.34640	Trackplot
Little Loch Broom	01/08/2018	52	S1	10:39:31	57.88927	-5.35188	10:44:49	57.88967	-5.35177	Trackplot
Little Loch Broom	01/08/2018	53	S1	10:52:52	57.89230	-5.34192	10:58:16	57.89270	-5.34153	Trackplot
Little Loch Broom	01/08/2018	54	S1	11:06:01	57.89630	-5.33805	11:11:16	57.89682	-5.33767	Trackplot
Mellon Udrigle	01/08/2018	55	S1	12:16:35	57.89655	-5.54568	12:22:41	57.89738	-5.54453	Trackplot
Mellon Udrigle	01/08/2018	56	S1	12:31:20	57.90530	-5.54717	12:37:53	57.90642	-5.54630	Trackplot
Mellon Udrigle	01/08/2018	57	S1	12:46:13	57.91333	-5.54980	12:47:17	57.91352	-5.54968	Trackplot
Mellon Udrigle	01/08/2018	57	S2	12:47:17	57.91352	-5.54968	12:49:42	57.91407	-5.54953	Trackplot
Mellon Udrigle	01/08/2018	57	S3	12:49:42	57.91407	-5.54953	12:52:02	57.91457	-5.54950	Trackplot
Mellon Udrigle	01/08/2018	58	S1	12:58:59	57.91792	-5.55777	12:59:55	57.91815	-5.55787	Trackplot
Mellon Udrigle	01/08/2018	58	S2	12:59:55	57.91815	-5.55787	13:01:46	57.91862	-5.55807	Trackplot
Mellon Udrigle	01/08/2018	58	S3	13:01:46	57.91862	-5.55807	13:02:27	57.91877	-5.55813	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Mellon Udrigle	01/08/2018	58	S4	13:02:27	57.91877	-5.55813	13:04:13	57.91918	-5.55820	Trackplot
Mellon Udrigle	01/08/2018	59	S1	13:13:01	57.91863	-5.57127	13:18:21	57.91953	-5.57060	Trackplot
Mellon Udrigle	01/08/2018	60	S1	13:26:15	57.92080	-5.58047	13:31:53	57.92205	-5.58085	Trackplot
Mellon Udrigle	01/08/2018	61	S1	13:37:56	57.92272	-5.59110	13:40:33	57.92315	-5.59123	Trackplot
Mellon Udrigle	01/08/2018	61	S2	13:40:33	57.92315	-5.59123	13:44:08	57.92380	-5.59147	Trackplot
Mellon Udrigle	01/08/2018	62	S1	13:50:53	57.92542	-5.60058	13:51:37	57.92557	-5.60060	Trackplot
Mellon Udrigle	01/08/2018	62	S2	13:51:37	57.92557	-5.60060	13:53:08	57.92583	-5.60078	Trackplot
Mellon Udrigle	01/08/2018	62	S3	13:53:08	57.92583	-5.60078	13:56:32	57.92648	-5.60132	Trackplot
Mellon Udrigle	01/08/2018	63	S1	14:03:33	57.92605	-5.61200	14:07:12	57.92645	-5.61125	Trackplot
Mellon Udrigle	01/08/2018	63	S2	14:07:12	57.92645	-5.61125	14:09:16	57.92668	-5.61080	Trackplot
Summer Isles	01/08/2018	64	S1	14:50:56	57.96700	-5.50343	14:56:50	57.96708	-5.50262	Trackplot
Summer Isles	01/08/2018	65	S1	15:03:47	57.96248	-5.50085	15:09:36	57.96288	-5.49990	Trackplot
Summer Isles	01/08/2018	66	S1	15:15:37	57.95825	-5.49585	15:19:04	57.95820	-5.49547	Overlay
Summer Isles	01/08/2018	66	S2	15:19:04	57.95820	-5.49547	15:21:13	57.95817	-5.49515	Overlay
Loch Ewe	02/08/2018	67	S1	07:35:57	57.81892	-5.61552	07:41:09	57.81943	-5.61510	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Loch Ewe	02/08/2018	68	S1	07:47:35	57.82100	-5.62255	07:53:01	57.82177	-5.62213	Trackplot
Loch Ewe	02/08/2018	69	S1	07:58:53	57.82323	-5.62923	08:01:20	57.82362	-5.62912	Trackplot
Loch Ewe	02/08/2018	69	S2	08:01:20	57.82362	-5.62912	08:04:09	57.82405	-5.62892	Trackplot
Loch Ewe	02/08/2018	70	S1	08:20:26	57.80232	-5.62873	08:21:08	57.80240	-5.62878	Trackplot
Loch Ewe	02/08/2018	70	S2	08:21:08	57.80240	-5.62878	08:22:24	57.80257	-5.62878	Trackplot
Loch Ewe	02/08/2018	70	S3	08:22:24	57.80257	-5.62878	08:25:49	57.80307	-5.62873	Trackplot
Loch Ewe	02/08/2018	71	S1	08:39:02	57.80167	-5.65388	08:44:23	57.80295	-5.65348	Trackplot
Loch Ewe	02/08/2018	72	S1	08:50:58	57.80907	-5.65538	08:55:16	57.81008	-5.65500	Trackplot
Loch Ewe	02/08/2018	72	S2	08:55:16	57.81008	-5.65500	08:56:32	57.81033	-5.65495	Trackplot
Loch Ewe	02/08/2018	73	S1	09:03:53	57.80997	-5.64032	09:09:14	57.81088	-5.63977	Trackplot
Loch Ewe	02/08/2018	74	S1	09:19:12	57.81665	-5.65220	09:24:31	57.81777	-5.65180	Trackplot
Loch Ewe	02/08/2018	75	S1	09:32:47	57.82560	-5.65140	09:38:03	57.82643	-5.65152	Trackplot
MR8 Loch Ewe	02/08/2018	76	S1	09:44:50	57.83108	-5.66008	09:53:29	57.83243	-5.65998	Trackplot
MR8 Loch Ewe	02/08/2018	77	S1	10:01:22	57.83593	-5.66677	10:03:17	57.83623	-5.66668	Trackplot
MR8 Loch Ewe	02/08/2018	77	S2	10:03:17	57.83623	-5.66668	10:05:59	57.83662	-5.66645	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
MR8 Loch Ewe	02/08/2018	77	S3	10:05:59	57.83662	-5.66645	10:07:23	57.83685	-5.66623	Trackplot
MR8 Loch Ewe	02/08/2018	77	S4	10:07:23	57.83685	-5.66623	10:09:11	57.83710	-5.66612	Trackplot
MR8 Loch Ewe	02/08/2018	78	S1	10:16:23	57.84157	-5.67213	10:24:44	57.84277	-5.67200	Trackplot
MR8 Loch Ewe	02/08/2018	79	S1	10:32:02	57.84592	-5.67490	10:35:32	57.84652	-5.67478	Trackplot
MR8 Loch Ewe	02/08/2018	79	S2	10:35:32	57.84652	-5.67478	10:40:45	57.84747	-5.67450	Trackplot
MR8 Loch Ewe	02/08/2018	80	S1	10:48:22	57.85380	-5.67708	10:51:06	57.85433	-5.67682	Trackplot
MR8 Loch Ewe	02/08/2018	80	S2	10:51:06	57.85433	-5.67682	10:52:36	57.85462	-5.67663	Trackplot
MR8 Loch Ewe	02/08/2018	80	S3	10:52:36	57.85462	-5.67663	10:54:13	57.85495	-5.67648	Trackplot
MR8 Loch Ewe	02/08/2018	80	S4	10:54:13	57.85495	-5.67648	10:56:21	57.85537	-5.67630	Trackplot
West of Loch Ewe	02/08/2018	81	S1	11:46:12	57.86438	-5.80490	11:50:37	57.86512	-5.80393	Trackplot
West of Loch Ewe	02/08/2018	82	S1	11:57:57	57.86350	-5.79383	12:03:06	57.86453	-5.79448	Trackplot
West of Loch Ewe	02/08/2018	83	S1	12:10:35	57.86498	-5.78035	12:12:23	57.86523	-5.78063	Trackplot
West of Loch Ewe	02/08/2018	83	S2	12:12:23	57.86523	-5.78063	12:13:13	57.86535	-5.78080	Trackplot
West of Loch Ewe	02/08/2018	83	S3	12:13:13	57.86535	-5.78080	12:13:41	57.86543	-5.78088	Trackplot
West of Loch Ewe	02/08/2018	83	S4	12:13:41	57.86543	-5.78088	12:15:48	57.86573	-5.78133	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
West of Loch Ewe	02/08/2018	84	S1	12:22:39	57.86750	-5.76998	12:28:02	57.86797	-5.76963	Trackplot
West of Loch Ewe	02/08/2018	85	S1	12:35:00	57.87178	-5.76190	12:36:45	57.87193	-5.76228	Trackplot
West of Loch Ewe	02/08/2018	85	S2	12:36:45	57.87193	-5.76228	12:38:51	57.87213	-5.76280	Trackplot
West of Loch Ewe	02/08/2018	85	S3	12:38:51	57.87213	-5.76280	12:40:14	57.87222	-5.76308	Trackplot
West of Loch Ewe	02/08/2018	86	S1	12:48:18	57.87132	-5.75285	12:53:28	57.87220	-5.75332	Trackplot
West of Loch Ewe	02/08/2018	87	S1	13:02:06	57.87033	-5.73832	13:07:13	57.87087	-5.73865	Trackplot
West of Loch Ewe	02/08/2018	88	S1	13:14:42	57.87213	-5.73063	13:19:50	57.87255	-5.73093	Trackplot
GE2 Loch Ewe Entrance	02/08/2018	89	S1	13:39:49	57.89437	-5.72273	13:45:03	57.89490	-5.72218	Trackplot
GE2 Loch Ewe Entrance	02/08/2018	90	S1	13:59:07	57.90290	-5.69237	14:04:20	57.90335	-5.69157	Trackplot
GE2 Loch Ewe Entrance	02/08/2018	91	S1	14:10:53	57.90290	-5.68635	14:16:03	57.90323	-5.68562	Trackplot
GE2 Loch Ewe Entrance	02/08/2018	92	S1	14:26:40	57.89988	-5.67917	14:31:47	57.90015	-5.67833	Trackplot
East of Loch Ewe Entrance	02/08/2018	93	S1	14:43:55	57.89685	-5.65158	14:49:03	57.89750	-5.65053	Trackplot
East of Loch Ewe Entrance	02/08/2018	94	S1	14:58:10	57.88923	-5.66133	15:03:19	57.89010	-5.66052	Trackplot
East of Loch Ewe Entrance	02/08/2018	95	S1	15:15:33	57.87972	-5.66192	15:19:32	57.88082	-5.66142	Trackplot
East of Loch Ewe Entrance	02/08/2018	95	S2	15:19:32	57.88082	-5.66142	15:20:48	57.88118	-5.66127	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Rieff	03/08/2018	96	S1	10:52:53	58.03875	-5.42700	10:58:11	58.03873	-5.42655	Trackplot
Tanera Mor and Beg	03/08/2018	97	S1	11:03:44	58.03690	-5.43003	11:11:55	58.03743	-5.42985	Trackplot
Tanera Mor and Beg	03/08/2018	98	S1	11:17:15	58.03415	-5.42597	11:17:47	58.03422	-5.42597	Trackplot
Tanera Mor and Beg	03/08/2018	98	S2	11:17:47	58.03422	-5.42597	11:20:43	58.03458	-5.42573	Trackplot
Tanera Mor and Beg	03/08/2018	98	S3	11:20:43	58.03458	-5.42573	11:23:16	58.03478	-5.42568	Trackplot
Tanera Mor and Beg	03/08/2018	98	S4	11:23:16	58.03478	-5.42568	11:24:38	58.03497	-5.42550	Trackplot
Tanera Mor and Beg	03/08/2018	98	S5	11:24:38	58.03497	-5.42550	11:25:21	58.03507	-5.42532	Trackplot
Tanera Mor and Beg	03/08/2018	99	S1	11:30:34	58.03173	-5.42288	11:37:55	58.03192	-5.42420	Trackplot
Tanera Mor and Beg	03/08/2018	100	S1	11:44:13	58.02985	-5.42067	11:44:54	58.02983	-5.42083	Trackplot
Tanera Mor and Beg	03/08/2018	100	S2	11:44:54	58.02983	-5.42083	11:52:22	58.02967	-5.42208	Trackplot
Tanera Mor and Beg	03/08/2018	101	S1	12:02:05	58.02765	-5.44585	12:04:49	58.02767	-5.44562	Trackplot
Tanera Mor and Beg	03/08/2018	101	S2	12:04:49	58.02767	-5.44562	12:10:05	58.02762	-5.44495	Trackplot
Tanera Mor and Beg	03/08/2018	102	S1	12:16:38	58.02518	-5.44923	12:24:02	58.02545	-5.44873	Trackplot
Tanera Mor and Beg	03/08/2018	103	S1	12:32:03	58.02825	-5.46010	12:38:39	58.02882	-5.45962	Trackplot
Tanera Mor and Beg	03/08/2018	104	S1	12:45:08	58.02557	-5.46560	12:52:14	58.02645	-5.46477	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Tanera Mor and Beg	03/08/2018	105	S1	13:24:35	58.02403	-5.46428	13:26:11	58.02407	-5.46378	Trackplot
Tanera Mor and Beg	03/08/2018	105	S2	13:26:11	58.02407	-5.46378	13:27:09	58.02417	-5.46345	Trackplot
Tanera Mor and Beg	03/08/2018	105	S3	13:27:09	58.02417	-5.46345	13:27:25	58.02420	-5.46335	Trackplot
Tanera Mor and Beg	03/08/2018	106	S1	13:35:14	58.02168	-5.45003	13:42:41	58.02220	-5.45085	Trackplot
Tanera Mor and Beg	03/08/2018	107	S1	13:48:56	58.01723	-5.45258	13:52:03	58.01740	-5.45225	Trackplot
Tanera Mor and Beg	03/08/2018	107	S2	13:52:03	58.01740	-5.45225	13:53:28	58.01750	-5.45213	Trackplot
Tanera Mor and Beg	03/08/2018	107	S3	13:53:28	58.01750	-5.45213	13:56:46	58.01770	-5.45175	Trackplot
Tanera Mor and Beg	03/08/2018	108	S1	14:08:32	58.00282	-5.45118	14:11:03	58.00297	-5.45115	Trackplot
Tanera Mor and Beg	03/08/2018	108	S2	14:11:03	58.00297	-5.45115	14:15:02	58.00332	-5.45140	Trackplot
Tanera Mor and Beg	03/08/2018	109	S1	14:20:01	58.00323	-5.44550	14:20:39	58.00327	-5.44557	Trackplot
Tanera Mor and Beg	03/08/2018	109	S2	14:20:39	58.00327	-5.44557	14:25:07	58.00347	-5.44557	Trackplot
Tanera Mor and Beg	03/08/2018	109	S3	14:25:07	58.00347	-5.44557	14:26:47	58.00355	-5.44552	Trackplot
Tanera Mor and Beg	03/08/2018	110	S1	14:31:55	58.00387	-5.44040	14:38:27	58.00448	-5.44033	Trackplot
Tanera Mor and Beg	03/08/2018	111	S1	14:44:01	58.00480	-5.43520	14:51:17	58.00530	-5.43415	Trackplot
Tanera Mor and Beg	03/08/2018	112	S1	14:57:35	58.00673	-5.42950	15:03:20	58.00723	-5.42788	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Summer Isles	04/08/2018	113	S1	09:00:16	57.97547	-5.44742	09:04:44	57.97595	-5.44633	Trackplot
Summer Isles	04/08/2018	113	S2	09:04:44	57.97595	-5.44633	09:05:29	57.97605	-5.44617	Trackplot
Summer Isles	04/08/2018	114	S1	09:13:48	57.97158	-5.45713	09:17:50	57.97210	-5.45622	Trackplot
Summer Isles	04/08/2018	115	S1	09:26:07	57.96650	-5.46332	09:29:58	57.96700	-5.46233	Overlay
Tanera Mor and Beg	04/08/2018	116	S1	10:08:02	58.01568	-5.42368	10:11:22	58.01615	-5.42300	Overlay
Tanera Mor and Beg	04/08/2018	116	S2	10:11:22	58.01615	-5.42300	10:15:08	58.01688	-5.42220	Overlay
Tanera Mor and Beg	04/08/2018	117	S1	10:19:47	58.01960	-5.42257	10:24:03	58.02062	-5.42135	Trackplot
Tanera Mor and Beg	04/08/2018	117	S2	10:24:03	58.02062	-5.42135	10:26:42	58.02127	-5.42057	Trackplot
Tanera Mor and Beg	04/08/2018	118	S1	10:30:40	58.02222	-5.41957	10:37:35	58.02370	-5.41743	Trackplot
Tanera Mor and Beg	04/08/2018	119	S1	10:52:01	58.03042	-5.40038	10:56:22	58.03070	-5.39987	Trackplot
Tanera Mor and Beg	04/08/2018	119	S2	10:56:22	58.03070	-5.39987	10:57:52	58.03083	-5.39970	Trackplot
Tanera Mor and Beg	04/08/2018	119	S3	10:57:52	58.03083	-5.39970	10:59:08	58.03095	-5.39955	Trackplot
South of Achiltibuie	04/08/2018	120	S1	11:14:54	58.02757	-5.36842	11:19:36	58.02802	-5.36752	Trackplot
South of Achiltibuie	04/08/2018	121	S1	11:27:09	58.02247	-5.35847	11:31:44	58.02307	-5.35770	Trackplot
Tanera Mor and Beg	04/08/2018	122	S1	12:15:06	58.01947	-5.39407	12:22:16	58.02043	-5.39342	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Tanera Mor and Beg	04/08/2018	123	S1	12:33:37	58.00773	-5.38060	12:41:00	58.00840	-5.37943	Trackplot
South of Achiltibuie	04/08/2018	124	S1	12:57:55	57.99817	-5.33272	12:59:46	57.99825	-5.33227	Trackplot
South of Achiltibuie	04/08/2018	124	S2	12:59:46	57.99825	-5.33227	13:03:01	57.99838	-5.33143	Trackplot
South of Achiltibuie	04/08/2018	125	S1	13:11:17	57.99232	-5.31883	13:16:09	57.99257	-5.31772	Trackplot
Inner Summer Isles	04/08/2018	126	S1	13:31:42	57.97670	-5.34150	13:32:38	57.97680	-5.34137	Trackplot
Inner Summer Isles	04/08/2018	126	S2	13:32:38	57.97680	-5.34137	13:37:26	57.97710	-5.34018	Trackplot
Outer Loch Broom	04/08/2018	127	S1	14:07:20	57.95408	-5.28622	14:08:37	57.95415	-5.28572	Trackplot
Outer Loch Broom	04/08/2018	127	S2	14:08:37	57.95415	-5.28572	14:12:22	57.95445	-5.28437	Trackplot
Outer Loch Broom	04/08/2018	128	S1	14:19:15	57.95023	-5.27568	14:19:41	57.95025	-5.27555	Trackplot
Outer Loch Broom	04/08/2018	128	S2	14:19:41	57.95025	-5.27555	14:21:12	57.95037	-5.27505	Trackplot
Outer Loch Broom	04/08/2018	128	S3	14:21:12	57.95037	-5.27505	14:23:09	57.95045	-5.27440	Trackplot
Outer Loch Broom	04/08/2018	128	S4	14:23:09	57.95045	-5.27440	14:24:18	57.95048	-5.27403	Trackplot
Outer Loch Broom	04/08/2018	129	S1	14:31:35	57.94982	-5.26297	14:33:03	57.94990	-5.26255	Trackplot
Outer Loch Broom	04/08/2018	129	S2	14:33:03	57.94990	-5.26255	14:36:34	57.95002	-5.26150	Trackplot
Outer Loch Broom	04/08/2018	130	S1	14:49:24	57.94057	-5.23585	14:54:30	57.94070	-5.23445	Trackplot

Table A2.2

Metadata from Small Isles survey.

'Video Tow no' indicates the transect number, and 'Segment no' indicates different habitats along that transect. Note that 'Trackplot' and 'Waypoint' positions are those derived from the Garmin handheld GPS and 'Overlay' positions are derived from the SD video feed.

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
West of Rum	13/08/2018	1	S1	10:40:37	57.00910	-6.47518	10:43:01	57.00868	-6.47515	Trackplot
West of Rum	13/08/2018	1	S2	10:43:01	57.00868	-6.47515	10:47:52	57.00775	-6.47507	Trackplot
West of Rum	13/08/2018	2	S1	10:57:46	57.00313	-6.46892	10:58:35	57.00287	-6.46880	Overlay
West of Rum	13/08/2018	2	S2	10:58:35	57.00287	-6.46880	11:00:17	57.00227	-6.46850	Overlay
West of Rum	13/08/2018	2	S3	11:00:17	57.00227	-6.46850	11:06:42	57.00003	-6.46710	Overlay
West of Rum	13/08/2018	3	S1	11:21:12	56.99318	-6.48845	11:22:47	56.99258	-6.48823	Trackplot
West of Rum	13/08/2018	3	S2	11:22:47	56.99258	-6.48823	11:25:29	56.99193	-6.48822	Trackplot
West of Rum	13/08/2018	3	S3	11:25:29	56.99193	-6.48822	11:26:47	56.99163	-6.48812	Trackplot
West of Rum	13/08/2018	4	S1	11:44:37	57.00047	-6.45528	11:47:00	57.00048	-6.45622	Trackplot
West of Rum	13/08/2018	4	S2	11:47:00	57.00048	-6.45622	11:51:15	57.00088	-6.45842	Trackplot
West of Rum	13/08/2018	4	S3	11:51:15	57.00088	-6.45842	11:52:52	57.00095	-6.45932	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
West of Rum	13/08/2018	5	S1	12:02:29	56.99198	-6.45263	12:08:41	56.99182	-6.45223	Trackplot
West of Rum	13/08/2018	6	S1	12:17:27	56.98717	-6.43842	12:22:44	56.98717	-6.43795	Trackplot
West of Rum	13/08/2018	7	S1	12:44:57	56.97500	-6.46697	12:47:12	56.97470	-6.46678	Trackplot
West of Rum	13/08/2018	7	S2	12:47:12	56.97470	-6.46678	12:48:22	56.97457	-6.46668	Trackplot
West of Rum	13/08/2018	7	S3	12:48:22	56.97457	-6.46668	12:51:09	56.97428	-6.46650	Trackplot
West of Rum	13/08/2018	8	S1	13:23:59	56.98697	-6.42163	13:26:42	56.98705	-6.42188	Trackplot
West of Rum	13/08/2018	8	S2	13:26:42	56.98705	-6.42188	13:30:11	56.98715	-6.42213	Trackplot
West of Rum	13/08/2018	9	S1	13:42:01	56.97348	-6.41982	13:47:12	56.97352	-6.41942	Trackplot
West of Rum	13/08/2018	10	S1	13:59:54	56.96223	-6.42960	14:07:02	56.96217	-6.42868	Trackplot
West of Rum	13/08/2018	11	S1	14:24:17	56.96975	-6.38373	14:29:59	56.97010	-6.38352	Trackplot
West of Rum	13/08/2018	12	S1	14:44:05	56.95888	-6.38390	14:49:17	56.95918	-6.38358	Trackplot
West of Rum	13/08/2018	13	S1	15:08:36	56.94323	-6.34585	15:13:53	56.94333	-6.34508	Overlay
West of Rum	13/08/2018	14	S1	15:34:21	56.92725	-6.31287	15:35:46	56.92730	-6.31230	Overlay
West of Rum	13/08/2018	14	S2	15:35:46	56.92730	-6.31230	15:37:51	56.92733	-6.31145	Overlay
West of Rum	13/08/2018	14	S3	15:37:51	56.92733	-6.31145	15:40:13	56.92728	-6.31047	Overlay

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
West of Rum	13/08/2018	14	S4	15:40:13	56.92728	-6.31047	15:41:06	56.92725	-6.31007	Overlay
West of Rum	13/08/2018	14	S5	15:41:06	56.92725	-6.31007	15:41:40	56.92723	-6.30983	Overlay
West of Rum	13/08/2018	14	S6	15:41:40	56.92723	-6.30983	15:42:23	56.92723	-6.30955	Overlay
Rum South East	14/08/2018	15	S1	08:51:30	56.97647	-6.24227	08:52:49	56.97685	-6.24212	Overlay
Rum South East	14/08/2018	16	S1	09:23:32	57.00557	-6.23442	09:32:22	57.00647	-6.23453	Overlay
Rum South East	14/08/2018	17	S1	09:41:49	57.01202	-6.23815	09:48:26	57.01225	-6.23790	Overlay
Rum South East	14/08/2018	18	S1	09:56:30	57.01803	-6.24422	10:02:40	57.01863	-6.24468	Overlay
Rum South East	14/08/2018	19	S1	10:13:34	57.02930	-6.24862	10:15:18	57.02952	-6.24877	Overlay
Rum South East	14/08/2018	19	S2	10:15:18	57.02952	-6.24877	10:16:27	57.02968	-6.24878	Overlay
Rum South East	14/08/2018	19	S3	10:16:27	57.02968	-6.24878	10:20:41	57.03032	-6.24913	Overlay
Rum South East	14/08/2018	20	S1	10:32:28	57.02467	-6.23417	10:34:05	57.02488	-6.23438	Overlay
Rum South East	14/08/2018	20	S2	10:34:05	57.02488	-6.23438	10:35:45	57.02528	-6.23458	Overlay
Rum South East	14/08/2018	20	S3	10:35:45	57.02528	-6.23458	10:39:28	57.02580	-6.23493	Overlay
Rum South East	14/08/2018	20	S4	10:39:28	57.02580	-6.23493	10:40:37	57.02598	-6.23510	Overlay
Rum South East	14/08/2018	21	S1	10:59:46	57.01987	-6.21358	11:07:57	57.02147	-6.21407	Overlay

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Rum South East	14/08/2018	22	S1	11:29:51	57.01443	-6.20693	11:30:40	57.01450	-6.20690	Overlay
Rum South East	14/08/2018	22	S2	11:30:40	57.01450	-6.20690	11:35:58	57.01498	-6.20680	Overlay
Rum South East	14/08/2018	23	S1	11:54:18	57.01823	-6.22442	11:59:37	57.01900	-6.22482	Trackplot
Rum-East	14/08/2018	24	S1	13:03:46	57.02517	-6.19808	13:06:21	57.02545	-6.19762	Overlay
Rum-East	14/08/2018	24	S2	13:06:21	57.02545	-6.19762	13:07:35	57.02553	-6.19728	Overlay
Rum-East	14/08/2018	24	S3	13:07:35	57.02553	-6.19728	13:09:08	57.02572	-6.19703	Overlay
Rum-East	14/08/2018	24	S4	13:09:08	57.02572	-6.19703	13:11:25	57.02592	-6.19660	Overlay
Rum-East	14/08/2018	24	S5	13:11:25	57.02592	-6.19660	13:12:45	57.02602	-6.19635	Overlay
Rum-East	14/08/2018	25	S1	13:20:59	57.02955	-6.20047	13:28:41	57.03015	-6.19862	Trackplot
Rum-East	14/08/2018	26	S1	13:35:50	57.03355	-6.19695	13:36:55	57.03365	-6.19650	Overlay
Rum-East	14/08/2018	26	S2	13:36:55	57.03365	-6.19650	13:41:17	57.03388	-6.19518	Overlay
Rum-East	14/08/2018	27	S1	13:49:55	57.03360	-6.19927	13:51:52	57.03370	-6.19865	Overlay
Rum-East	14/08/2018	27	S2	13:51:52	57.03370	-6.19865	13:56:00	57.03393	-6.19730	Overlay
Rum-East	14/08/2018	27	S3	13:56:00	57.03393	-6.19730	13:58:43	57.03410	-6.19645	Overlay
Rum-East	14/08/2018	28	S1	14:07:10	57.03762	-6.20216	14:07:41	57.03763	-6.20203	Overlay

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Rum-East	14/08/2018	28	S2	14:07:41	57.03763	-6.20203	14:10:05	57.03770	-6.20125	Overlay
Rum-East	14/08/2018	28	S3	14:10:05	57.03770	-6.20125	14:11:37	57.03770	-6.20078	Overlay
Rum-East	14/08/2018	28	S4	14:11:37	57.03770	-6.20078	14:14:34	57.03782	-6.19988	Overlay
Rum-East	14/08/2018	29	S1	14:22:40	57.03948	-6.19448	14:28:00	57.03955	-6.19238	Trackplot
Rum-East	14/08/2018	29	S2	14:28:00	57.03955	-6.19238	14:30:19	57.03963	-6.19170	Trackplot
Rum-East	14/08/2018	30.1	S1	14:50:56	57.01623	-6.18295	14:52:56	57.01623	-6.18245	Trackplot
Rum-East	14/08/2018	30.1	S2	14:52:56	57.01623	-6.18245	14:53:32	57.01622	-6.18235	Trackplot
Rum-East	14/08/2018	30.1	S3	14:53:32	57.01622	-6.18235	14:54:00	57.01618	-6.18207	Trackplot
Rum-East	14/08/2018	30.1	S4	14:54:00	57.01618	-6.18207	14:58:11	57.01637	-6.18188	Trackplot
Rum-East	14/08/2018	31	S1	15:21:32	57.01538	-6.16947	15:29:53	57.01617	-6.16733	Trackplot
Rum-East	14/08/2018	32	S1	15:42:35	57.01445	-6.15732	15:48:48	57.01502	-6.15530	Overlay
Rum-East	14/08/2018	33	S1	16:03:46	57.01963	-6.14478	16:05:15	57.01983	-6.14425	Trackplot
Rum-East	14/08/2018	33	S2	16:05:15	57.01983	-6.14425	16:06:58	57.01998	-6.14355	Trackplot
Rum-East	14/08/2018	33	S3	16:06:58	57.01998	-6.14355	16:12:44	57.02065	-6.14170	Trackplot
Rum-East	14/08/2018	34.1	S1	16:37:32	57.02627	-6.16648	16:40:11	57.02655	-6.16567	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Rum-East	14/08/2018	34.1	S2	16:40:11	57.02655	-6.16567	16:46:31	57.02738	-6.16362	Trackplot
Rum-East	14/08/2018	34.2	S3	16:47:40	57.02755	-6.16327	16:50:37	57.02788	-6.16225	Trackplot
Rum-East	14/08/2018	34.2	S4	16:50:37	57.02788	-6.16225	16:52:56	57.02818	-6.16158	Trackplot
Guirdil	15/08/2018	35	S1	07:56:23	57.01555	-6.45330	08:01:41	57.01616	-6.45333	Overlay
Guirdil	15/08/2018	36	S1	08:11:33	57.01350	-6.44902	08:15:02	57.01412	-6.44933	Trackplot
Guirdil	15/08/2018	36	S2	08:15:02	57.01412	-6.44933	08:18:13	57.01430	-6.44960	Trackplot
Guirdil	15/08/2018	37	S1	08:29:06	57.02263	-6.43737	08:36:25	57.02387	-6.43592	Overlay
Guirdil	15/08/2018	38.1	S1	08:42:57	57.02465	-6.43808	08:47:45	57.02597	-6.43627	Trackplot
Guirdil	15/08/2018	38.1	S2	08:47:45	57.02597	-6.43627	08:50:48	57.02687	-6.43515	Trackplot
Guirdil	15/08/2018	38.1	S3	08:50:48	57.02687	-6.43515	08:51:56	57.02722	-6.43473	Trackplot
Guirdil	15/08/2018	38.2	S4	08:52:42	57.02743	-6.43433	08:58:44	57.02935	-6.43197	Trackplot
Guirdil	15/08/2018	39	S1	09:16:21	57.02000	-6.44373	09:21:02	57.02058	-6.44255	Overlay
Guirdil	15/08/2018	39	S2	09:21:02	57.02058	-6.44255	09:25:17	57.02137	-6.44142	Overlay
Guirdil	15/08/2018	40.1	S1	09:32:28	57.02510	-6.43450	09:33:55	57.02530	-6.43417	Overlay
Guirdil	15/08/2018	40.1	S2	09:33:55	57.02530	-6.43417	09:41:27	57.02690	-6.43198	Overlay

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Guirdil	15/08/2018	40.2	S3	09:42:37	57.02717	-6.43160	09:43:48	57.02742	-6.43117	Overlay
Guirdil	15/08/2018	40.2	S4	09:43:48	57.02742	-6.43117	09:50:52	57.02900	-6.42873	Overlay
Guirdil	15/08/2018	40.2	S5	09:50:52	57.02900	-6.42873	09:51:36	57.02912	-6.42847	Overlay
Guirdil	15/08/2018	41.1	S1	09:59:52	57.02812	-6.42802	10:02:57	57.02860	-6.42792	Overlay
Guirdil	15/08/2018	41.1	S2	10:02:57	57.02860	-6.42792	10:04:56	57.02900	-6.42748	Overlay
Guirdil	15/08/2018	41.1	S3	10:04:56	57.02900	-6.42748	10:06:12	57.02923	-6.42715	Overlay
Guirdil	15/08/2018	41.1	S4	10:06:12	57.02923	-6.42715	10:07:52	57.02957	-6.42678	Overlay
Guirdil	15/08/2018	41.1	S5	10:07:52	57.02957	-6.42678	10:08:51	57.02977	-6.42645	Overlay
Guirdil	15/08/2018	41.2	S6	10:09:48	57.02998	-6.42617	10:19:48	57.03248	-6.42348	Overlay
Guirdil	15/08/2018	42	S1	10:31:11	57.02963	-6.42563	10:40:17	57.03213	-6.42393	Overlay
Guirdil	15/08/2018	43	S1	10:50:20	57.03103	-6.42707	10:51:47	57.03143	-6.42672	Trackplot
Guirdil	15/08/2018	43	S2	10:51:47	57.03143	-6.42672	10:56:10	57.03260	-6.42588	Trackplot
Guirdil	15/08/2018	44	S1	11:06:50	57.02895	-6.42317	11:15:14	57.03025	-6.42203	Trackplot
Guirdil	15/08/2018	45	S1	11:25:15	57.03072	-6.42292	11:32:25	57.03222	-6.42185	Trackplot
Guirdil	15/08/2018	46	S1	11:40:29	57.03208	-6.42077	11:49:47	57.03367	-6.41980	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Guirdil	15/08/2018	47	S1	11:59:00	57.03268	-6.41735	12:07:59	57.03403	-6.41663	Waypoints/ Trackplot
Guirdil	15/08/2018	48	S1	12:15:05	57.03190	-6.41490	12:22:50	57.03305	-6.41440	Trackplot
Guirdil	15/08/2018	49	S1	12:32:41	57.03625	-6.41358	12:41:41	57.03642	-6.41353	Waypoints/ Trackplot
Guirdil	15/08/2018	50.1	S1	12:50:26	57.04213	-6.40525	12:59:43	57.04322	-6.40540	Trackplot
Guirdil	15/08/2018	50.2	S2	13:08:42	57.04333	-6.40548	13:13:46	57.04427	-6.40527	Trackplot
Guirdil	15/08/2018	51	S1	13:17:59	57.04360	-6.40300	13:23:13	57.04463	-6.40372	Trackplot
Rum-East	16/08/2018	52	S1	09:32:49	57.04607	-6.25438	09:40:03	57.04753	-6.25347	Trackplot
Rum-East	16/08/2018	53	S1	09:54:34	57.04328	-6.28183	10:00:28	57.04367	-6.28055	Trackplot
Rum-East	16/08/2018	54	S1	10:12:51	57.05730	-6.29542	10:15:37	57.05773	-6.29525	Trackplot
Rum-East	16/08/2018	54	S2	10:15:37	57.05773	-6.29525	10:19:40	57.05818	-6.29488	Trackplot
Rum-East	16/08/2018	54	S3	10:19:40	57.05818	-6.29488	10:20:05	57.05822	-6.29485	Trackplot
Rum-East	16/08/2018	55	S1	10:29:32	57.05947	-6.28705	10:36:15	57.06030	-6.28542	Trackplot
Rum South East	16/08/2018	56	S1	11:53:01	56.97918	-6.21795	11:54:00	56.97928	-6.21782	Trackplot
Rum South East	16/08/2018	56	S2	11:54:00	56.97928	-6.21782	11:57:51	56.97970	-6.21703	Trackplot
Rum South East	16/08/2018	56	S3	11:57:51	56.97970	-6.21703	12:00:13	56.97985	-6.21642	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Rum South East	16/08/2018	57	S1	12:24:41	56.95853	-6.25435	12:30:41	56.95882	-6.25395	Trackplot
Rum South East	16/08/2018	57	S2	12:30:41	56.95882	-6.25395	12:31:16	56.95885	-6.25395	Trackplot
Rum South East	16/08/2018	58	S1	12:45:56	56.95237	-6.26870	12:52:10	56.95273	-6.26860	Trackplot
Rum South East	16/08/2018	59	S1	13:04:08	56.94958	-6.28168	13:09:28	56.94962	-6.28123	Trackplot
Rum South East	16/08/2018	60	S1	13:20:50	56.93922	-6.28602	13:26:06	56.93927	-6.28558	Overlay
North east Rum	16/08/2018	61	S1	14:52:03	57.07005	-6.31065	14:53:35	57.07007	-6.31038	Trackplot
North east Rum	16/08/2018	61	S2	14:53:35	57.07007	-6.31038	14:54:32	57.07005	-6.31020	Trackplot
North east Rum	16/08/2018	61	S3	14:54:32	57.07005	-6.31020	14:55:52	57.07008	-6.30998	Trackplot
North east Rum	16/08/2018	61	S4	14:55:52	57.07008	-6.30998	14:56:33	57.07010	-6.30987	Trackplot
North east Rum	16/08/2018	61	S5	14:56:33	57.07010	-6.30987	14:57:07	57.07012	-6.30977	Trackplot
North east Rum	16/08/2018	61	S6	14:57:07	57.07012	-6.30977	14:58:24	57.07010	-6.30955	Trackplot
Canna-East	16/08/2018	62	S1	16:03:42	57.06400	-6.48347	16:08:58	57.06420	-6.48285	Trackplot
Canna-East	16/08/2018	63	S1	16:16:27	57.06278	-6.48472	16:18:16	57.06298	-6.48465	Trackplot
Canna-East	16/08/2018	63	S2	16:18:16	57.06298	-6.48465	16:24:20	57.06372	-6.48427	Trackplot
Canna-East	16/08/2018	64	S1	16:34:17	57.05982	-6.48458	16:39:32	57.06010	-6.48378	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Canna-East	16/08/2018	65	S1	16:48:35	57.06122	-6.48507	16:53:51	57.06145	-6.48423	Trackplot
Canna-East	16/08/2018	66	S1	17:03:00	57.05883	-6.48485	17:08:14	57.05912	-6.48375	Trackplot
Canna-East	16/08/2018	67	S1	17:14:33	57.05918	-6.48608	17:19:47	57.05922	-6.48535	Trackplot
Canna-East	17/08/2018	68	S1	06:21:24	57.06953	-6.49225	06:25:05	57.06955	-6.49235	Trackplot
Canna-East	17/08/2018	68	S2	06:25:05	57.06955	-6.49235	06:25:46	57.06955	-6.49247	Trackplot
Canna-East	17/08/2018	68	S3	06:25:46	57.06955	-6.49247	06:27:36	57.06952	-6.49258	Trackplot
Canna-East	17/08/2018	69	S1	06:36:00	57.07028	-6.49593	06:41:26	57.07003	-6.49583	Trackplot
Canna-East	17/08/2018	70	S1	06:47:41	57.07098	-6.50033	06:53:00	57.07073	-6.49972	Trackplot
Canna-East	17/08/2018	71	S1	07:01:30	57.07513	-6.50012	07:06:45	57.07580	-6.49975	Trackplot
Canna-East	17/08/2018	72	S1	07:15:50	57.07740	-6.50335	07:21:01	57.07780	-6.50293	Trackplot
Canna-East	17/08/2018	73	S1	07:30:06	57.07998	-6.50877	07:35:16	57.08075	-6.50852	Trackplot
Canna-East	17/08/2018	74	S1	07:44:01	57.07703	-6.50950	07:49:19	57.07718	-6.50953	Trackplot
Canna-East	17/08/2018	75	S1	07:56:06	57.07453	-6.51492	08:01:21	57.07463	-6.51545	Trackplot
Canna-East	17/08/2018	76	S1	08:07:47	57.07358	-6.51035	08:13:00	57.07370	-6.51135	Trackplot
Canna-East	17/08/2018	77	S1	08:21:13	57.07400	-6.52375	08:26:30	57.07445	-6.52420	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Canna-East	17/08/2018	78	S1	08:32:58	57.07090	-6.52450	08:38:10	57.07090	-6.52322	Trackplot
Canna-East	17/08/2018	79	S1	08:45:10	57.07140	-6.53243	08:50:29	57.07193	-6.53255	Trackplot
Canna-East	17/08/2018	80	S1	08:57:42	57.07337	-6.52892	09:02:57	57.07382	-6.52890	Trackplot
Canna-West	17/08/2018	81	S1	09:29:37	57.07265	-6.56395	09:35:38	57.07353	-6.56323	Trackplot
Canna-West	17/08/2018	82	S1	09:42:48	57.07053	-6.56738	09:46:33	57.07092	-6.56723	Trackplot
Canna-West	17/08/2018	82	S2	09:46:33	57.07092	-6.56723	09:47:18	57.07103	-6.56713	Trackplot
Canna-West	17/08/2018	82	S3	09:47:18	57.07103	-6.56713	09:50:12	57.07140	-6.56678	Trackplot
Canna-West	17/08/2018	83	S1	09:57:41	57.06802	-6.57007	09:58:44	57.06810	-6.56995	Trackplot
Canna-West	17/08/2018	83	S2	09:58:44	57.06810	-6.56995	09:59:36	57.06823	-6.56980	Trackplot
Canna-West	17/08/2018	83	S3	09:59:36	57.06823	-6.56980	10:01:04	57.06847	-6.56962	Trackplot
Canna-West	17/08/2018	83	S4	10:01:04	57.06847	-6.56962	10:03:06	57.06875	-6.56925	Trackplot
Canna-West	17/08/2018	83	S5	10:03:06	57.06875	-6.56925	10:03:26	57.06878	-6.56918	Trackplot
Canna-West	17/08/2018	84	S1	10:14:37	57.06878	-6.58860	10:17:47	57.06903	-6.58977	Trackplot
Canna-West	17/08/2018	84	S2	10:17:47	57.06903	-6.58977	10:19:05	57.06915	-6.59023	Trackplot
Canna-West	17/08/2018	84	S3	10:19:05	57.06915	-6.59023	10:19:54	57.06920	-6.59053	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Canna-West	17/08/2018	85	S1	10:31:29	57.06737	-6.57915	10:36:40	57.06802	-6.57885	Trackplot
Canna-West	17/08/2018	86	S1	10:45:38	57.06582	-6.57350	10:50:52	57.06638	-6.57310	Trackplot
Canna-West	17/08/2018	87	S1	10:57:51	57.06725	-6.56537	11:03:11	57.06798	-6.56487	Trackplot

Table A2.3

Metadata from Inner Sound and Loch Alsh survey.

'Video Tow no' indicates the transect number, and 'Segment no' indicates different habitats along that transect. Note that 'Trackplot' and 'Waypoint' positions are those derived from the Garmin handheld GPS and 'Overlay' positions are derived from the SD video feed.

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Scalpay	16/07/2018	1	S1	11:13:03	57.35387	-6.10658	11:18:02	57.35407	-6.10657	Overlay
Scalpay	16/07/2018	2	S1	11:37:16	57.35900	-6.10305	11:42:15	57.36025	-6.10278	Waypoints
Scalpay	16/07/2018	3	S1	12:07:57	57.34705	-6.09927	12:10:42	57.34745	-6.10002	Overlay
Scalpay	16/07/2018	3	S2	12:10:42	57.34745	-6.10002	12:11:49	57.34768	-6.10028	Overlay
Scalpay	16/07/2018	3	S3	12:11:49	57.34768	-6.10028	12:12:56	57.34785	-6.10047	Overlay
Scalpay	16/07/2018	4	S1	12:26:45	57.34755	-6.10758	12:31:44	57.34808	-6.10726	Waypoints
Scalpay	16/07/2018	5	S1	13:37:46	57.34587	-6.09942	13:39:21	57.34617	-6.09972	Overlay
Scalpay	16/07/2018	5	S2	13:39:21	57.34617	-6.09972	13:42:21	57.34657	-6.10012	Overlay
Scalpay	16/07/2018	5	S3	13:42:21	57.34657	-6.10012	13:42:45	57.34688	-6.10028	Overlay
Scalpay	16/07/2018	6	S1	14:02:21	57.33833	-6.08932	14:07:20	57.33948	-6.08932	Overlay
Scalpay	16/07/2018	7	S1	14:27:36	57.31910	-6.09466	14:30:23	57.31960	-6.09408	Waypoints

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Scalpay	16/07/2018	8	S1	14:54:21	57.31477	-6.04615	14:59:20	57.31532	-6.04583	Overlay
Scalpay	16/07/2018	9.1	S1	15:17:50	57.30113	-6.03072	15:19:16	57.30143	-6.03065	Trackplot
Scalpay	16/07/2018	9.1	S2	15:19:16	57.30143	-6.03065	15:22:49	57.30205	-6.03078	Trackplot
Scalpay	16/07/2018	9.2	S1	15:23:30	57.30218	-6.03077	15:26:32	57.30278	-6.03085	Trackplot
Scalpay	16/07/2018	9.2	S2	15:26:32	57.30278	-6.03085	15:28:29	57.30317	-6.03102	Trackplot
Scalpay	16/07/2018	10.1	S1	15:41:23	57.30047	-6.03315	15:43:13	57.30072	-6.03322	Trackplot
Scalpay	16/07/2018	10.1	S2	15:43:13	57.30072	-6.03322	15:46:22	57.30112	-6.03337	Trackplot
Scalpay	16/07/2018	10.2	S1	15:47:03	57.30122	-6.03340	15:49:11	57.30148	-6.03352	Trackplot
Scalpay	16/07/2018	10.2	S2	15:49:11	57.30148	-6.03352	15:52:02	57.30195	-6.03363	Trackplot
Scalpay	16/07/2018	11	S1	16:07:27	57.29577	-6.03578	16:12:26	57.29638	-6.03542	Trackplot
Scalpay	16/07/2018	12	S1	16:25:50	57.28647	-6.03725	16:30:49	57.28695	-6.03740	Trackplot
Scalpay	16/07/2018	13	S1	16:46:22	57.28527	-6.00878	16:51:21	57.28530	-6.00843	Trackplot
Crowlins	17/07/2018	14	S1	12:39:07	57.34528	-5.78293	12:43:46	57.34573	-5.78270	Trackplot
Crowlins	17/07/2018	15	S1	12:58:09	57.35518	-5.80257	13:02:24	57.35577	-5.80278	Trackplot
Crowlins	17/07/2018	16	S1	13:13:32	57.36518	-5.80865	13:20:06	57.36587	-5.80865	Trackplot
Crowlins	17/07/2018	17	S1	13:29:41	57.35913	-5.81522	13:34:25	57.35972	-5.81530	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Crowlins	17/07/2018	18	S1	13:44:44	57.36515	-5.82540	13:48:59	57.36563	-5.82518	Trackplot
Crowlins	17/07/2018	19	S1	13:59:27	57.37598	-5.83025	14:00:18	57.37617	-5.83018	Trackplot
Crowlins	17/07/2018	19	S2	14:00:18	57.37617	-5.83018	14:04:17	57.37692	-5.83043	Trackplot
Crowlins	17/07/2018	20	S1	14:13:21	57.38073	-5.83785	14:18:43	57.38078	-5.83778	Trackplot
Crowlins	17/07/2018	21	S1	14:30:11	57.39195	-5.83805	14:35:24	57.39203	-5.83770	Trackplot
Crowlins	17/07/2018	22	S1	14:51:37	57.39465	-5.84515	14:56:30	57.39535	-5.84463	Trackplot
Crowlins	17/07/2018	23	S1	15:13:28	57.37588	-5.85237	15:14:41	57.37610	-5.85217	Trackplot
Crowlins	17/07/2018	23	S2	15:14:41	57.37610	-5.85217	15:18:26	57.37668	-5.85170	Trackplot
Crowlins	17/07/2018	23	S3	15:18:26	57.37668	-5.85170	15:18:56	57.37678	-5.85163	Trackplot
Crowlins	17/07/2018	24	S1	15:30:37	57.36532	-5.85893	15:36:04	57.36573	-5.85832	Trackplot
Crowlins	17/07/2018	25	S1	15:51:02	57.35335	-5.84025	15:56:26	57.35378	-5.84002	Trackplot
Crowlins	17/07/2018	26	S1	16:08:01	57.34728	-5.82492	16:13:47	57.34777	-5.82517	Trackplot
Crowlins	18/07/2018	27	S1	08:31:13	57.33822	-5.81722	08:36:58	57.33843	-5.81720	Trackplot
Crowlins	18/07/2018	28	S1	08:54:47	57.33333	-5.84545	09:00:35	57.33352	-5.84583	Trackplot
Crowlins	18/07/2018	29	S1	09:13:38	57.34582	-5.85393	09:18:25	57.34582	-5.85418	Trackplot
Crowlins	18/07/2018	30	S1	09:32:08	57.35718	-5.85973	09:37:56	57.35728	-5.85987	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Applecross	18/07/2018	31	S1	10:09:14	57.40613	-5.83977	10:15:16	57.40617	-5.83947	Trackplot
Applecross	18/07/2018	32	S1	10:31:25	57.42123	-5.82885	10:36:36	57.42120	-5.82955	Trackplot
Applecross	18/07/2018	33	S1	10:52:04	57.43888	-5.84368	10:57:19	57.43848	-5.84395	Trackplot
Applecross	18/07/2018	34	S1	11:08:07	57.44090	-5.85487	11:12:48	57.44123	-5.85525	Trackplot
Applecross	18/07/2018	35	S1	11:26:36	57.45270	-5.86605	11:31:43	57.45317	-5.86612	Trackplot
Applecross	18/07/2018	36	S1	11:40:34	57.45805	-5.87427	11:45:29	57.45865	-5.87452	Trackplot
Applecross	18/07/2018	37	S1	11:53:44	57.46357	-5.87257	11:56:32	57.46390	-5.87252	Trackplot
Applecross	18/07/2018	37	S2	11:56:32	57.46390	-5.87252	11:58:38	57.46417	-5.87250	Trackplot
Applecross	18/07/2018	38	S1	12:22:34	57.49898	-5.89183	12:27:23	57.49993	-5.89163	Trackplot
Applecross	18/07/2018	39	S1	12:37:14	57.50767	-5.88507	12:40:05	57.50827	-5.88497	Trackplot
Applecross	18/07/2018	39	S2	12:40:05	57.50827	-5.88497	12:41:53	57.50858	-5.88502	Trackplot
Applecross	18/07/2018	39	S3	12:41:53	57.50858	-5.88502	12:42:19	57.50867	-5.88502	Trackplot
Applecross	18/07/2018	40	S1	12:56:32	57.51990	-5.87267	13:01:22	57.52057	-5.87275	Trackplot
Applecross	18/07/2018	41	S1	13:08:39	57.52442	-5.86818	13:13:21	57.52492	-5.86797	Trackplot
Applecross	18/07/2018	42	S1	13:34:18	57.50432	-5.89037	13:39:55	57.50557	-5.89028	Trackplot
E Scalpay	18/07/2018	43	S1	15:11:50	57.33919	-5.93762	15:13:45	57.33930	-5.93752	Waypoints

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
E Scalpay	18/07/2018	43	S2	15:13:45	57.33930	-5.93752	15:16:39	57.33945	-5.93738	Waypoints
E Scalpay	18/07/2018	44	S1	15:34:45	57.32650	-5.97555	15:39:24	57.32664	-5.97580	Waypoints
E Scalpay	18/07/2018	45	S1	15:53:15	57.32702	-5.94482	15:58:20	57.32696	-5.94447	Waypoints
Kyleakin	19/07/2018	46	S1	07:44:09	57.27588	-5.74983	07:47:01	57.27608	-5.75137	Trackplot
Kyleakin	19/07/2018	47	S1	07:55:54	57.27760	-5.75873	07:58:22	57.27805	-5.75975	Trackplot
E Scalpay	19/07/2018	48	S1	08:50:14	57.32268	-5.89850	08:52:06	57.32295	-5.89832	Trackplot
E Scalpay	19/07/2018	48	S2	08:52:06	57.32295	-5.89832	08:54:47	57.32330	-5.89808	Trackplot
E Scalpay	19/07/2018	49	S1	09:12:53	57.30957	-5.90357	09:16:18	57.30997	-5.90343	Trackplot
E Scalpay	19/07/2018	49	S2	09:16:22	57.30997	-5.90343	09:18:16	57.31020	-5.90338	Trackplot
Kyleakin	19/07/2018	50	S1	10:05:52	57.28333	-5.76117	10:06:35	57.28350	-5.76112	Trackplot
Kyleakin	19/07/2018	50	S2	10:09:42	57.28425	-5.76037	10:11:14	57.28443	-5.76010	Trackplot
Kyleakin	19/07/2018	50	S3	10:11:14	57.28443	-5.76010	10:15:10	57.28498	-5.75962	Trackplot
Kyleakin	19/07/2018	51	S1	10:24:52	57.28275	-5.75995	10:29:18	57.28353	-5.75918	Trackplot
Kyleakin	19/07/2018	52	S1	10:43:00	57.28233	-5.75920	10:47:14	57.28310	-5.75852	Trackplot
Kyleakin	19/07/2018	53	S1	10:54:07	57.28075	-5.76223	10:58:59	57.28148	-5.76218	Trackplot
Kyleakin	19/07/2018	54	S1	11:08:23	57.28212	-5.76315	11:10:46	57.28257	-5.76295	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Kyleakin	19/07/2018	54	S2	11:10:46	57.28257	-5.76295	11:13:43	57.28312	-5.76270	Trackplot
E Scalpay	19/07/2018	55	S1	12:07:55	57.29538	-5.87557	12:09:55	57.29547	-5.87593	Trackplot
E Scalpay	19/07/2018	55	S2	12:09:55	57.29547	-5.87593	12:10:15	57.29552	-5.87583	Trackplot
E Scalpay	19/07/2018	55	S3	12:10:15	57.29552	-5.87583	12:11:19	57.29567	-5.87550	Trackplot
E Scalpay	19/07/2018	55	S4	12:11:19	57.29567	-5.87550	12:13:20	57.29592	-5.87530	Trackplot
E Scalpay	19/07/2018	56	S1	12:56:53	57.32875	-5.98955	13:01:16	57.32932	-5.98865	Trackplot
E Scalpay	19/07/2018	57	S1	13:19:19	57.33048	-5.94560	13:23:12	57.33115	-5.94557	Trackplot
E Scalpay	19/07/2018	58	S1	13:41:25	57.31930	-5.93675	13:43:32	57.31976	-5.93684	Waypoints
E Scalpay	19/07/2018	58	S2	13:43:32	57.31976	-5.93684	13:45:25	57.32018	-5.93693	Waypoints
E Scalpay	19/07/2018	58	S3	13:45:25	57.32018	-5.93693	13:46:32	57.32043	-5.93698	Waypoints
E Scalpay	19/07/2018	59	S1	13:59:12	57.32282	-5.91618	14:01:05	57.32313	-5.91603	Trackplot
E Scalpay	19/07/2018	59	S2	14:01:05	57.32313	-5.91603	14:04:43	57.32375	-5.91595	Trackplot
E Scalpay	19/07/2018	60	S1	14:34:20	57.29420	-5.91832	14:36:17	57.29445	-5.91815	Trackplot
E Scalpay	19/07/2018	60	S2	14:36:17	57.29445	-5.91815	14:38:44	57.29480	-5.91798	Trackplot
E Scalpay	19/07/2018	60	S3	14:38:44	57.29480	-5.91798	14:39:11	57.29487	-5.91798	Trackplot
E Scalpay	19/07/2018	61	S1	15:04:48	57.27130	-5.94592	15:05:46	57.27147	-5.94570	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
E Scalpay	19/07/2018	61	S2	15:05:46	57.27147	-5.94570	15:07:43	57.27175	-5.94548	Trackplot
E Scalpay	19/07/2018	61	S3	15:07:43	57.27175	-5.94548	15:09:13	57.27193	-5.94510	Trackplot
E Scalpay	19/07/2018	62	S1	15:18:15	57.27520	-5.93532	15:23:59	57.27637	-5.93438	Trackplot
E Scalpay	19/07/2018	63	S1	15:32:25	57.27977	-5.92073	15:33:40	57.28003	-5.92048	Trackplot
E Scalpay	19/07/2018	63	S2	15:33:40	57.28003	-5.92048	15:34:37	57.28023	-5.92037	Trackplot
E Scalpay	19/07/2018	63	S3	15:34:37	57.28023	-5.92037	15:36:22	57.28055	-5.91993	Trackplot
E Scalpay	19/07/2018	63	S4	15:36:22	57.28055	-5.91993	15:37:09	57.28073	-5.91977	Trackplot
E Scalpay	19/07/2018	64	S1	15:46:53	57.27618	-5.92633	15:48:52	57.27657	-5.92607	Trackplot
E Scalpay	19/07/2018	64	S2	15:48:52	57.27657	-5.92607	15:52:18	57.27722	-5.92548	Trackplot
E Scalpay	19/07/2018	65	S1	16:10:07	57.28382	-5.87665	16:10:42	57.28395	-5.87653	Trackplot
E Scalpay	19/07/2018	65	S2	16:10:42	57.28395	-5.87653	16:12:38	57.28432	-5.87645	Trackplot
E Scalpay	19/07/2018	65	S3	16:12:38	57.28432	-5.87645	16:15:30	57.28492	-5.87618	Trackplot
E Scalpay	19/07/2018	65	S4	16:15:30	57.28492	-5.87618	16:16:35	57.28517	-5.87610	Trackplot
Kyleakin	20/07/2018	66	S1	10:51:56	57.28203	-5.76372	10:55:40	57.28277	-5.76433	Trackplot
Kyleakin	20/07/2018	66	S2	10:55:40	57.28277	-5.76433	10:55:52	57.28280	-5.76437	Trackplot
Kyleakin	20/07/2018	67	S1	11:05:10	57.28023	-5.75845	11:14:49	57.28122	-5.75902	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Kyleakin	20/07/2018	67	S2	11:14:49	57.28122	-5.75902	11:36:47	57.28303	-5.75878	Trackplot
Kyleakin	20/07/2018	68	S1	12:07:41	57.28088	-5.75702	12:23:30	57.28213	-5.75688	Trackplot
Kyleakin	20/07/2018	69	S1	12:32:13	57.28188	-5.75207	12:37:38	57.28215	-5.75152	Trackplot
Kyleakin	20/07/2018	70	S1	12:48:07	57.28213	-5.75355	12:57:15	57.28220	-5.75235	Trackplot
Kyleakin	20/07/2018	71	S1	13:04:57	57.28040	-5.75210	13:09:15	57.28038	-5.75165	Trackplot
Kyleakin	20/07/2018	72	S1	13:21:27	57.27843	-5.75315	13:30:17	57.27793	-5.75153	Trackplot
Loch Alsh	20/07/2018	73	S1	14:28:53	57.27555	-5.66240	14:34:42	57.27570	-5.66148	Trackplot
Loch Alsh	20/07/2018	74	S1	14:53:03	57.27968	-5.64833	14:57:51	57.27990	-5.64747	Trackplot
Loch Alsh	20/07/2018	75	S1	15:32:51	57.27382	-5.67145	15:34:01	57.27390	-5.67130	Trackplot
Loch Alsh	20/07/2018	75	S2	15:34:01	57.27390	-5.67130	15:37:53	57.27405	-5.67063	Trackplot
Loch Alsh	20/07/2018	76	S1	15:55:36	57.27412	-5.68428	16:04:07	57.27412	-5.68228	Trackplot

Table A2.4

Metadata from South Arran and Clyde Sea survey.

'Video Tow no' indicates the transect number, and 'Segment no' indicates different habitats along that transect. Note that 'Trackplot' and 'Waypoint' positions are those derived from the Garmin handheld GPS and 'Overlay' positions are derived from the SD video feed.

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Holy Island North	02/09/2018	1	S1	11:12:47	55.53443	-5.07052	11:18:52	55.53605	-5.07277	Trackplot
Holy Island North	02/09/2018	2	S1	11:23:43	55.53593	-5.07383	11:30:09	55.53672	-5.07588	Trackplot
Holy Island North	02/09/2018	3	S1	11:33:15	55.53715	-5.07465	11:40:32	55.53782	-5.07673	Trackplot
Holy Island North	02/09/2018	4	S1	11:43:57	55.53880	-5.07692	11:51:09	55.53973	-5.07818	Trackplot
Holy Island North	02/09/2018	5	S1	11:55:19	55.53917	-5.07990	11:56:17	55.53927	-5.07953	Overlay
Holy Island North	02/09/2018	5	S2	11:56:17	55.53927	-5.07953	11:59:16	55.53968	-5.07942	Overlay
Holy Island North	02/09/2018	5	S3	11:59:16	55.53968	-5.07942	12:02:32	55.54008	-5.07937	Overlay
Holy Island North	02/09/2018	6	S1	12:06:07	55.54070	-5.07940	12:09:29	55.54122	-5.07922	Overlay
Holy Island North	02/09/2018	6	S2	12:09:29	55.54122	-5.07922	12:13:12	55.54183	-5.07897	Overlay
Sannox North of Brodick	02/09/2018	7	S1	13:14:51	55.65320	-5.14277	13:20:28	55.65468	-5.14357	Trackplot
Sannox North of Brodick	02/09/2018	8	S1	13:26:04	55.65657	-5.14548	13:31:28	55.65783	-5.14648	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Sannox North of Brodick	02/09/2018	9	S1	13:36:15	55.65952	-5.14623	13:40:21	55.66045	-5.14657	Trackplot
Sannox North of Brodick	02/09/2018	10	S1	13:45:03	55.66192	-5.14613	13:50:15	55.66293	-5.14720	Trackplot
Sannox North of Brodick	02/09/2018	11	S1	13:54:59	55.66433	-5.14818	14:00:22	55.66562	-5.14902	Trackplot
Sannox North of Brodick	02/09/2018	12	S1	14:08:51	55.65992	-5.14365	14:14:26	55.66095	-5.14478	Trackplot
North Brodick	02/09/2018	13	S1	14:52:24	55.62837	-5.13083	14:58:48	55.62978	-5.13117	Trackplot
North Brodick	02/09/2018	14	S1	15:05:53	55.62503	-5.12952	15:13:01	55.62638	-5.12973	Trackplot
North Brodick	02/09/2018	15	S1	15:19:10	55.62210	-5.12843	15:26:33	55.62340	-5.12825	Trackplot
North Brodick	02/09/2018	16	S1	15:32:12	55.61922	-5.12823	15:40:05	55.62055	-5.12852	Trackplot
North Brodick	02/09/2018	17	S1	15:46:18	55.61572	-5.12637	15:48:32	55.61607	-5.12630	Trackplot
North Brodick	02/09/2018	17	S2	15:48:32	55.61607	-5.12630	15:51:41	55.61662	-5.12637	Trackplot
North Brodick	02/09/2018	17	S3	15:51:41	55.61662	-5.12637	15:53:46	55.61698	-5.12635	Trackplot
North Brodick	02/09/2018	18	S1	15:59:38	55.61232	-5.12515	16:06:48	55.61312	-5.12477	Trackplot
North Brodick	02/09/2018	19	S1	16:11:13	55.61012	-5.12492	16:19:14	55.61082	-5.12460	Trackplot
North Brodick	02/09/2018	20	S1	16:23:44	55.60727	-5.12417	16:31:43	55.60793	-5.12372	Trackplot
East Pladda	03/09/2018	21	S1	09:01:09	55.44312	-5.09363	09:09:24	55.44257	-5.09500	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
East Pladda	03/09/2018	22	S1	09:14:12	55.44153	-5.09672	09:22:45	55.44120	-5.09763	Trackplot
East Pladda	03/09/2018	23	S1	09:27:18	55.43952	-5.10030	09:35:53	55.43943	-5.10145	Trackplot
East Pladda	03/09/2018	24	S1	09:40:00	55.43770	-5.10422	09:48:33	55.43802	-5.10465	Trackplot
East Pladda	03/09/2018	25	S1	09:54:22	55.43373	-5.10382	10:03:08	55.43335	-5.10532	Trackplot
East Pladda	03/09/2018	26	S1	10:07:51	55.43482	-5.10655	10:16:22	55.43495	-5.10758	Trackplot
East Pladda	03/09/2018	27	S1	10:19:53	55.43455	-5.11037	10:28:33	55.43462	-5.11025	Trackplot
East Pladda	03/09/2018	28	S1	10:33:29	55.43533	-5.11172	10:41:58	55.43527	-5.11107	Trackplot
East Pladda	03/09/2018	29	S1	11:06:21	55.43040	-5.11515	11:09:49	55.43017	-5.11475	Trackplot
East Pladda	03/09/2018	29	S2	11:09:49	55.43017	-5.11475	11:14:42	55.42985	-5.11430	Trackplot
East Pladda	03/09/2018	30	S1	11:19:07	55.43253	-5.11287	11:27:24	55.43217	-5.11223	Trackplot
West Pladda	03/09/2018	31	S1	12:22:23	55.43615	-5.12957	12:25:15	55.43588	-5.12880	Trackplot
West Pladda	03/09/2018	31	S2	12:25:15	55.43588	-5.12880	12:29:42	55.43562	-5.12750	Trackplot
West Pladda	03/09/2018	32	S1	13:29:40	55.43228	-5.12867	13:35:59	55.43143	-5.12763	Trackplot
West Pladda	03/09/2018	33	S1	13:41:50	55.43392	-5.12677	13:49:40	55.43305	-5.12580	Trackplot
West Pladda	03/09/2018	34	S1	13:56:47	55.43442	-5.12947	14:05:16	55.43318	-5.12792	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
West Pladda	03/09/2018	35	S1	14:11:09	55.43520	-5.12700	14:19:15	55.43443	-5.12638	Overlay
West Pladda	03/09/2018	36	S1	14:24:02	55.43623	-5.12388	14:31:09	55.43543	-5.12392	Overlay
West Pladda	03/09/2018	37	S1	14:35:04	55.43410	-5.12423	14:41:34	55.43382	-5.12420	Overlay
West Pladda	03/09/2018	37	S2	14:41:34	55.43382	-5.12420	14:43:19	55.43362	-5.12423	Overlay
West Pladda	03/09/2018	38	S1	14:47:28	55.43288	-5.12328	14:55:45	55.43230	-5.12413	Overlay
West Pladda	03/09/2018	39	S1	15:01:28	55.43593	-5.12057	15:09:04	55.43550	-5.12095	Trackplot
Iron Ledges	04/09/2018	40	S1	10:12:00	55.45588	-5.32700	10:17:21	55.45637	-5.32718	Trackplot
Iron Ledges	04/09/2018	41	S1	10:25:27	55.44887	-5.32555	10:30:35	55.44942	-5.32602	Trackplot
Iron Ledges	04/09/2018	42	S1	10:37:21	55.44470	-5.32037	10:42:37	55.44525	-5.32098	Trackplot
Iron Ledges	04/09/2018	43	S1	10:48:19	55.44490	-5.31417	10:55:30	55.44533	-5.31507	Trackplot
Iron Ledges	04/09/2018	44	S1	11:02:02	55.44025	-5.31647	11:07:59	55.44080	-5.31727	Trackplot
Iron Ledges	04/09/2018	45	S1	11:14:51	55.44150	-5.30683	11:23:01	55.44208	-5.30768	Trackplot
Iron Ledges	04/09/2018	46	S1	11:28:55	55.43958	-5.30207	11:37:12	55.44022	-5.30302	Trackplot
Iron Ledges	04/09/2018	47	S1	11:44:12	55.43528	-5.30930	11:49:36	55.43568	-5.30992	Trackplot
Iron Ledges	04/09/2018	48	S1	11:55:24	55.43705	-5.30243	12:03:37	55.43803	-5.30303	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Iron Ledges	04/09/2018	49	S1	12:09:18	55.43853	-5.29537	12:17:25	55.43923	-5.29592	Trackplot
Iron Ledges	04/09/2018	50	S1	12:21:39	55.43990	-5.29168	12:29:37	55.44058	-5.29182	Trackplot
Iron Ledges	04/09/2018	51	S1	12:35:32	55.43723	-5.28687	12:43:59	55.43805	-5.28703	Trackplot
Iron Ledges	04/09/2018	52	S1	12:51:15	55.43673	-5.29455	12:59:29	55.43740	-5.29467	Trackplot
Iron Ledges	04/09/2018	53	S1	13:06:46	55.43253	-5.30025	13:12:12	55.43282	-5.30050	Trackplot
Iron Ledges	04/09/2018	54	S1	13:18:51	55.43180	-5.28923	13:24:23	55.43205	-5.28947	Trackplot
Iron Ledges	04/09/2018	55	S1	13:30:44	55.43247	-5.27892	13:36:11	55.43270	-5.27877	Trackplot
Holy Island South	04/09/2018	56	S1	15:05:35	55.50573	-5.06593	15:13:57	55.50628	-5.06585	Trackplot
Holy Island South	04/09/2018	57	S1	15:19:30	55.50648	-5.06253	15:22:12	55.50675	-5.06257	Trackplot
Holy Island South	04/09/2018	57	S2	15:22:12	55.50675	-5.06257	15:24:38	55.50695	-5.06247	Trackplot
Holy Island South	04/09/2018	57	S3	15:24:38	55.50695	-5.06247	15:27:41	55.50717	-5.06232	Trackplot
Holy Island South	04/09/2018	58	S1	15:31:33	55.50805	-5.06565	15:40:05	55.50867	-5.06548	Trackplot
Holy Island South	04/09/2018	59	S1	15:44:34	55.51003	-5.06427	15:52:42	55.51028	-5.06357	Trackplot
Holy Island South	04/09/2018	60	S1	15:57:06	55.50985	-5.06748	16:05:18	55.51023	-5.06725	Trackplot
Holy Island South	04/09/2018	61	S1	16:11:16	55.50870	-5.06168	16:19:29	55.50915	-5.06137	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Holy Island South	04/09/2018	62	S1	16:24:01	55.51018	-5.05862	16:32:12	55.51055	-5.05755	Trackplot
Holy Island South	04/09/2018	63	S1	16:36:22	55.51078	-5.06150	16:44:35	55.51107	-5.06055	Trackplot
Holy Island South	04/09/2018	64	S1	16:47:28	55.51228	-5.05943	16:55:35	55.51273	-5.05888	Trackplot
Holy Island South	04/09/2018	65	S1	16:59:10	55.51390	-5.05787	17:07:18	55.51388	-5.05808	Overlay
Holy Island South	04/09/2018	66	S1	17:13:25	55.51638	-5.05718	17:21:30	55.51605	-5.05687	Trackplot
Inchmarnock	05/09/2018	67	S1	08:52:32	55.72205	-5.02255	08:58:02	55.72220	-5.02387	Trackplot
Inchmarnock	05/09/2018	68	S1	09:10:56	55.72685	-5.04317	09:14:43	55.72712	-5.04378	Trackplot
Inchmarnock	05/09/2018	69	S1	09:26:17	55.73767	-5.05705	09:31:27	55.73840	-5.05767	Trackplot
Inchmarnock	05/09/2018	70	S1	09:36:23	55.74328	-5.06103	09:41:32	55.74423	-5.06178	Trackplot
Inchmarnock	05/09/2018	71	S1	09:48:09	55.75288	-5.06558	09:53:21	55.75387	-5.06608	Trackplot
Inchmarnock	05/09/2018	72	S1	09:58:02	55.75563	-5.06798	10:03:10	55.75647	-5.06852	Trackplot
Inchmarnock	05/09/2018	73	S1	10:07:59	55.75923	-5.07533	10:13:13	55.76030	-5.07608	Trackplot
Inchmarnock	05/09/2018	74	S1	10:18:48	55.76335	-5.08530	10:20:53	55.76373	-5.08575	Trackplot
Inchmarnock	05/09/2018	74	S2	10:20:53	55.76373	-5.08575	10:23:54	55.76428	-5.08605	Trackplot
Inchmarnock	05/09/2018	75	S1	10:31:57	55.76740	-5.09435	10:33:05	55.76755	-5.09458	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Inchmarnock	05/09/2018	75	S2	10:33:05	55.76755	-5.09458	10:37:07	55.76818	-5.09528	Trackplot
Inchmarnock	05/09/2018	76	S1	10:43:44	55.77060	-5.10657	10:49:01	55.77105	-5.10703	Trackplot
Inchmarnock	05/09/2018	77	S1	10:55:30	55.76562	-5.11307	11:00:40	55.76597	-5.11380	Trackplot
Inchmarnock	05/09/2018	78	S1	11:11:50	55.77288	-5.13835	11:17:00	55.77312	-5.13795	Trackplot
Inchmarnock	05/09/2018	79	S1	11:24:15	55.77360	-5.12490	11:29:28	55.77377	-5.12427	Trackplot
Inchmarnock	05/09/2018	80	S1	11:38:50	55.77980	-5.14410	11:44:01	55.78007	-5.14405	Trackplot
Inchmarnock	05/09/2018	81	S1	11:51:41	55.78477	-5.12978	11:56:55	55.78490	-5.12940	Trackplot
Inchmarnock	05/09/2018	82	S1	12:02:38	55.79108	-5.13343	12:07:51	55.79115	-5.13338	Trackplot
Inchmarnock	05/09/2018	83	S1	12:53:45	55.79142	-5.14922	12:59:56	55.79157	-5.14958	Trackplot
Inchmarnock	05/09/2018	84	S1	13:09:49	55.79850	-5.12880	13:14:57	55.79853	-5.12840	Trackplot
Inchmarnock	05/09/2018	85	S1	13:24:47	55.80200	-5.14777	13:30:05	55.80238	-5.14782	Trackplot
Inchmarnock	05/09/2018	86	S1	13:38:24	55.81192	-5.14658	13:43:32	55.81203	-5.14615	Overlay
Inchmarnock	05/09/2018	87	S1	14:07:37	55.84160	-5.19820	14:12:50	55.84180	-5.19825	Trackplot
Inchmarnock	05/09/2018	88	S1	14:20:03	55.83567	-5.19473	14:25:15	55.83582	-5.19418	Trackplot
Inchmarnock	05/09/2018	89	S1	14:31:42	55.83017	-5.19733	14:36:59	55.83038	-5.19675	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Inchmarnock	05/09/2018	90	S1	14:47:26	55.82490	-5.20348	14:51:36	55.82527	-5.20268	Trackplot
Inchmarnock	05/09/2018	90	S2	14:51:36	55.82527	-5.20268	14:52:37	55.82537	-5.20243	Trackplot
Inchmarnock	05/09/2018	91	S1	14:59:14	55.82467	-5.21343	15:04:16	55.82507	-5.21217	Trackplot
Inchmarnock	05/09/2018	92	S1	15:10:44	55.82700	-5.22223	15:15:52	55.82738	-5.22153	Overlay
Inchmarnock	05/09/2018	93	S1	15:24:20	55.83542	-5.22948	15:29:27	55.83590	-5.22902	Trackplot
Inchmarnock	05/09/2018	94	S1	15:38:35	55.83590	-5.24570	15:43:40	55.83655	-5.24553	Trackplot
Inchmarnock	05/09/2018	95	S1	16:13:50	55.80665	-5.16390	16:19:00	55.80702	-5.16345	Trackplot
Inchmarnock	05/09/2018	96	S1	16:26:22	55.80178	-5.16975	16:31:32	55.80233	-5.16917	Trackplot
Inchmarnock	06/09/2018	97	S1	09:24:16	55.77268	-5.15453	09:29:32	55.77242	-5.15357	Trackplot
Inchmarnock	06/09/2018	98	S1	09:37:17	55.77668	-5.16303	09:42:30	55.77623	-5.16227	Trackplot
Inchmarnock	06/09/2018	99	S1	09:49:28	55.78195	-5.16827	09:54:36	55.78130	-5.16757	Trackplot
Inchmarnock	06/09/2018	101	S1	10:25:14	55.79550	-5.17062	10:30:30	55.79528	-5.17055	Trackplot
Skipness	06/09/2018	102	S1	11:19:11	55.77188	-5.31290	11:24:28	55.77135	-5.31297	Trackplot
Skipness	06/09/2018	103	S1	11:29:16	55.76988	-5.31695	11:34:27	55.76953	-5.31653	Trackplot
Skipness	06/09/2018	104	S1	11:38:40	55.76688	-5.31852	11:43:50	55.76658	-5.31802	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Skipness	06/09/2018	105	S1	11:47:59	55.76457	-5.32175	11:53:13	55.76432	-5.32163	Trackplot
Skipness	06/09/2018	106	S1	11:57:33	55.76247	-5.32432	12:03:48	55.76250	-5.32438	Overlay
Skipness	06/09/2018	107	S1	12:08:35	55.76138	-5.32465	12:16:24	55.76052	-5.32523	Overlay
Skipness	06/09/2018	108	S1	12:22:48	55.76140	-5.32325	12:27:59	55.76112	-5.32225	Trackplot
Skipness	06/09/2018	109	S1	12:32:22	55.76170	-5.32548	12:39:40	55.76115	-5.32708	Trackplot
Skipness	06/09/2018	110	S1	12:45:03	55.76203	-5.32710	12:50:11	55.76195	-5.32505	Trackplot
Skipness	06/09/2018	111	S1	13:07:36	55.76185	-5.34198	13:12:56	55.76128	-5.34107	Trackplot
Skipness	06/09/2018	112	S1	13:17:40	55.76258	-5.34547	13:22:49	55.76230	-5.34420	Trackplot
Skipness	06/09/2018	113	S1	13:27:33	55.76312	-5.33792	13:32:40	55.76293	-5.33648	Overlay
Skipness	06/09/2018	114	S1	13:36:53	55.76145	-5.33200	13:39:58	55.76117	-5.33102	Overlay
Lochranza	06/09/2018	115	S1	14:16:37	55.70858	-5.30678	14:20:47	55.70863	-5.30517	Overlay
Lochranza	06/09/2018	116	S1	14:30:24	55.71697	-5.29302	14:34:25	55.71747	-5.29167	Overlay
Lochranza	06/09/2018	117	S1	14:42:33	55.72165	-5.27695	14:47:41	55.72157	-5.27450	Overlay
Whiting Bay	07/09/2018	118	S1	07:35:12	55.50177	-5.08263	07:40:24	55.50177	-5.08215	Trackplot
Whiting Bay	07/09/2018	119	S1	07:44:39	55.50033	-5.08458	07:47:23	55.50028	-5.08447	Overlay

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Whiting Bay	07/09/2018	119	S2	07:47:23	55.50028	-5.08447	07:50:02	55.50017	-5.08427	Overlay
Whiting Bay	07/09/2018	120	S1	07:53:54	55.49835	-5.08747	07:59:06	55.49805	-5.08703	Trackplot
Whiting Bay	07/09/2018	121	S1	08:01:51	55.49718	-5.08842	08:05:40	55.49680	-5.08788	Trackplot
Whiting Bay	07/09/2018	122	S1	08:11:52	55.49438	-5.08918	08:19:18	55.49410	-5.08833	Trackplot
Whiting Bay	07/09/2018	123	S1	08:22:36	55.49303	-5.09003	08:23:33	55.49262	-5.09015	Trackplot
Whiting Bay	07/09/2018	123	S2	08:23:33	55.49262	-5.09015	08:27:17	55.49245	-5.08875	Trackplot
Whiting Bay	07/09/2018	123	S3	08:27:17	55.49245	-5.08875	08:27:57	55.49253	-5.08865	Trackplot
Whiting Bay	07/09/2018	124	S1	08:31:50	55.49022	-5.09060	08:37:04	55.48970	-5.09040	Trackplot
Whiting Bay	07/09/2018	125	S1	08:40:15	55.48787	-5.09055	08:45:53	55.48732	-5.09025	Trackplot
Whiting Bay	07/09/2018	126	S1	08:48:42	55.48612	-5.09037	08:54:09	55.48548	-5.08980	Trackplot
Whiting Bay	07/09/2018	127	S1	08:56:53	55.48393	-5.08930	08:59:23	55.48363	-5.08872	Overlay
Whiting Bay	07/09/2018	127	S2	08:59:23	55.48363	-5.08872	09:02:09	55.48338	-5.08867	Overlay
Whiting Bay	07/09/2018	128	S1	09:06:45	55.47960	-5.08592	09:12:04	55.47880	-5.08583	Trackplot
Whiting Bay	07/09/2018	129	S1	09:15:16	55.47773	-5.08517	09:20:24	55.47723	-5.08497	Trackplot
Whiting Bay	07/09/2018	130	S1	09:25:14	55.47572	-5.08335	09:30:34	55.47542	-5.08247	Trackplot

Site Name	Date	Video Tow no.	Segment no.	Start Time UTC	Start Lat (WGS84)	Start Lon (WGS84)	End Time UTC	End Lat (WGS84)	End Lon (WGS84)	Position derived from
Whiting Bay	07/09/2018	131	S1	09:34:50	55.47370	-5.08262	09:40:42	55.47327	-5.08272	Trackplot
Whiting Bay	07/09/2018	132	S1	09:44:27	55.47208	-5.08225	09:49:52	55.47193	-5.08148	Trackplot
Whiting Bay	07/09/2018	133	S1	09:55:17	55.46970	-5.07995	10:00:58	55.46967	-5.07893	Trackplot
Whiting Bay	07/09/2018	134	S1	10:04:35	55.46827	-5.07862	10:10:08	55.46823	-5.07753	Trackplot

Appendix 3

Summary of the results of the video analysis for each MPA

Table A3.1

Summary of the results of the video analysis for Wester Ross.

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
1	S1	Wester Ross	Slightly mixed gravelly sediment and scattered cobbles and boulders with sparse kelps, patchy filamentous red seaweeds and *Cerianthus lloydii*	SS.SMp.KSwSS.SlatR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
2	S1	Wester Ross	*Saccharina latissima* and patchy red seaweeds on gravelly sediment and scattered cobbles and boulders	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
3	S1	Wester Ross	Filamentous red seaweeds and sparse *Saccharina latissima* on gravelly sediment	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
4	S1	Wester Ross	Gravelly mixed sediment with *Cerianthus lloydii*, *Munida rugosa* and sparse seaweeds	SS.SMx.CMx.CIloMx	
5	S1	Wester Ross	Gravelly mixed sediment with *Cerianthus lloydii* and sparse seaweeds	SS.SMx.CMx.CIloMx	
6	S1	Wester Ross	Slightly mixed gravelly sediment with patchy seaweeds and *Cerianthus lloydii*	SS.SMp.KSwSS.SlatR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
6	S2	Wester Ross	Red filamentous seaweeds and sparse kelps on rock	IR.HIR.KSed.SlatSac	
6	S3	Wester Ross	Kelp on bedrock	IR.HIR.KSed	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
7	S1	Wester Ross	*Cerianthus lloydii* in burrowed mixed sediment with *Pennatula phosphorea*, *Munida rugosa* and sparse seaweeds	SS.SMx.CMx.CIloMx	
8	S1	Wester Ross	Cobbles, pebbles and small boulders overlying sand with echinoderms and crustose communities	CR.MCR.EcCr.FaAlCr.Spi	
8	S2	Wester Ross	Coarse sand and shell, gravel and pebbles with sparse biota	SS.SCS.ICS	
9	S1	Wester Ross	Coarse sand, gravel, pebbles and shell with patchy seaweeds and kelp; some exposed rock toward end of line	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
10	S1	Wester Ross	Cobbles and boulders overlying coarse sediment with echinoderms and crustose communities	CR.MCR.EcCr.FaAlCr	
10	S2	Wester Ross	Coarse sediment and shell with scattered cobbles and small boulders	SS.SCS.CCS	
10	S3	Wester Ross	Patchy cobbles and boulders overlying coarse sediment with echinoderms and crustose communities	CR.MCR.EcCr.FaAlCr	
11	S1	Wester Ross	Patchy cobbles and boulders overlying coarse sediment with echinoderms and crustose communities	CR.MCR.EcCr.FaAlCr	
11	S2	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment with sparse kelps and seaweeds	SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
12	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment with sparse kelps and seaweeds	SS.SMx.CMx.CIloMx	
13	S1	Wester Ross	*Saccharina latissima* and sparse *Laminaria hyperborea* on cobbles and boulders overlying coarse sandy sediment with encrusting biota	IR.LIR.K.LhypSlat	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
14	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment with sparse seaweeds	SS.SMx.CMx.CIloMx	
15	S1	Wester Ross	Filamentous red seaweeds and sparse *Saccharina latissima* on gravelly sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
16	S1	Wester Ross	Patches of live maerl overlying slightly mixed gravelly sediment with sparse seaweeds and *Cerianthus lloydii*	SS.SMp.Mrl	Maerl beds
16	S2	Wester Ross	Patches of maerl 'twiglets' between pebbles and cobbles with sparse seaweeds and encrusting biota	SS.SMp.Mrl	Maerl beds
16	S3	Wester Ross	Cobbles and boulders on gravelly sediment with echinoderms and crustose communities	CR.MCR.EcCr.FaAlCr	
17	S1	Wester Ross	Mosaic habitat of patches of living maerl 'twiglets' in slightly mixed gravelly sediment with *Cerianthus lloydii* and overlying cobbles and boulders with red seaweeds, hydroids and crustose communities	SS.SMp.Mrl CR.MCR.EcCr	Maerl beds
17	S2	Wester Ross	Red seaweeds, hydroids and crustose communities on cobbles and boulders overlying gravelly mixed sediment with *Cerianthus lloydii*	SS.SMp.KSwSS SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
18	S1	Wester Ross	Pebbles, cobbles and sparse boulders on coarse sediment with crustose communities and echinoderms	SS.SCS.CCS CR.MCR.EcCr	
18	S2	Wester Ross	Coarse sand, gravel and shell with sparse epibiota	SS.SCS.CCS	
19	S1	Wester Ross	Pebbles, cobbles and sparse boulders with crustose communities and echinoderms overlying slightly mixed gravelly sediment with *Cerianthus lloydii*	CR.MCR.EcCr SS.SMx.CMx.CIloMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
19	S2	Wester Ross	Pebbles, cobbles and sparse boulders with crustose communities and echinoderms overlying slightly mixed gravelly sediment with patches of maerl 'twiglets'	CR.MCR.EcCr SS.SMp.Mrl	
19	S3	Wester Ross	Patches of maerl 'twiglets' in gravelly sediment with sparse epibiota	SS.SMx.CMx.CIloMx SS.SMp.Mrl	Maerl beds
20	S1	Wester Ross	Living and dead maerl 'twiglets' with patchy *Saccharina latissima*, filamentous seaweeds and *Cerianthus lloydii*	SS.SMp.Mrl	Maerl beds
21	S1	Wester Ross	Dense patches of live maerl 'twiglets' overlying dead maerl with sparse epibiota	SS.SMp.Mrl	Maerl beds
21	S2	Wester Ross	Patches of live and dead maerl 'twiglets' in slightly mixed gravelly sediment with *Cerianthus lloydii*	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
22	S1	Wester Ross	Live and dead maerl 'twiglets' in slightly mixed gravelly sediment with *Cerianthus lloydii*	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
23	S1	Wester Ross	Live and dead maerl 'twiglets' in slightly mixed gravelly sediment with *Cerianthus lloydii*	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
23	S2	Wester Ross	Cobbles and small boulders with crustose communities and hydroids overlying patches of living and dead maerl 'twiglets'	SS.SMp.Mrl CR.HCR.XFa	Maerl beds
23	S3	Wester Ross	Live and dead maerl 'twiglets' with *Cerianthus lloydii* and scattered cobbles and small boulders	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
23	S4	Wester Ross	Live and dead maerl 'twiglets' in slightly mixed gravelly sediment with *Cerianthus lloydii*	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
23	S5	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment with some dead maerl	SS.SMx.CMx.CIloMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
24	S1	Wester Ross	Seaweeds on shelly sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
24	S2	Wester Ross	*Laminaria hyperborea* with red seaweeds and crinoids on rock	IR.MIR.KR.Lhyp	Kelp beds
25	S1	Wester Ross	Living and dead maerl 'twiglets' with patchy *Saccharina latissima* and filamentous seaweeds	SS.SMp.Mrl	Maerl beds
26	S1	Wester Ross	Seaweeds on coarse sediment and shell with patches of live maerl 'twiglets'	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
27	S1	Wester Ross	Seaweeds on coarse sediment and shell with dense patches of live maerl 'twiglets' and widespread dead maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
27	S2	Wester Ross	Seaweeds on coarse sediment and shell with some small patches of live maerl 'twiglets'	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
27	S3	Wester Ross	Seaweeds on coarse sediment and shell with dense patches of live maerl 'twiglets' and widespread dead maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
27	S4	Wester Ross	Seaweeds on coarse sediment and shell with some dead maerl	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
28	S1	Wester Ross	Seaweeds on coarse sediment and shell with dense patches of live maerl 'twiglets' and widespread dead maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
28	S2	Wester Ross	*Saccharina latissima* with abundant filamentous red seaweeds and crinoids on rock	IR.HIR.KSed.SlatSac	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
28	S3	Wester Ross	Seaweeds on coarse sediment and shell	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
29	S1	Wester Ross	Coarse shelly sediment with sparse seaweeds. Patch of boulders at SOL (13sec duration).	SS.SCS.ICS	
30	S1	Wester Ross	Cobbles on sediment with seaweeds and hydroids	SS.SCS.ICS	
30	S2	Wester Ross	Echinoderms and crustose communities on rock with patchy filamentous red seaweeds and hydroids	CR.MCR.EcCr	
30	S3	Wester Ross	Gravelly mixed sediment with *Cerianthus lloydii*	SS.SMx.CMx.CIloMx	
30	S4	Wester Ross	Echinoderms and crustose communities on rock with patchy filamentous red seaweeds and hydroids	CR.MCR.EcCr	
30	S5	Wester Ross	Gravelly mixed sediment with *Cerianthus lloydii*	SS.SMx.CMx.CIloMx	
31	S1	Wester Ross	Patchy kelps and seaweeds on coarse sediment	SS.SMp.KSwSS SS.SCS.ICS	Kelp and seaweed communities on sublittoral sediment
31	S2	Wester Ross	Coarse sediment with patches of pebbles	SS.SCS.ICS	
32	S1	Wester Ross	*Saccharina latissima*, filamentous red seaweeds and some *Laminaria hyperborea* on rock with coarse sediment infill; small patch of live maerl and maerl gravel	IR.LIR.K.LhypSlat SS.SMp.KSwSS.SlatR	
32	S2	Wester Ross	*Saccharina latissima* and filamentous red seaweeds on coarse sediment and maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
33	S1	Wester Ross	*Saccharina latissima* and *Laminaria hyperborea* on cobbles and boulders overlying coarse sediment	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
33	S2	Wester Ross	Dense *Saccharina latissima* on coarse sediment and pebbles	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
34	S1	Wester Ross	Slightly mixed gravelly sediment with sparse seaweeds and *Cerianthus lloydii*	SS.SMp.KSwSS.SlatR SS.SMx.CMx.ClloMx	Kelp and seaweed communities on sublittoral sediment
35	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment with occasional cobbles	SS.SMx.CMx.ClloMx	
35	S2	Wester Ross	Scattered cobbles and boulders on coarse sediment with sparse faunal turf	SS.SCS.CCS	
36	S1	Wester Ross	Filamentous red seaweeds and sparse *Saccharina latissima* on rock with coarse sediment infill	IR.LIR.K.Slat.Pk	
36	S2	Wester Ross	Slightly mixed gravelly sediment with patchy seaweeds and *Cerianthus lloydii*	SS.SMp.KSwSS.SlatR SS.SMx.CMx.ClloMx	Kelp and seaweed communities on sublittoral sediment
37	S1	Wester Ross	Echinoderms and crustose communities on cobbles and boulders overlying coarse sediment	SS.SCS.CCS CR.MCR.EcCr	
37	S2	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment	SS.SMx.CMx.ClloMx	
38	S1	Wester Ross	Echinoderms and crustose communities on cobbles and boulders with patchy red seaweeds and *Caryophyllia smithii*	CR.MCR.EcCr.FaAlCr(.Car) CR.LCR.BrAs.AmenCio	
39	S1	Wester Ross	Coarse gravelly sediment and shell with scattered pebbles and cobbles and sparse small boulders	SS.SCS.CCS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
40	S1	Wester Ross	Slightly mixed gravelly sediment with *Cerianthus lloydii* and sparse seaweeds	SS.SMx.CMx.CIloMx	
40	S2	Wester Ross	Echinoderms and crustose communities with *Caryophyllia smithii* on cobbles and boulders overlying coarse sediment	CR.MCR.EcCr.FaAlCr(.Car) SS.SCS.CCS	
41	S1	Wester Ross	Red seaweeds and sparse *Saccharina latissima* on coarse gravelly sediment and shell with scattered pebbles and cobbles and small boulders	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
42	S1	Wester Ross	Red seaweeds and sparse *Saccharina latissima* on coarse gravelly sediment and shell with scattered pebbles and cobbles and small boulders	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
42	S2	Wester Ross	Red seaweeds on cobbles, boulders and coarse sediment	IR.LIR.K.Slat.Pk	
43	S1	Wester Ross	Coarse gravelly sediment and shell with scattered pebbles and cobbles and sparse small boulders	SS.SCS.CCS	
44	S1	Wester Ross	Coarse gravelly sediment and shell with scattered pebbles and cobbles and sparse small boulders	SS.SCS.CCS	
44	S2	Wester Ross	Pebbles cobbles and boulders overlying coarse sediment with ascidians, encrusting algae and sparse faunal turf	CR.LCR.BrAs.AmenCio	
45	S1	Wester Ross	Filamentous red seaweeds and sparse kelps on gravelly mixed sediment with scattered cobbles and boulders, *Cerianthus lloydii* and some seapens	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
46	S1	Wester Ross	*Cerianthus lloydii* in muddy mixed sediment and shell with sparse filamentous red seaweeds and some seapens	SS.SMp.KSwSS.SlatR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
47	S1	Wester Ross	Filamentous red seaweeds on coarse sediment and shell with *Cerianthus lloydii* and seapens	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
48	S1	Wester Ross	*Saccharina latissima* and red seaweeds on gravelly sediment with scattered cobbles and boulders	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
49	S1	Wester Ross	*Saccharina latissima* and seaweeds on coarse shelly sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
50	S1	Wester Ross	*Cerianthus lloydii* in mixed sediment and shell	SS.SMx.CMx.ClloMx	
51	S1	Wester Ross	Coarse sediment (sand, gravel and pebbles) with sparse biota	SS.SCS.CCS	
52	S1	Wester Ross	Coarse sediment (sand, gravel and pebbles) and shell with sparse biota	SS.SCS.CCS	
53	S1	Wester Ross	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
54	S1	Wester Ross	Burrowed mud with *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg	Burrowed mud
55	S1	Wester Ross	Coarse shelly sand with sparse biota	SS.SCS	
56	S1	Wester Ross	Red and brown seaweeds with patchy *Saccharina latissima* on cobbles and boulders overlying coarse sandy sediment	IR.HIR.KSed.SlatSac SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
57	S1	Wester Ross	*Saccharina latissima* and *Laminaria hyperborea* on rock with red and brown seaweeds and coarse sediment infill	IR.LIR.K.LhypSlat	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
57	S2	Wester Ross	Dense red seaweeds with brown algae and sparse *Saccharina latissima* on boulders overlying coarse sediment	IR.HIR.KFaR.FoR	
57	S3	Wester Ross	Echinoderms and crustose communities on cobbles and boulders	CR.MCR.EcCr.FaAlCr	
58	S1	Wester Ross	*Laminaria hyperborea* on rock with coralline crusts	IR.MIR.KR.Lhyp.GzFt	Kelp beds
58	S2	Wester Ross	*Saccharina latissima* and *Laminaria hyperborea* on rock with red seaweeds and coarse sediment infill	IR.LIR.K.LhypSlat.Ft	Kelp beds
58	S3	Wester Ross	Filamentous red seaweeds and sparse *Saccharina latissima* on boulders overlying coarse sediment	IR.LIR.K.Slat.Pk	
58	S4	Wester Ross	Echinoderms and crustose communities on cobbles and small boulders overlying coarse sand	CR.MCR.EcCr.FaAlCr	
59	S1	Wester Ross	Crustose communities and sparse red seaweeds on cobbles and boulders overlying coarse sand	CR.MCR.EcCr.FaAlCr SS.SCS.CCS	
60	S1	Wester Ross	*Laminaria hyperborea* on rock with *Saccharina latissima* and red seaweeds	IR.LIR.K.LhypSlat	
61	S1	Wester Ross	*Laminaria hyperborea* on rock with *Saccharina latissima* and red seaweeds	IR.LIR.K.LhypSlat	
61	S2	Wester Ross	Filamentous red seaweeds on cobbles and boulders overlying coarse sediment	IR.LIR.K.Slat.Pk	
62	S1	Wester Ross	*Laminaria hyperborea* on rock with patchy red seaweeds	IR.MIR.KR.Lhyp	Kelp beds
62	S2	Wester Ross	Filamentous red seaweeds and *Saccharina latissima* on boulders	IR.LIR.K.Slat.Pk	
62	S3	Wester Ross	*Laminaria hyperborea* on rock with patchy red seaweeds	IR.MIR.KR.Lhyp	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
63	S1	Wester Ross	*Laminaria hyperborea* on rock with patchy red seaweeds	IR.MIR.KR.Lhyp	Kelp beds
63	S2	Wester Ross	Pebbles and coarse sediment with sparse red and brown seaweeds and abundant encrusting biota and *Ciona intestinalis*	SS.SCS CR.LCR.BrAs.AmenCio	
64	S1	Wester Ross	Echinoderms and crustose communities on cobbles and boulders overlying coarse sand	CR.MCR.EcCr.FaAlCr SS.SCS.CCS	
65	S1	Wester Ross	Filamentous red seaweeds and sparse kelps on cobbles in coarse sandy sediment	SS.SMp.KSwSS.SlatR.CbPb SS.SCS.CCS	Kelp and seaweed communities on sublittoral sediment
66	S1	Wester Ross	*Laminaria hyperborea* and *Saccharina latissima* with red seaweeds on cobbles and boulders overlying coarse sandy sediment	IR.LIR.K.LhypSlat SS.SCS	
66	S2	Wester Ross	Filamentous red seaweeds and sparse *Saccharina latissima* on boulders overlying coarse sediment	IR.LIR.K.Slat.Pk	
67	S1	Wester Ross	Dense red seaweeds on coarse sediment and shell with dead maerl gravel and some patches of live maerl 'twiglets'	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
68	S1	Wester Ross	Dense red seaweeds and sparse *Saccharina latissima* on coarse sediment and shell with dead maerl gravel and some patches of live maerl 'twiglets'	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
69	S1	Wester Ross	Muddy gravelly mixed sediment with sparse seaweeds	SS.SMx.IMx	
69	S2	Wester Ross	Dense red seaweeds and sparse *Saccharina latissima* on coarse sediment and shell	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
70	S1	Wester Ross	Simple burrows in muddy mixed sediment with encrusting red algae on pebbles and cobbles	SS.SMx.IMx	
70	S2	Wester Ross	Burrowed sandy mud	SS.SMu.CSaMu	Burrowed mud
70	S3	Wester Ross	Simple burrows in muddy mixed sediment with encrusting red algae on pebbles and cobbles with some small boulders	SS.SMx.IMx	
71	S1	Wester Ross	*Cerianthus lloydii* in muddy gravelly mixed sediment with some complex burrows	SS.SMx.CMx.ClloMx	Burrowed mud
72	S1	Wester Ross	Muddy mixed sediment with pebbles and shell with sparse/patchy kelp and red seaweeds	SS.SMx.IMx SS.SMp.KSwSS.SlatR	
72	S2	Wester Ross	Dense red seaweeds and patchy *Saccharina latissima* on gravelly mixed sediment with few boulders at EOL	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
73	S1	Wester Ross	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud
74	S1	Wester Ross	*Saccharina latissima* and red seaweeds and on gravelly mixed sediment with *Metridium senile*	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
75	S1	Wester Ross	Gravelly mixed sediment with sparse biota with sparse/patchy seaweeds	SS.SMx.IMx SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
76	S1	Wester Ross	Filamentous red and brown seaweeds and patchy *Saccharina latissima* on coarse sediment with small amounts of live and dead maerl	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
77	S1	Wester Ross	*Saccharina latissima* and red seaweeds on gravelly sediment	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
77	S2	Wester Ross	*Saccharina latissima* and red seaweeds on cobbles and boulders with crinoids	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
77	S3	Wester Ross	Sparse red seaweeds on gravelly mixed sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
77	S4	Wester Ross	*Cerianthus lloydii* and seapens in burrowed muddy mixed sediment	SS.SMu.CFiMu.SpnMeg	Burrowed mud
78	S1	Wester Ross	Filamentous seaweeds on coarse sediment and shell with some patches of live maerl 'twiglets' and dead maerl	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
79	S1	Wester Ross	Live maerl 'twiglets' and widespread dead maerl with *Saccharina latissima* and filamentous seaweeds on ribbons of pebbles and shell	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
79	S2	Wester Ross	Dense filamentous red seaweeds with *Saccharina latissima* and *Laminaria hyperborea* on cobbles and boulders	IR.LIR.K.LhypSlat	
80	S1	Wester Ross	Seaweeds on cobbles, boulders and rock with coarse sediment infill	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
80	S2	Wester Ross	Coarse sand and shell	SS.SCS	
80	S3	Wester Ross	Dense filamentous red seaweeds on cobbles, boulders and rock	IR.HIR.KFaR.FoR	
80	S4	Wester Ross	Coarse sand and shell	SS.SCS	
81	S1	Wester Ross	*Laminaria hyperborea* on rock with red seaweeds and *Alcyonium digitatum*	IR.MIR.KR.Lhyp.Ft	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
82	S1	Wester Ross	Rippled coarse sand; one small patch of kelp on cobbles	SS.SCS	
83	S1	Wester Ross	Algae on coarse sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
83	S2	Wester Ross	*Laminaria hyperborea* and *Saccharina latissima* on cobbles and boulders with red seaweeds	IR.HIR.KSed.XKScrR	Kelp beds
83	S3	Wester Ross	Algae on coarse sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
83	S4	Wester Ross	*Laminaria hyperborea* on sand-influenced rock	IR.HIR.KSed.XKScrR	Kelp beds
84	S1	Wester Ross	*Laminaria hyperborea* on rock	IR.MIR.KR.Lhyp.Ft	Kelp beds
85	S1	Wester Ross	*Alcyonium digitatum* on cobbles and boulders	CR.MCR.EcCr.FaAlCr.Adig	
85	S2	Wester Ross	Seaweeds on coarse sand and pebbles	SS.SMp.KSwSS	Kelp and seaweed communities on sublittoral sediment
85	S3	Wester Ross	*Alcyonium digitatum* on cobbles and pebbles overlying coarse sand	SS.SCS.CCS CR.MCR.EcCr.FaAlCr.Adig	
86	S1	Wester Ross	*Laminaria hyperborea* and *Saccharina latissima* on cobbles and boulders overlying sand	IR.HIR.KSed.XKScrR	
87	S1	Wester Ross	*Laminaria hyperborea* forest on rock	IR.MIR.KR.Lhyp.Ft	Kelp beds
88	S1	Wester Ross	*Laminaria hyperborea* on rock with filamentous red seaweeds	IR.MIR.KR.Lhyp	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
89	S1	Wester Ross	Barnacles with faunal and algal crusts on cobbles, boulders and pebbles	CR.MCR.EcCr.FaAlCr SS.SCS.CCS.SpiB	
90	S1	Wester Ross	Barnacles with faunal and algal crusts on cobbles, boulders and pebbles	CR.MCR.EcCr.FaAlCr SS.SCS.CCS.SpiB	
91	S1	Wester Ross	Barnacles with faunal and algal crusts on cobbles, boulders and pebbles	CR.MCR.EcCr.FaAlCr SS.SCS.CCS.SpiB	
92	S1	Wester Ross	Rippled coarse sand, pebbles and shell	SS.SCS	
93	S1	Wester Ross	*Laminaria hyperborea* forest on rock	IR.MIR.KR.Lhyp.Ft	Kelp beds
94	S1	Wester Ross	Faunal and algal crusts on cobbles and boulders overlying rippled sand	CR.MCR.EcCr.FaAlCr SS.SCS.CCS	
95	S1	Wester Ross	Filamentous red seaweeds on cobbles and boulders overlying coarse sediment	IR.HIR.KFaR.FoR SS.SCS	
95	S2	Wester Ross	Rippled coarse sediment. Patch of cobbles at EOL.	SS.SCS	
96	S1	Wester Ross	*Saccharina latissima* and filamentous brown and red seaweeds on coarse sediment and shell	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
97	S1	Wester Ross	*Saccharina latissima* and filamentous brown and red seaweeds on coarse sediment and shell	SS.SMp.KSwSS.SlatR.Sa	Kelp and seaweed communities on sublittoral sediment
98	S1	Wester Ross	Sparse red seaweeds and algal crusts on gravelly mixed sediment and pebbles	SS.SCS.ICS	
98	S2	Wester Ross	Dense filamentous red seaweeds and sparse *Saccharina latissima* on bedrock and boulders with *Nemertesia* spp. and crinoids with gravelly mixed sediment infill	IR.LIR.K.Slat.Pk SS.SCS.ICS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
98	S3	Wester Ross	Red seaweeds on gravelly sediment and shell	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
98	S4	Wester Ross	Dense filamentous red seaweeds and sparse *Saccharina latissima* on bedrock and boulders with *Nemertesia* spp. and crinoids with gravelly mixed sediment infill	IR.LIR.K.Slat.Pk SS.SCS.ICS	
98	S5	Wester Ross	Sparse red seaweeds and algal crusts on gravelly mixed sediment and pebbles	SS.SCS.ICS	
99	S1	Wester Ross	Seaweeds on coarse sediment and shell with patches of live maerl 'twiglets' and widespread dead maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
100	S1	Wester Ross	*Saccharina latissima* and red seaweeds on coarse sediment and shell	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
100	S2	Wester Ross	*Laminaria hyperborea* and *Saccharina latissima* on rock with filamentous red seaweeds and crinoids	IR.LIR.K.LhypSlat(.Gz)	
101	S1	Wester Ross	Mixed sediment with sparse biota	SS.SMx.CMx	
101	S2	Wester Ross	Echinoderms and crustose communities with sparse/patchy red seaweeds on cobbles and boulders overlying sediment	CR.MCR.EcCr.FaAlCr	
102	S1	Wester Ross	Mixed sediment with sparse seaweeds	SS.SMx.IMx	
103	S1	Wester Ross	Shelly sand and gravel with some live maerl 'twiglets' and encrusting red algae	SS.SCS.ICS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
104	S1	Wester Ross	Ribbons of live and dead maerl overlying sand with *Saccharina latissima* and filamentous seaweeds	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
105	S1	Wester Ross	Thin ribbons of maerl on shelly sand.	SS.SCS.ICS	
105	S2	Wester Ross	Dense filamentous red seaweeds on bedrock and boulders with crinoids and sparse kelps	IR.MIR.KR.Lhyp.Pk	
105	S3	Wester Ross	*Laminaria hyperborea* forest on bedrock	IR.MIR.KR.Lhyp.Ft	Kelp beds
106	S1	Wester Ross	Sand and shell and some overlying pebbles and cobbles with sparse seaweeds	SS.SCS.ICS	
107	S1	Wester Ross	*Laminaria hyperborea* forest on bedrock with coarse sediment infill	IR.MIR.KR.Lhyp.Ft	Kelp beds
107	S2	Wester Ross	*Laminaria hyperborea* and dense red seaweeds on bedrock	IR.MIR.KR.Lhyp.Pk	
107	S3	Wester Ross	Ribbons of live maerl 'twiglets' in dead maerl gravel	SS.SMp.Mrl	Maerl beds
108	S1	Wester Ross	Shelly coarse sediment with ribbons of pebbles	SS.SCS.ICS	
108	S2	Wester Ross	Cobbles and boulders with sparse crustose communities overlying coarse sediment	CR.MCR.EcCr SS.SCS.ICS	
109	S1	Wester Ross	Shelly coarse sediment and pebbles with sparse seaweeds and *Saccharina latissima*	SS.SCS.ICS	Kelp and seaweed communities on sublittoral sediment
109	S2	Wester Ross	Sparse seaweeds and *Saccharina latissima* on cobbles and boulders overlying coarse sediment	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
109	S3	Wester Ross	Red seaweeds and *Saccharina latissima* on bedrock and boulders	IR.LIR.K.Slat.Pk	
110	S1	Wester Ross	Sparse/patchy *Saccharina latissima* and red and brown seaweeds on coarse shelly sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
111	S1	Wester Ross	*Cerianthus lloydii* in gravelly mixed sediment with small amount of maerl gravel	SS.SMx.CMx.CIloMx	
112	S1	Wester Ross	*Saccharina latissima* on coarse sediment with small amount of maerl	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
113	S1	Wester Ross	Coarse gravelly sand and shell	SS.SCS.ICS	
113	S2	Wester Ross	Pebbles, cobbles and small boulders with filamentous red seaweeds and crustose communities	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
114	S1	Wester Ross	*Laminaria hyperborea* on grazed rock	IR.MIR.KR.Lhyp.Ft	Kelp beds
115	S1	Wester Ross	Coarse sediment (sandy gravel)	SS.SCS.ICS	
116	S1	Wester Ross	*Saccharina latissima* and filamentous red and brown seaweeds on coarse sediment	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
116	S2	Wester Ross	*Saccharina latissima* and filamentous red and brown seaweeds on coarse sediment	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
117	S1	Wester Ross	*Saccharina latissima* and filamentous red and brown seaweeds on coarse sediment with very small amount of maerl gravel	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
117	S2	Wester Ross	Dense patches of liver maerl 'twiglets' in coarse sediment with *Saccharina latissima* and seaweeds	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
118	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment and scattered cobbles and boulders with sparse kelps and patchy filamentous seaweeds	SS.SMp.KSwSS.SlatR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
119	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment and scattered cobbles and boulders with sparse kelps and patchy filamentous seaweeds	SS.SMx.CMx.CIloMx	
119	S2	Wester Ross	*Saccharina latissima* and filamentous red and brown seaweeds on cobbles and pebbles	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
119	S3	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment and scattered cobbles and boulders with sparse kelps and patchy filamentous seaweeds	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
120	S1	Wester Ross	*Saccharina latissima* and red seaweeds on coarse sandy sediment with pebbles and occasional cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
121	S1	Wester Ross	*Saccharina latissima* and red seaweeds on coarse sandy sediment with pebbles and occasional cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
122	S1	Wester Ross	*Cerianthus lloydii* in slightly mixed gravelly sediment	SS.SMx.CMx.CIloMx	
123	S1	Wester Ross	Gravelly coarse sediment with sparse seaweeds	SS.SCS.ICS	
124	S1	Wester Ross	Slightly gravelly mud and shell with occasional burrows and single boulder	SS.SMu.CSaMu	Burrowed mud

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected Feature assigned
124	S2	Wester Ross	Pebbles and cobbles overlying sandy mud and shell with some small boulders present	SS.SMx	
125	S1	Wester Ross	*Saccharina latissima* and *Chorda filum* on shelly sediment	SS.SMp.KSwSS.SlatCho	Kelp and seaweed communities on sublittoral sediment
126	S1	Wester Ross	Veneer of coarse sand over rock with sparse seaweeds	IR.HIR.KSed	
126	S2	Wester Ross	*Cerianthus lloydii* in shelly mixed sediment with some cobbles and boulders at start of section	SS.SMx.CMx.ClloMx	
127	S1	Wester Ross	Sandy gravely and shell with pebbles and occasional cobbles and boulders	SS.SCS.CCS	
127	S2	Wester Ross	Encrusting red algae on pebbles, cobbles and boulders overlying coarse sediment	CR.MCR.EcCr	
128	S1	Wester Ross	Muddy mixed sediment with occasional boulders	SS.SMx	
128	S2	Wester Ross	Pebbles, cobbles and boulders overlying soft sediment	SS.SCS.ICS	
128	S3	Wester Ross	Muddy mixed sediment with cobbles and boulders	SS.SMx	
128	S4	Wester Ross	Pebbles, cobbles and boulders overlying mixed sediment	SS.SMx	
129	S1	Wester Ross	Mixed sediment with pebbles and cobbles	SS.SMx.CMx	
129	S2	Wester Ross	Burrowed mud with *Nephrops norvegicus*	SS.SMu.CFiMu(.SpnMeg)	Burrowed mud
130	S1	Wester Ross	*Cerianthus lloydii* in gravelly mixed sediment with sparse red seaweeds and some patches of live maerl 'twiglets'	SS.SMx.CMx.ClloMx SS.SMp	

Table A3.2

Summary of the results of the video analysis for Small Isles.

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
1	S1	Small Isles	Echinoderms and crustose communities on bedrock and boulders with *Caryophyllia smithii* and hydroids	CR.MCR.EcCr.FaAlCr.Car	Northern sea fan - Swiftia pallida
1	S2	Small Isles	Sandy gravel and shell	SS.SCS	
2	S1	Small Isles	Echinoderms and crustose communities on cobbles and boulders overlying coarse sediment	CR.MCR.EcCr.FaAlCr	
2	S2	Small Isles	Dense *Alcyonium digitatum* on cobbles overlying coarse sediment	CR.MCR.EcCr.FaAlCr.Adig; SS.SCS	
2	S3	Small Isles	Echinoderms and crustose communities on cobbles and boulders overlying coarse sediment with sparse red algae	CR.MCR.EcCr.FaAlCr	
3	S1	Small Isles	Scattered cobbles and boulders on gravelly sand with sparse biota	SS.SCS; CR.HCR.Xfa	
3	S2	Small Isles	Slightly sandy shelly gravel	SS.SCS	
3	S3	Small Isles	Gravelly mixed sediment	SS.SMx	
4	S1	Small Isles	*Laminaria hyperborea* on bedrock and boulders with red and brown seaweeds and algal crusts	IR.MIR.KR.Lhyp	Kelp beds
4	S2	Small Isles	Sparse *Laminaria hyperborea* on bedrock and boulders	IR.MIR.KR.Lhyp.Pk	Kelp beds
4	S3	Small Isles	*Saccharina latissima* and red seaweeds on bedrock and boulders with sparse *Laminaria hyperborea*	IR.LIR.K.LhypSlat	Kelp beds
5	S1	Small Isles	Echinoderms and crustose communities on boulders with some red seaweeds	CR.MCR.EcCr.FaAlCr	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
6	S1	Small Isles	Echinoderms and crustose communities on boulders with some red seaweeds	CR.MCR.EcCr.FaAlCr	
7	S1	Small Isles	Silt-covered cobbles and boulders with sparse biota	CR.MCR.EcCr.CarSp.PenPcom	
7	S2	Small Isles	Silt-covered cobbles with sparse biota	CR.MCR.EcCr.CarSp.PenPcom	
7	S3	Small Isles	Mixed muddy gravel	SS.SMx	
8	S1	Small Isles	*Laminaria hyperborea* on bedrock	IR.MIR.KR.Lhyp.Ft	Kelp beds
8	S2	Small Isles	Coarse sand and pebbles with kelp on cobbles and sand-scoured / sand-covered rock	IR.HIR.KSed.XKScrR; SS.SCS.ICS	Kelp beds
9	S1	Small Isles	Rippled sand	SS.SSa	
10	S1	Small Isles	Silty cobbles and boulders with patchy encrusting biota, clumps of robust hydroids and *Caryophyllia smithii*	CR.MCR.EcCr.FaAlCr	
11	S1	Small Isles	*Laminaria hyperborea* on sand-scoured / sand-covered rock with sand infill	IR.HIR.KSed.XKScrR	Kelp beds
12	S1	Small Isles	Rippled sand with minor shell fraction	SS.SSa	
13	S1	Small Isles	Cobbles overlying gravelly sand with sparse biota	SS.SCS	
14	S1	Small Isles	Silty cobbles on mixed sediment with sparse biota	CR.MCR.EcCr	
14	S2	Small Isles	Silty cobbles and boulders on mixed sediment with sparse biota	CR.MCR.EcCr.CarSp.PenPcom	
14	S3	Small Isles	Slightly mixed gravelly sediment	SS.SMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
14	S4	Small Isles	Silty cobbles and boulders with patchy encrusting biota	CR.MCR.EcCr.CarSwi	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
14	S5	Small Isles	[seabed not visible]		
14	S6	Small Isles	Coarse shelly sediment	SS.SCS	
15	S1	Small Isles	Silty rock [uncertain]	CR	
16	S1	Small Isles	Sparse *Saccharina latissima* and red seaweeds on gravelly mixed sediment with scattered cobbles	SS.SMp.KSwSS.SlatR; SS.SMx.IMx	Kelp and seaweed communities on sublittoral sediment
17	S1	Small Isles	*Cerianthus lloydii* in mixed sediment with sparse seaweeds	SS.SMx.CMx.ClloMx	
18	S1	Small Isles	Burrowed sandy mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud
19	S1	Small Isles	Burrowed sandy mud with sparse *Cerianthus lloydii* and sparse seaweeds	SS.SMu.CSaMu	Burrowed mud
19	S2	Small Isles	*Metridium senile* on silty rock with *Saccharina latissima* and green and brown seaweeds	IR.MIR	
19	S3	Small Isles	Burrowed sandy mud with sparse *Cerianthus lloydii* and sparse seaweeds	SS.SMu.CSaMu	Burrowed mud
20	S1	Small Isles	Sandy mud and shell with *Caryophyllia smithii* on cobbles and pebbles	SS.SMx	
20	S2	Small Isles	*Caryophyllia smithii* and *Metridium senile* on boulders	CR.MCR.EcCr	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
20	S3	Small Isles	Burrowed mud with seapens; small patch of boulders also present	SS.SMu.CFiMu.SpnMeg	Burrowed mud; Tall seapen - *Funiculina quadrangularis*; Northern sea fan - Swiftia pallida
20	S4	Small Isles	Silt-tolerant hydroids on cobbles and boulders overlying burrowed mud	CR.MCR.EcCr; SS.SMu.CFiMu.SpnMeg	Burrowed mud; Tall seapen - *Funiculina quadrangularis*; Northern sea fan - Swiftia pallida
21	S1	Small Isles	Burrowed mud with seapens	SS.SMu.CFiMu.SpnMeg	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
22	S1	Small Isles	*Swiftia dubia* and *Caryophyllia smithii* on silty rock with *Parazoanthus anguicomus* and *Axinella infundibuliformis*	CR.MCR.EcCr.CarSwi; CR.HCR.DpSp	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida; White cluster anemone - *Parazoanthus anguicomus*
22	S2	Small Isles	Slightly mixed gravelly sediment with scattered cobbles	SS.SMx	White cluster anemone - *Parazoanthus anguicomus*
23	S1	Small Isles	Burrowed mud with *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
24	S1	Small Isles	Sandy gravel and shell with patchy fauna	SS.SCS	
24	S2	Small Isles	Silt-influenced cobbles, boulders and patchy bedrock with encrusting biota, hydroids and *Caryophyllia smithii*	CR.MCR.EcCr.CarSp	
24	S3	Small Isles	Coarse sediment and scattered cobbles with sparse biota	SS.SCS	
24	S4	Small Isles	Patchy crustose communities on silty rock with *Caryophyllia smithii*	CR.MCR.EcCr.CarSp	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
24	S5	Small Isles	Coarse shelly sediment with patchy cobbles	SS.SCS	
25	S1	Small Isles	Slightly muddy slightly gravelly sand and shell with sparse fauna	SS.SCS	
26	S1	Small Isles	Red seaweeds and sparse fauna on silt-covered / silt-influenced rock	IR.MIR.KR.XFoR	
26	S2	Small Isles	*Cerianthus lloydii* in slightly mixed gravelly sediment	SS.SMx.CMx.CIloMx	
27	S1	Small Isles	Patchy red seaweeds and hydroids on sediment-influenced bedrock and boulders	IR.MIR.KR.XFoR	
27	S2	Small Isles	*Cerianthus lloydii* in gravelly mixed sediment	SS.SMx.CMx.CIloMx	
27	S3	Small Isles	Patchy red seaweeds and hydroids on sediment-influenced bedrock and boulders	IR.MIR.KR.XFoR	
28	S1	Small Isles	Silt-covered cobbles and boulders with patchy crustose communities and robust hydroids	CR.MCR.EcCr.FaAlCr	
28	S2	Small Isles	*Cerianthus lloydii* in gravelly mixed sediment	SS.SMx.CMx.CIloMx	
28	S3	Small Isles	Silt-covered cobbles and boulders with patchy crustose communities and robust hydroids	CR.MCR.EcCr.FaAlCr	
28	S4	Small Isles	Sandy gravel and patchy hard substrate with sparse biota	SS.SCS	
29	S1	Small Isles	Simple burrows and seapens in muddy sand	SS.SSa.CMuSa	
29	S2	Small Isles	Shelly muddy sand with sparse biota	SS.SMx	
30.1	S1	Small Isles	Silty bedrock, boulders and cobbles with *Swiftia dubia* and *Caryophyllia smithii*	CR.MCR.EcCr.CarSwi	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
30.1	S2	Small Isles	[seabed not visible]		
30.1	S3	Small Isles	*Cerianthus lloydii* in mixed sediment	SS.SMx.CMx.CIloMx	
30.1	S4	Small Isles	Silty bedrock, boulders and cobbles with *Swiftia dubia*, *Caryophyllia smithii* and crinoids	CR.MCR.EcCr.CarSwi	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
31	S1	Small Isles	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
32	S1	Small Isles	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
33	S1	Small Isles	Mixed sediment [uncertain]	SS.SMx	
33	S2	Small Isles	Silty cobbles and boulders	CR.MCR	
33	S3	Small Isles	Seapens in burrowed mud with significant shell fraction	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
34.1	S1	Small Isles	Muddy gravel and shell	SS.SMx	
34.1	S2	Small Isles	*Swiftia dubia* and *Caryophyllia smithii* on silty cobbles and boulders overlying gravelly mixed sediment	CR.MCR.EcCr.CarSwi; SS.SMx	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
34.2	S3	Small Isles	*Swiftia dubia* and *Caryophyllia smithii* on silty cobbles overlying gravelly mixed sediment	SS.SMx; CR.MCR.EcCr	
34.2	S4	Small Isles	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud
35	S1	Small Isles	Slightly mixed muddy sediment	SS.SMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
36	S1	Small Isles	*Laminaria hyperborea* and red seaweeds on sand-covered rock with *Saccharina latissima* present on sand infill	IR.HIR.KSed.XKScrR; SS.SMp.KSwSS.SlatR.Sa	Kelp and seaweed communities on sublittoral sediment
36	S2	Small Isles	Rippled sand	SS.SSa	
37	S1	Small Isles	*Laminaria hyperborea* and red seaweeds on sand-covered rock with *Saccharina latissima* present on sand infill	IR.HIR.KSed.XKScrR; SS.SMp.KSwSS.SlatR.Sa	Kelp and seaweed communities on sublittoral sediment
38.1	S1	Small Isles	Pebbles, cobbles and boulders on coarse sediment with echinoderms, encrusting biota, hydroids and red algae	IR.MIR.KR.XFoR; CR.MCR.EcCr	
38.1	S2	Small Isles	Echinoderms and crustose communities on boulders	CR.MCR.EcCr.FaAlCr	
38.1	S3	Small Isles	Occasional cobbles and boulders on coarse sediment	SS.SCS	
38.2	S4	Small Isles	Occasional cobbles on slightly muddy gravelly mixed sediment	SS.SMx	
39	S1	Small Isles	Echinoderms and crustose communities on cobbles and boulders	CR.MCR.EcCr.FaAlCr	
39	S2	Small Isles	Red seaweeds on cobbles and boulders with crustose communities	IR.HIR.KFaR.FoR	
40.1	S1	Small Isles	*Laminaria hyperborea* and red seaweeds on sand-influenced / sand-covered rock	IR.MIR.KR.Lhyp.Ft	Kelp beds
40.1	S2	Small Isles	Red seaweeds and sparse kelps on sand-influenced cobbles and boulders	IR.HIR.KSed.XKScrR; SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
40.2	S3	Small Isles	*Saccorhiza polyschides* and red seaweeds on rock	IR.HIR.KSed.Sac	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
40.2	S4	Small Isles	*Saccharina latissima* and red seaweeds on silt-influenced cobbles and boulders	IR.HIR.KSed.XKScrR	Kelp and seaweed communities on sublittoral sediment
40.2	S5	Small Isles	Echinoderms and crustose communities on cobbles and small boulders with *Caryophyllia smithii* and red seaweeds	CR.MCR.EcCr.FaAlCr	
41.1	S1	Small Isles	*Laminaria hyperborea*, *Saccorhiza polyschides* and red seaweeds on sand-influenced / sand-covered rock	IR.HIR.KSed.XKScrR	Kelp beds
41.1	S2	Small Isles	Red seaweeds with sparse mixed kelps on sediment-influenced cobbles, boulders and bedrock.	IR.HIR.KFaR.FoR	
41.1	S3	Small Isles	Maerl beds with kelp and seaweeds	SS.SMp.Mrl; SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
41.1	S4	Small Isles	Red seaweeds on cobbles and boulders with some maerl infill	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
41.1	S5	Small Isles	Hydroids and sparse red seaweeds on cobbles overlying coarse sediment	SS.SCS	
41.2	S6	Small Isles	Coarse sediment with pebbles and sparse cobbles	SS.SCS	
42	S1	Small Isles	Coarse gravelly sediment and scattered maerl with sparse seaweeds and patchy fauna	SS.SCS	
43	S1	Small Isles	Sparse biota on cobbles and boulders	CR.MCR.EcCr	
43	S2	Small Isles	Slightly sandy gravel and shell	SS.SCS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
44	S1	Small Isles	*Saccharina latissima* and red and brown seaweeds on sand and with mixed kelps on cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
45	S1	Small Isles	Sandy gravel and shell with pebbles and cobbles	SS.SCS	
46	S1	Small Isles	*Cerianthus lloydii* in slightly muddy sandy gravel with pebbles and cobbles	SS.SMx.CMx.ClloMx	
47	S1	Small Isles	*Saccharina latissima* with red and brown seaweeds on shell, gravel, pebbles and cobbles with large solitary ascidians	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
48	S1	Small Isles	*Laminaria hyperborea*, *Saccharina latissima* and red seaweeds on sand-covered rock	IR.HIR.KSed.XKScrR; SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
49	S1	Small Isles	Red and brown seaweeds with sparse kelp on sand, gravel and pebbles	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
50.1	S1	Small Isles	Gravel, shell, pebbles and cobbles with sparse seaweeds	SS.SCS	
50.2	S2	Small Isles	Gravel, shell, pebbles and cobbles with sparse seaweeds	SS.SCS	
51	S1	Small Isles	Gravel, shell, pebbles and cobbles with sparse biota	SS.SCS	
52	S1	Small Isles	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*; Fireworks anemone - Pachycerianthus multiplicatus
53	S1	Small Isles	Sandy mud with some burrows	SS.SMu.ISaMu	Burrowed mud

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
54	S1	Small Isles	*Swiftia dubia* and encrusting biota on silty cobbles and boulders with *Caryophyllia smithii* and cup sponges	CR.HCR.XFa.SwiLgAs	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
54	S2	Small Isles	*Pennatula phosphorea* in burrowed mud with significant shell fraction	SS.SMu.CFiMu.SpnMeg	Burrowed mud
54	S3	Small Isles	*Swiftia dubia* and *Caryophyllia smithii* on silt-covered rock	CR.MCR.EcCr.CarSwi	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
55	S1	Small Isles	Seapens in burrowed mud	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
56	S1	Small Isles	*Caryophyllia smithii* on silty rock with crinoids	CR	
56	S2	Small Isles	Cobbles and boulders on muddy mixed sediment with sparse biota	CR.MCR.EcCr.CarSwi; SS.SMx	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
56	S3	Small Isles	Seapens in burrowed mud with occasional cobbles and pebbles	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
57	S1	Small Isles	Swiftia pallida and hydroids on sandy-silt covered bedrock with *Caryophyllia smithii* and cup sponges	CR.HCR.XFa.SwiLgAs	Northern sea fan and sponge communities; Northern sea fan - Swiftia pallida
57	S2	Small Isles	Burrowed sandy mud	SS.SMu.CSaMu	Burrowed mud
58	S1	Small Isles	Rippled shelly sand	SS.SSa	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
59	S1	Small Isles	Rippled shelly sand	SS.SSa	
60	S1	Small Isles	Echinoderms and crustose communities on cobbles and boulders	CR.MCR.EcCr.FaAlCr	
61	S1	Small Isles	Silt-covered bedrock	CR	
61	S2	Small Isles	Silty cobbles and boulders with coralline crusts and sparse fauna	CR.MCR.EcCr	
61	S3	Small Isles	*Caryophyllia smithii* and dense aggregations of anemones on vertical rock	CR	
61	S4	Small Isles	Cobbles, boulders and bedrock with dense patches of anemones	CR	
61	S5	Small Isles	[seabed not visible]		
61	S6	Small Isles	Muddy mixed sediment [uncertain]	SS.SMx	
62	S1	Small Isles	*Cerianthus lloydii* in mixed sandy mud and shell	SS.SMx.CMx.ClloMx	
63	S1	Small Isles	*Cerianthus lloydii* in mixed sandy mud	SS.SMx.CMx.ClloMx	
63	S2	Small Isles	*Caryophyllia smithii* and hydroids on cobbles overlying muddy mixed sediment with echinoderms and sparse seaweeds	CR.MCR.EcCr; SS.SMx	
64	S1	Small Isles	Burrowed sandy mud	SS.SMu.CSaMu	Burrowed mud
65	S1	Small Isles	Burrowed sandy mud	SS.SMu.CSaMu	Burrowed mud
66	S1	Small Isles	Burrowed mud with *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg	Burrowed mud
67	S1	Small Isles	Burrowed sandy mud	SS.SMu.CSaMu	Burrowed mud

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
68	S1	Small Isles	*Saccharina latissima* with red and green seaweeds on pebbles and gravel	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
68	S2	Small Isles	*Laminaria hyperborea* and *Saccharina latissima* on grazed rock	IR.LIR.K.LhypSlat.Gz	Kelp beds
68	S3	Small Isles	*Saccharina latissima* with red and green seaweeds on pebbles and gravel	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
69	S1	Small Isles	*Saccharina latissima* and red seaweeds on pebbles and gravel	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
70	S1	Small Isles	*Saccharina latissima* and red seaweeds on pebbles and gravel	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
71	S1	Small Isles	Sandy gravel and shell with patchy *Caryophyllia smithii* on occasional cobbles and pebbles	SS.SCS	
72	S1	Small Isles	Muddy sand and shell with occasional burrows	SS.SMx	
73	S1	Small Isles	Sand and shell with hydroids on scattered cobbles and boulders	SS.SCS	
74	S1	Small Isles	Sand and shell with pebbles	SS.SCS	
75	S1	Small Isles	Sparse *Nemertesia* spp. and *Alcyonidium diaphanum* on cobbles and pebbles overlying shelly sand	CR.HCR.XFa.SpNemAdia; SS.SCS	
76	S1	Small Isles	*Saccharina latissima* and red seaweeds on pebbles and gravel	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
77	S1	Small Isles	*Saccharina latissima* and red seaweeds on sand, pebbles and cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
78	S1	Small Isles	Rippled sand	SS.SSa	
79	S1	Small Isles	Shelly sand	SS.SSa	Shallow tide-swept coarse sands with burrowing bivalves
80	S1	Small Isles	Shelly sand and pebbles with sparse kelp	SS.SCS	Shallow tide-swept coarse sands with burrowing bivalves
81	S1	Small Isles	Echinoderms and crustose communities on pebbles, cobbles and boulders overlying sand with sparse red seaweeds	CR.MCR.EcCr.FaAlCr	
82	S1	Small Isles	Rippled sand and pebbles with occasional cobbles; single <5m patch of kelp on cobbles and boulders	SS.SCS	
82	S2	Small Isles	Red seaweeds and sparse kelp on cobbles and boulders	IR.HIR.KFaR.FoR	
82	S3	Small Isles	*Laminaria hyperborea* on cobbles and boulders with coralline crusts and sparse red seaweeds	IR.MIR.KR.Lhyp	Kelp beds
83	S1	Small Isles	Rippled sand with pebbles	SS.SCS	
83	S2	Small Isles	*Saccharina latissima* and red seaweeds on pebbles, cobbles and boulders	IR.HIR.KSed.SlatSac	Kelp beds
83	S3	Small Isles	*Saccharina latissima* on sand and pebbles	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
83	S4	Small Isles	*Laminaria hyperborea* on large boulders with red and brown seaweeds	IR.MIR.KR.Lhyp	Kelp beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
83	S5	Small Isles	*Saccharina latissima* on sand and pebbles	SS.SMp.KSwSS.SlatR.Gv	Kelp and seaweed communities on sublittoral sediment
84	S1	Small Isles	Sandy gravel and shell with pebbles and sparse red algae	SS.SCS	
84	S2	Small Isles	Red seaweeds, encrusting biota and hydroids on pebbles, cobbles and boulders	SS.SMp.KSwSS.SlatR.CbPb ; CR.MCR.EcCr.FaAlCr	Kelp and seaweed communities on sublittoral sediment
84	S3	Small Isles	Seaweeds on pebbles	SS.SCS	
85	S1	Small Isles	Gravelly sand and shell with ribbons of pebbles and sparse biota	SS.SCS	
86	S1	Small Isles	Gravelly sand and shell with occasional pebbles and cobbles and sparse *Saccharina latissima*	SS.SSa	
87	S1	Small Isles	*Saccharina latissima* on gravelly sand and pebbles with occasional cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment

Table A3.3

Summary of the results of the video analysis for Inner Sound and Loch Alsh.

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
1	S1	-	Cobbles and boulders overlying muddy mixed sediment with sparse fauna and patchy seaweeds	SS.SCS	Fireworks anemone - Pachycerianthus multiplicatus
2	S1	-	Pebbles, cobbles and boulders overlying gravelly sand with sparse fauna and patchy seaweeds	SS.SCS	
3	S1	-	Sparse *Saccharina latissima* on coarse sediment with common crinoids	SS.SCS SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
3	S2	-	Sparse *Saccharina latissima* on cobbles and boulders with encrusting fauna and common crinoids	SS.SMp.KSwSS.LsacR.CbPb	Kelp and seaweed communities on sublittoral sediment
3	S3	-	Gravelly sand with pebbles and shell	SS.SCS	
4	S1	-	Sand and shell	SS.SSa	
5	S1	-	Sandy gravel, pebbles and occasional cobbles with sparse *Saccharina latissima*	SS.SCS	
5	S2	-	Cobbles and boulders overlying coarse sediment with echinoderms and sparse crustose communities	CR.MCR.EcCr SS.SCS	
5	S3	-	Sandy gravel and pebbles with sparse seaweeds	SS.SCS	
6	S1	-	*Saccharina latissima* and brown seaweeds on gravelly sediment with a small amount of maerl gravel	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
7	S1	-	*Saccharina latissima* and red and brown seaweeds on gravelly sediment	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
8	S1	-	Burrowed muddy mixed sediment and shell with small patch of cobbles	SS.SMx	Burrowed mud
9.1	S1	-	*Nemertesia* ramosa & other hydroids on gravel, pebbles and cobbles with crinoids and sparse seaweeds	SS.SMp.KSwSS	
9.1	S2	-	Dense patchy *Saccharina latissima* and seaweeds on gravelly mixed sediment with scallops and *Cerianthus lloydii*	SS.SMp.KSwSS.LsacR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
9.2	S1	-	Scallops on mixed muddy gravel with sparse seaweeds	SS.SMx	
9.2	S2	-	Burrowed muddy mixed sediment with *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg	Burrowed mud
10.1	S1	-	Sparse filamentous seaweeds on gravelly mixed sediment	SS.SMp.KSwSS	
10.1	S2	-	Slightly muddy sandy gravel and shell with pebbles and occasional cobbles and sparse biota	SS.SMx	Kelp and seaweed communities on sublittoral sediment
10.2	S1	-	Sandy gravel with shell and pebbles	SS.SCS	
10.2	S2	-	Crinoids and dense hydroids on pebbles and cobbles overlying gravelly mixed sediment	CR.HCR.XFa.SpNemAdia	
11	S1	-	Scallops on sandy gravel and shell with patchy pebbles and cobbles	SS.SCS	
12	S1	-	Dense *Saccharina latissima* with *Chorda filum* and filamentous green algae on maerl beds with *Ophiocomina nigra*	SS.SMp.Mrl SS.SMp.KSwSS.LsacCho	Maerl beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
13	S1	-	Sparse *Saccharina latissima* and dense seaweeds on mixed sediment with *Cerianthus lloydii*	SS.SMp.KSwSS.LsacR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
14	S1	-	Muddy gravel with pebbles and cobbles with sparse seaweeds, scallops, *Cerianthus lloydii* and seapens	SS.SMx	
15	S1	-	Coralline crusts on cobbles and boulders overlying coarse sediment with sparse fauna	CR.MCR.EcCr SS.SCS	
16	S1	-	Coarse shelly sediment with sparse red seaweeds	SS.SCS SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
17	S1	-	*Saccharina latissima* with filamentous seaweeds on gravelly mixed sediment with *Virgularia mirabilis*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
18	S1	-	*Saccharina latissima* and filamentous seaweeds on shelly gravel with abundant *Aequipecten opercularis*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
19	S1	-	*Saccharina latissima* on grazed rock	IR.LIR.K.Lsac.Gz	Kelp beds
19	S2	-	*Saccharina latissima* and filamentous seaweeds on shelly gravel with abundant *Aequipecten opercularis*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
20	S1	-	Crustose communities on sediment-influenced cobbles and boulders over coarse sediment with ascidians	CR.LCR.BrAs.AmenCio SS.SCS	
21	S1	-	*Saccharina latissima* and filamentous seaweeds on maerl and maerl gravel with *Aequipecten opercularis*	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
22	S1	-	Large ascidians with crinoids on coarse sediment with pebbles and cobbles	CR.LCR.BrAs.AmenCio.Ant SS.SCS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
23	S1	-	Ascidians and red seaweeds on cobbles overlying maerl and maerl gravel	SS.SMp.Mrl CR.LCR.BrAs.AmenCio	Maerl beds
23	S2	-	*Ciona intestinalis* and filamentous red seaweeds on sediment-influenced rock with crinoids	CR.LCR.BrAs.AmenCio.Ant	
23	S3	-	Maerl and maerl gravel with solitary ascidians and crinoids	SS.SMp.Mrl	Maerl beds
24	S1	-	Ascidians and crinoids on maerl and maerl gravel with patchy cobbles and muddy mixed sediment	SS.SMp.Mrl	Maerl beds
25	S1	-	Gravelly mixed sediment with some burrows and sparse seaweeds	SS.SMx SS.SMp.KSwSS	Kelp and seaweed communities on sublittoral sediment
26	S1	-	Large ascidians on gravelly sediment with pebbles and cobbles	CR.LCR.BrAs.AmenCio SS.SCS	
27	S1	-	Slightly muddy gravel and shell with patchy red seaweeds and sparse solitary ascidians	SS.SMx	
28	S1	-	Filamentous seaweeds & sparse *Saccharina latissima* on gravel and shell with *Aequipecten opercularis*	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
29	S1	-	Pebbles in coarse sediment with sparse seaweeds, solitary ascidians and *Aequipecten opercularis*	SS.SCS	
30	S1	-	Filamentous seaweeds on maerl & maerl gravel with *Aequipecten opercularis*, brittlestars and crinoids	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
31	S1	-	Large ascidians with crustose communities and crinoids on mixed sediment with pebbles and cobbles	CR.LCR.BrAs.AmenCio SS.SCS	
32	S1	-	Sandy gravel and shell with patchy crustose biota on scattered pebbles and cobbles	SS.SCS	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
33	S1	-	Gravelly mixed sediment with sparse *Cerianthus lloydii*	SS.SMx.CMx.CIloMx	
34	S1	-	*Cerianthus lloydii* in gravelly slightly mixed sediment with sparse filamentous seaweeds	SS.SMx.CMx.CIloMx	
35	S1	-	Sparse *Saccharina latissima* and seaweeds on gravelly/shelly sediment with *Cerianthus lloydii*	SS.SMp.KSwSS.LsacR SS.SMx.CMx.CIloMx	Kelp and seaweed communities on sublittoral sediment
36	S1	-	Sparse kelp and filamentous red seaweeds on maerl and maerl gravel overlying mixed sediment with *Cerianthus lloydii*, *Virgularia mirabilis* and *Aequipecten opercularis*	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
37	S1	-	Sparse *Saccharina latissima*, *Chorda filum* and filamentous seaweeds on maerl and maerl gravel	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
37	S2	-	Sparse *Saccharina latissima*, *Chorda filum* and filamentous seaweeds on gravelly sediment	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
38	S1	-	Maerl and maerl gravel with crinoids and crustose communities on patchy pebbles and cobbles	SS.SMp.Mrl	Maerl beds
39	S1	-	Maerl and maerl gravel with shell material	SS.SMp.Mrl	Maerl beds
39	S2	-	Ribbons and patches of maerl overlying a mixture of shell gravel and maerl gravel	SS.SMp.Mrl	Maerl beds
39	S3	-	Maerl and maerl gravel with shell material	SS.SMp.Mrl	Maerl beds
40	S1	-	Maerl and maerl gravel with scattered pebbles and cobbles	SS.SMp.Mrl	Maerl beds
41	S1	-	Maerl, maerl gravel and shell material with scattered pebbles and cobbles	SS.SMp.Mrl	Maerl beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
42	S1	-	*Diazona violacea* and large solitary ascidians on dense maerl bed	SS.SMp.Mrl	Maerl beds
43	S1	-	Maerl and maerl gravel overlying mixed sediment with *Ascidiella aspersa* on pebbles and cobbles	SS.SMp.Mrl	Maerl beds
43	S2	-	Seaweeds on silt-influenced cobbles and boulders with crustose communities, *Ascidiella aspersa* and *Aequipecten opercularis*	IR.MIR.KR.XFoR	
44	S1	-	Dense red seaweeds overlying maerl gravel and sparse live maerl with scattered pebbles and cobbles	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
45	S1	-	*Saccharina latissima* with filamentous seaweeds on a mixture of gravel, live maerl and maerl gravel	SS.SMp.Mrl SS.SMp.KSwSS.LsacR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
46	S1	Lochs DL&A	Mixed kelps and *Desmarestia ligulata* on sediment-influenced substrate with red and brown seaweeds	IR.HIR.KSed SS.SMx.IMx.Lim	Flame shell beds
47	S1	Lochs DL&A	Mixed kelps on sediment-influenced rock with dense red and brown seaweeds	IR.HIR.KSed.XKScrR SS.SMx.IMx.Lim	Flame shell beds
48	S1	-	Solitary ascidians & crustose communities on pebbles, cobbles & boulders overlying coarse sediment	CR.LCR.BrAs.AmenCio SS.SCS	
48	S2	-	*Ascidia* spp., *Ascidiella aspersa*, *Diazona violacea* & *Ciona intestinalis* on shelly gravel & pebbles	CR.LCR.BrAs.AmenCio SS.SCS	
49	S1	-	Mixed muddy sand and shell with ascidians and *Munida rugosa*	SS.SMx	
49	S2	-	Pebbles and cobbles overlying mixed sediment with solitary ascidians and *Munida rugosa*	SS.SMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
50	S1	-	*Saccharina latissima* with red and brown seaweeds on shelly coarse sediment	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
50	S2	-	*Saccharina latissima* with red and brown seaweeds on shelly coarse sediment with pebbles and cobbles	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
50	S3	-	Pebbles and cobbles on coarse sediment with sparse kelps and seaweeds and solitary ascidians	SS.SMp.KSwSS.LsacR SS.SCS	Kelp and seaweed communities on sublittoral sediment
51	S1	Lochs DL&A	*Saccharina latissima* with red and brown seaweeds on shelly coarse sediment	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
52	S1	Lochs DL&A	*Saccharina latissima* with red and brown seaweeds on shelly coarse sediment	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
53	S1	Lochs DL&A	*Limaria hians* 'nests' in gravelly sediment with mixed kelps with dense red and brown seaweeds	SS.SMx.IMx.Lim IR.HIR.KSed.XKScrR	Flame shell beds
54	S1	Lochs DL&A	*Limaria hians* 'nests' in gravelly sediment with mixed kelps with dense red and brown seaweeds	SS.SMx.IMx.Lim IR.HIR.KSed.XKScrR	Flame shell beds
54	S2	-	*Saccharina latissima* with red and brown seaweeds on shelly coarse sediment	SS.SMp.KSwSS.LsacR.Gv	Kelp and seaweed communities on sublittoral sediment
55	S1	-	[zero visibility]		
55	S2	-	Burrowed shelly sandy mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud
55	S3	-	Burrowed shelly mud with occasional pebbles and cobbles	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
55	S4	-	Cobbles and boulders overlying muddy mixed sediment with crustose communities, ascidians	CR.LCR.BrAs SS.SMx	
56	S1	-	Sparse *Saccharina latissima* and seaweeds on sandy mixed sediment with patchy pebbles and cobbles	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
57	S1	-	*Laminaria hyperborea* on boulders with red and brown filamentous seaweeds	IR.MIR.KR.Lhyp	Kelp beds
58	S1	-	Kelp on bedrock and boulders with red and brown filamentous seaweeds	IR.MIR.KR.Lhyp	Kelp beds
58	S2	-	Sparse *Saccharina latissima* with dense red and brown seaweeds on gravel, pebbles and cobbles	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
58	S3	-	Echinoderms and crustose communities with sparse seaweeds on cobbles and boulders on coarse sediment	CR.MCR.EcCr	
59	S1	-	Red and brown seaweeds and encrusting algae on gravel, pebbles and cobbles with sparse kelps	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
59	S2	-	Red seaweeds with echinoderms and crustose communities on bedrock and boulders with sparse kelps	CR.MCR.EcCr.FaAlCr IR.MIR.KR	
60	S1	-	Sandy mud and shell with pebbles and sparse cobbles with sparse biota	SS.SMx	
60	S2	-	Coralline crusts on cobbles, boulders and silt-covered bedrock with *Ciona intestinalis* and hydroids	CR.LCR.BrAs.AmenCio SS.SMx	
60	S3	-	Sandy mud and shell with pebbles and cobbles with sparse biota	SS.SMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
61	S1	-	Burrowed mud	SS.SMu.CFiMu.SpnMeg	Burrowed mud
61	S2	-	[zero visibility]		
61	S3	-	Burrowed mud with scattered pebbles, cobbles and shell	SS.SMu.CFiMu.SpnMeg	Burrowed mud
62	S1	-	Burrowed shelly mud with scattered pebbles and cobbles	SS.SMu.CFiMu.SpnMeg	Burrowed mud
63	S1	-	Filamentous red seaweeds on gravel, pebbles and cobbles with sparse *Saccharina latissima*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
63	S2	-	Filamentous red seaweeds on cobbles and boulders with encrusting biota and sparse kelps	IR.HIR.KFaR.FoR	
63	S3	-	Filamentous red seaweeds on gravel, pebbles and cobbles with sparse *Saccharina latissima*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
63	S4	-	Filamentous red seaweeds on cobbles and boulders with encrusting biota and sparse kelps	IR.HIR.KFaR.FoR	
64	S1	-	Filamentous red seaweeds on gravel, pebbles and cobbles with sparse *Saccharina latissima*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
64	S2	-	Dense *Saccharina latissima* with filamentous red and brown seaweeds on coarse sediment with cobbles and occasional boulders	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
65	S1	-	Burrowed shelly mud with large mounds and *Bonellia viridis*	SS.SMu.CFiMu.MegMax	Burrowed mud
65	S2	-	Pebbles and cobbles overlying shelly mud with *Bonellia viridis*	SS.SMx SS.SMu.CFiMu.MegMax	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
65	S3	-	Burrowed shelly mud with large mounds and *Bonellia viridis*	SS.SMu.CFiMu.MegMax	Burrowed mud
65	S4	-	Pebbles and cobbles overlying shelly mud with some large mounds	SS.SMx SS.SMu.CFiMu.MegMax	
66	S1	Lochs DL&A	Mixed kelps on sand and/or sand-covered rock	IR.HIR.KSed	
66	S2	Lochs DL&A	Gravelly coarse sediment	SS.SCS	
67	S1	Lochs DL&A	*Limaria hians* in shelly gravel with *Saccharina latissima*, *Desmarestia ligulata* & filamentous algae	SS.SMx.IMx.Lim SS.SMp.KSwSS.LsacR	Flame shell beds; Kelp and seaweed communities on sublittoral sediment
67	S2	Lochs DL&A	*Saccharina latissima* with red and brown seaweeds on shelly gravel with pebbles and cobbles	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
68	S1	Lochs DL&A	*Saccharina latissima* with red and brown seaweeds on gravel and pebbles with *Ophiocomina nigra*	SS.SMp.KSwSS.LsacR SS.SMx.CMx.OphMx	Kelp and seaweed communities on sublittoral sediment
69	S1	Loch Carron	Red and brown algae with sparse *Saccharina latissima* on shelly gravel with *Aequipecten opercularis*	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
70	S1	Loch Carron	*Saccharina latissima* with *Desmarestia ligulata* & other seaweeds on shelly gravel with pebbles & cobbles	SS.SMp.KSwSS.LsacR	Kelp and seaweed communities on sublittoral sediment
71	S1	Loch Carron	Sparse *Limaria hians* 'nests' in shelly gravel with *Saccharina latissima* & red and brown seaweeds	SS.SMx.IMx.Lim SS.SMp.KSwSS.LsacR	Flame shell beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
72	S1	Lochs DL&A	*Limaria hians* beds in shelly gravel with kelps, *Desmarestia ligulata* & filamentous algae	SS.SMx.IMx.Lim SS.SMp.KSwSS.LsacR	Flame shell beds; Kelp and seaweed communities on sublittoral sediment
73	S1	Lochs DL&A	Burrowed mud with *Funiculina quadrangularis* and Nephrops novegicus	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
74	S1	Lochs DL&A	Burrowed mud with *Funiculina quadrangularis* and *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
75	S1	Lochs DL&A	Silt-covered stepped bedrock slope with sparse faunal turf	CR SS.SMu.CFiMu	
75	S2	Lochs DL&A	Burrowed mud with *Funiculina quadrangularis* and *Nephrops norvegicus*	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*
76	S1	Lochs DL&A	Burrowed mud with *Funiculina quadrangularis*, *Nephrops norvegicus* and *Leptometra celtica*	SS.SMu.CFiMu.SpnMeg.Fun	Burrowed mud; Tall seapen - *Funiculina quadrangularis*; Northern feather star aggregations

Table A3.4

Summary of the results of the video analysis for South Arran and the Clyde Sea.

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
1	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl bed	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
2	S1	South Arran	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
3	S1	South Arran	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
4	S1	South Arran	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
5	S1	South Arran	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.Mrl	Maerl beds
5	S2	South Arran	*Saccharina latissima* on cobbles, boulders and gravel	IR.LIR.K.Slat	
5	S3	South Arran	*Saccharina latissima* and rhodophyta on maerl bed	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
6	S1	South Arran	Sparse *Saccharina latissima* and rhodophyta on mixed sediment with *Cerianthus lloydii*. Impoverished biotope transitioning to CIloMx	SS.SMx.CMx.CIloMx SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
6	S2	South Arran	*Cerianthus lloydii* on mixed muddy sediments	SS.SMx.CMx.CIloMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
7	S1	-	*Cerianthus lloydii* and paguridae on muddy mixed sediments	SS.SMx.CMx.ClloMx	
8	S1	-	*Cerianthus lloydii* on mixed sediments	SS.SMx.CMx	
9	S1	-	*Cerianthus lloydii* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMx.CMx.ClloMx	Maerl beds
10	S1	-	*Saccharina latissima* on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR.CbPb	Maerl beds; Kelp and seaweed communities on sublittoral sediment
11	S1	-	*Cerianthus lloydii* and *Chorda filum* om mixed sediments	SS.SMp.KSwSS.Bon	Kelp and seaweed communities on sublittoral sediment
12	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
13	S1	-	*Cerianthus lloydii* on muddy sands	SS.SSa.CMuSa	
14	S1	-	*Cerianthus lloydii* and *Saccharina latissima* on maerl bed	SS.SMp.Mrl	Maerl beds
15	S1	-	*Saccharina latissima* and *Cerianthus lloydii* on silted mixed sediments	SS.SMx.CMx.ClloMx SS.SMp.KSwSS.SlatR	
16	S1	-	*Cerianthus lloydii* and *Saccharina latissima* on maerl bed and mixed sediments	SS.SMp.Mrl SS.SMx.CMx.ClloMx	Maerl beds
17	S1	-	Sparse/patchy seaweeds and *Cerianthus lloydii* on maerl and mixed sediments	SS.SMp.Mrl	Maerl beds
17	S2	-	*Cerianthus lloydii* and *Saccharina latissima* on maerl bed and mixed sediments	SS.SMp.Mrl SS.SMx.CMx.ClloMx	Maerl beds
17	S3	-	*Cerianthus lloydii* on mixed sediments with patchy maerl gravel	SS.SMx.CMx.ClloMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
18	S1	-	*Saccharina latissima* on maerl bed and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
19	S1	-	*Saccharina latissima* on maerl bed and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
20	S1	-	*Cerianthus lloydii* on mixed sediments	SS.SMx.CMx.ClloMx	
21	S1	South Arran	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
22	S1	South Arran	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
23	S1	South Arran	*Cerianthus lloydii* on maerl bed	SS.SMp.Mrl	Maerl beds
24	S1	South Arran	*Cerianthus lloydii* on maerl bed	SS.SMp.Mrl	Maerl beds
25	S1	South Arran	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
26	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
27	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
28	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
29	S1	South Arran	*Saccharina latissima*, *Cerianthus lloydii* and rhodophyta on mixed sediments	SS.SMx.CMx.CIloMx SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
29	S2	South Arran	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
30	S1	South Arran	*Saccharina latissima*, *Cerianthus lloydii* and rhodophyta on mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
31	S1	South Arran	*Saccharina latissima* and rhodophyta on pebbles, cobbles and boulders overlying gravel	IR.LIR.K.Slat	
31	S2	South Arran	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
32	S1	South Arran	*Saccharina latissima* and rhodophyta on boulders, cobbles, pebbles and gravel	IR.LIR.K.Slat	
33	S1	South Arran	Maerl gravel and mixed sediments with shell with bivalvia and rhodophyta	SS.SMp.Mrl	Maerl beds
34	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl bed	SS.SMp.Mrl	Maerl beds
35	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl bed	SS.SMp.Mrl	Maerl beds
36	S1	South Arran	*Saccharina latissima* and rhodophyta on stony reef with maerl infill	IR.LIR.K.Slat	
37	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl with common *Neopentadactyla mixta*	SS.SMp.Mrl.Pcal.Nmix	Maerl beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
37	S2	South Arran	*Saccharina latissima* and rhodophyta on mixed substrate	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
38	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl, shells and mixed substrate	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
39	S1	South Arran	*Saccharina latissima* and rhodophyta on stony reef	IR.MIR.KR	
40	S1	South Arran	*Neopentadactyla mixta* in slightly silty gravel and pebbles with some dead maerl	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
41	S1	South Arran	Ascidians and hydroids on mixed sediments	SS.SMx.CMx	
42	S1	South Arran	*Neopentadactyla mixta* in slightly silty gravel and pebbles with some dead maerl	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
43	S1	South Arran	Mats of 'Trailliella' phase *Bonnemaisonia hamifera* on mixed sediments	SS.SMp.KSwSS.Bon	Kelp and seaweed communities on sublittoral sediment
44	S1	South Arran	*Neopentadactyla mixta* on mixed sediments	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
45	S1	South Arran	*Neopentadactyla mixta* on mixed sediments	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
46	S1	South Arran	Ascidians and hydroids on mixed sediments	SS.SMx.CMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
47	S1	South Arran	Ascidians and hydroids on mixed sediments	SS.SMx.CMx	
48	S1	South Arran	Trailliella' phase *Bonnemaisonia hamifera* and ascidians on stony reef and mixed sediments	IR.MIR.KR SS.SMp.KSwSS.Bon	Kelp and seaweed communities on sublittoral sediment
49	S1	South Arran	Maerl beds and 'Trailliella' phase *Bonnemaisonia hamifera*, *Saccharina latissima* and ascidians on stony reef and mixed sediments	IR.MIR.KR SS.SMp.Mrl	Maerl beds; Kelp and seaweed communities on sublittoral sediment
50	S1	South Arran	*Neopentadactyla mixta* on silted mixed sediments, biotope mismatch	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
51	S1	South Arran	Rhodophyta and *Saccharina latissima* on stony reef and maerl and mixed sediments	IR.MIR.KR SS.SMp.Mrl	Maerl beds
52	S1	South Arran	Ascidians and rhodophyta overlying maerl and mixed sediments	SS.SMp.Mrl	Maerl beds
52	S2	South Arran	Trailliella' phase *Bonnemaisonia hamifera* and ascidians on stony reef and mixed sediments	IR.LIR.K.Slat SS.SMp.KSwSS.Bon	Kelp and seaweed communities on sublittoral sediment
53	S1	South Arran	*Neopentadactyla mixta* on silted mixed sediments, biotope mismatch	SS.SCS.CCS.Nmix	Maerl or coarse shell gravel with burrowing sea cucumbers
54	S1	South Arran	Trailliella' phase *Bonnemaisonia hamifera* and ascidians on mixed sediments	SS.SMp.KSwSS.SlatR.CbPb SS.SMp.KSwSS.Bon	Kelp and seaweed communities on sublittoral sediment
55	S1	South Arran	Ascidians and hydroids on mixed sediments	SS.SMx.CMx	
56	S1	South Arran	*Ophiocomina nigra* and *Ciona intestinalis* on mixed sediments	SS.SMx.CMx.OphMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
57	S1	South Arran	*Ophiocomina nigra* and *Ciona intestinalis* on mixed sediments	SS.SMx.CMx.OphMx	
57	S2	South Arran	*Cerianthus lloydii* and *Ophiocomina nigra* on maerl bed	SS.SMp.Mrl	Maerl beds
57	S3	South Arran	*Ophiocomina nigra* and ascidians on mixed sediments	SS.SMp.Mrl SS.SMx.CMx.OphMx	Maerl beds
58	S1	South Arran	*Saccharina latissima* and rhodophyta on boulders and cobbles	IR.LIR.K.Slat	
59	S1	South Arran	Rhodophyta and *Saccharina latissima* on mixed sediments	SS.SMp.KSwSS.SlatR.CbPb	Kelp and seaweed communities on sublittoral sediment
60	S1	South Arran	*Saccharina latissima* and rhodophyta on maerl with common *Neopentadactyla mixta*	SS.SMp.Mrl.Pcal.Nmix	Maerl beds
61	S1	South Arran	Ascidians and hydroids on maerl and mixed sediments	SS.SMp.Mrl SS.SMx.CMx.CIloMx	Maerl beds
62	S1	South Arran	*Ophiocomina nigra* and ascidians on mixed sediments	SS.SMx.CMx.OphMx	
63	S1	South Arran	Rhodophyta and *Saccharina latissima* on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
64	S1	South Arran	*Cerianthus lloydii* on maerl bed	SS.SMp.Mrl	Maerl beds
65	S1	South Arran	*Cerianthus lloydii* on maerl bed	SS.SMp.Mrl	Maerl beds
66	S1	South Arran	Ascidians and hydroids on mixed sediments	SS.SMx.CMx	
67	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.CIloMx	

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
68	S1	-	Sandy mud sediments with burrows and casts, sparse epibenthic faunal assemblage	SS.SMu.CSaMu	Burrowed mud
69	S1	-	Mixed sediments of shell, gravel and silt, with asteroidea and hydroid turf	SS.SMx.CMx	
70	S1	-	Mixed sediments of boulders, cobbles, pebbles and gravel, highly dominated by 'Trailliella' phase of rhodophyta	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
71	S1	-	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
72	S1	-	Mixed sediments of sand and shell gravel, dominated by *Saccharina latissima* and rhodophyta	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
73	S1	-	Mixed sediments of sand and shell gravel, dominated by *Saccharina latissima* and rhodophyta	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
74	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
74	S2	-	*Saccharina latissima* and rhodophyta on maerl and mixed gravel	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
75	S1	-	*Saccharina latissima* and rhodophyta on boulders and cobbles	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
75	S2	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
76	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
77	S1	-	Hydroid turf and rhodophyta on maerl bed	SS.SMp.Mrl	Maerl beds
78	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
79	S1	-	Ascidians on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
80	S1	-	Sparse faunal assemblage on mixed sediments	SS.SMx.CMx	
81	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
82	S1	-	Sparse epibenthic faunal assemblage on muddy sands	SS.SSa.CMuSa	
83	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
84	S1	-	Sparse epibenthic faunal assemblage on sandy mud	SS.SMu.CSaMu	Burrowed mud
85	S1	-	Paguridae and *Munida rugosa* on fine mud sediments	SS.SMu.CFiMu	Burrowed mud
86	S1	-	Sparse epibenthic faunal assemblage on mixed sediments	SS.SMx.CMx	
87	S1	-	*Cerianthus lloydii* on fine mud sediments	SS.SMu.CFiMu	Burrowed mud

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
88	S1	-	*Cerianthus lloydii* on fine mud sediments with Pennatulacea	SS.SMu.CFiMu.SpnMeg	Burrowed mud
89	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
90	S1	-	Hydroid turf and rhodophyta on maerl bed	SS.SMp.Mrl	Maerl beds
90	S2	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
91	S1	-	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
92	S1	-	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
93	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
94	S1	-	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
95	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
96	S1	-	Crustaceans and asteroidea on mixed sediments	SS.SMx.CMx	
97	S1	-	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
98	S1	-	*Saccharina latissima* and rhodophyta on maerl and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
99	S1	-	*Cerianthus lloydii* and *Munida rugosa* on mixed sediments	SS.SMx.CMx	
101	S1	-	*Cerianthus lloydii* and crustaceans on maerl bed	SS.SMp.Mrl	Maerl beds
102	S1	-	*Cerianthus lloydii* on mixed sediments	SS.SMx.CMx.ClloMx	
103	S1	-	Rhodophyta and ascidians on mixed sediments	SS.SMx.CMx	
104	S1	-	*Saccharina latissima*, rhodophyta and ascidians on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
105	S1	-	*Saccharina latissima*, rhodophyta and ascidians on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
106	S1	-	*Cerianthus lloydii*, ascidians and rhodophyta on maerl bed	SS.SMp.Mrl	Maerl beds
107	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
108	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.ClloMx	
109	S1	-	Ascidians, *Saccharina latissima* and rhodophyta on maerl bed and mixed sediments with sparse *Neopentadactyla mixta*	SS.SMp.Mrl.Pcal.Nmix SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment
110	S1	-	Ascidians, *Saccharina latissima* and rhodophyta on maerl bed and mixed sediments	SS.SMp.Mrl SS.SMp.KSwSS.SlatR	Maerl beds; Kelp and seaweed communities on sublittoral sediment

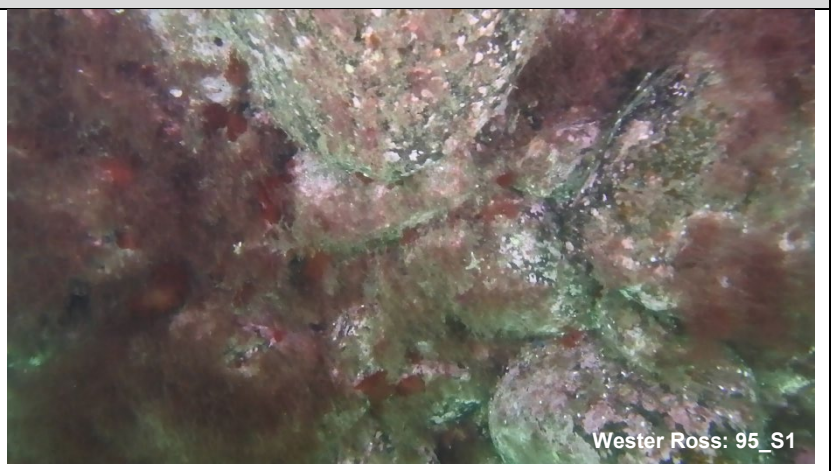
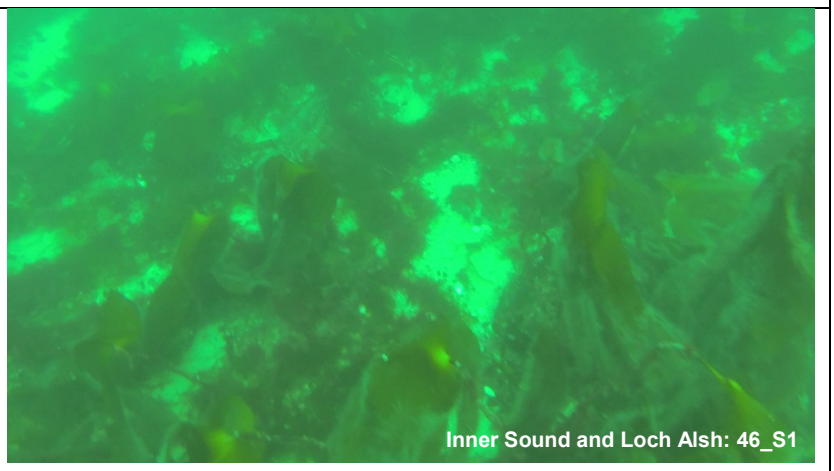
Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
111	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.CIloMx	
112	S1	-	Rhodophyta, ascidians and *Cerianthus lloydii* on muddy sands	SS.SSa.CMuSa	
113	S1	-	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
114	S1	-	*Saccharina latissima*, ascidians and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
115	S1	-	*Cerianthus lloydii* and ascidians on mixed sediments	SS.SMx.CMx.CIloMx	
116	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
117	S1	-	*Saccharina latissima* and rhodophyta on mixed sediments	SS.SMp.KSwSS.SlatR	Kelp and seaweed communities on sublittoral sediment
118	S1	South Arran	Sparse epibenthic assemblage on muddy sand and gravel	SS.SSa.CMuSa	
119	S1	South Arran	*Zostera* bed with sparse epibenthic faunal assemblage	SS.SMp.SSgr.Zmar	Seagrass beds
119	S2	South Arran	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
120	S1	South Arran	*Zostera* bed with sparse epibenthic faunal assemblage	SS.SMp.SSgr.Zmar	Seagrass beds
121	S1	South Arran	*Zostera* bed with sparse epibenthic faunal assemblage	SS.SMp.SSgr.Zmar	Seagrass beds

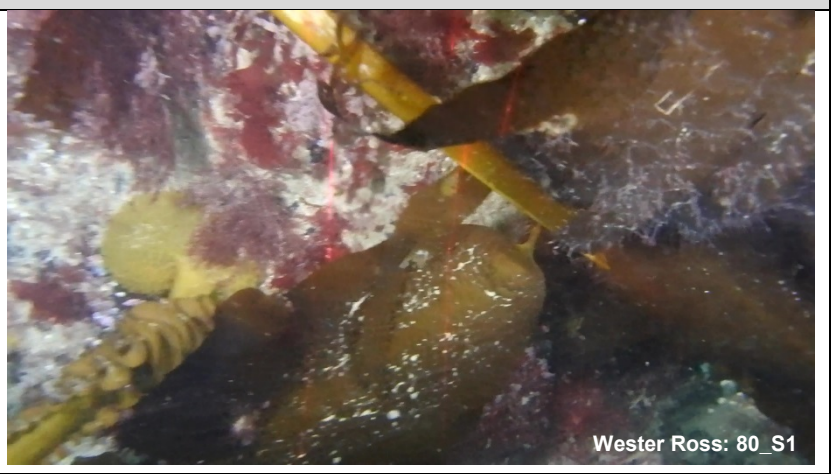
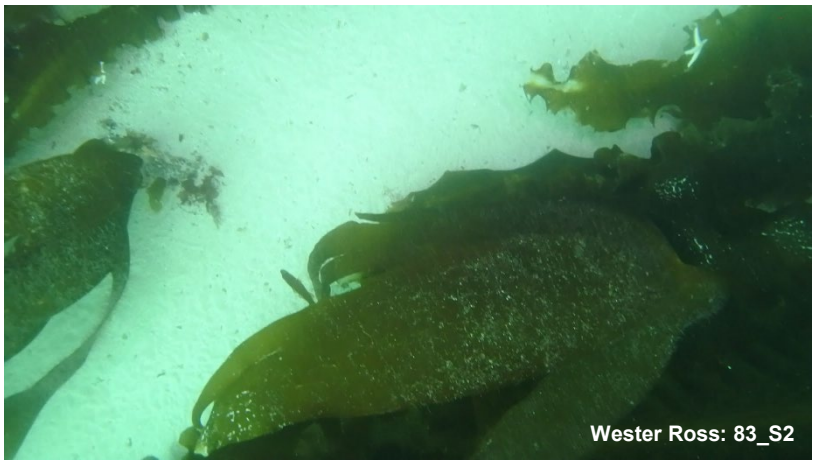
Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
122	S1	South Arran	*Zostera* bed with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
123	S1	South Arran	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
123	S2	South Arran	*Zostera* bed with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
123	S3	South Arran	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
124	S1	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
125	S1	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
126	S1	South Arran	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
127	S1	South Arran	Muddy sands with sparse epibenthic faunal assemblage and occasional *Zostera*	SS.SSa.CMuSa	
127	S2	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
128	S1	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
129	S1	South Arran	Muddy sands with sparse epibenthic faunal assemblage	SS.SSa.CMuSa	
130	S1	South Arran	Mixed sediments of sand and shell gravel, with sparse epibenthic assemblage	SS.SMx.CMx	
131	S1	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
132	S1	South Arran	Patchy *Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds

Video Tow no.	Segment no.	MPA	Segment description	Biotope(s) assigned	PMF/Protected feature assigned
133	S1	South Arran	*Zostera* beds with paguridae, gastropoda and burrowing bivalves	SS.SMp.SSgr.Zmar	Seagrass beds
134	S1	South Arran	Mixed sediments of sand and shell gravel, with sparse epibenthic assemblage	SS.SMx.CMx	

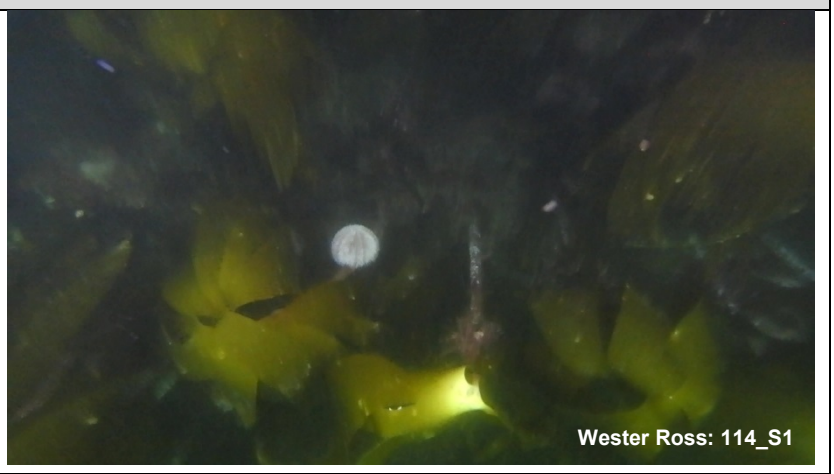
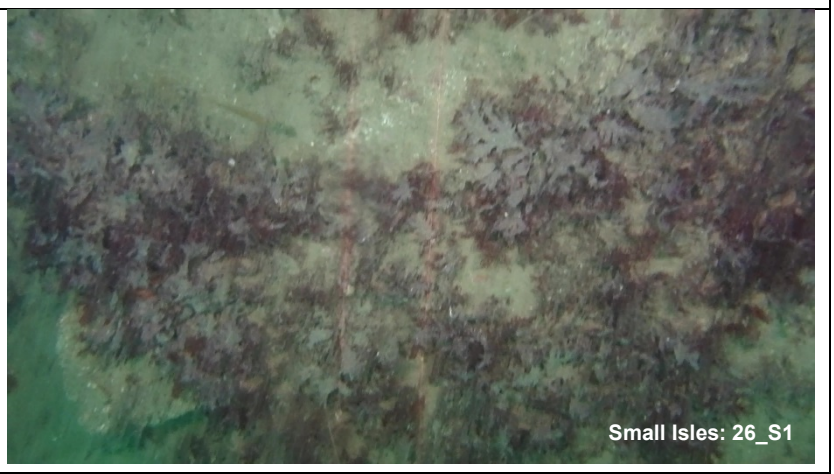
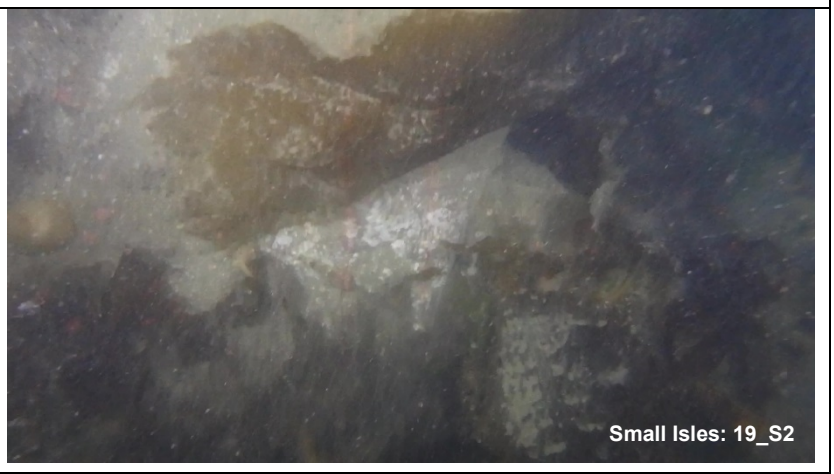
Appendix 4

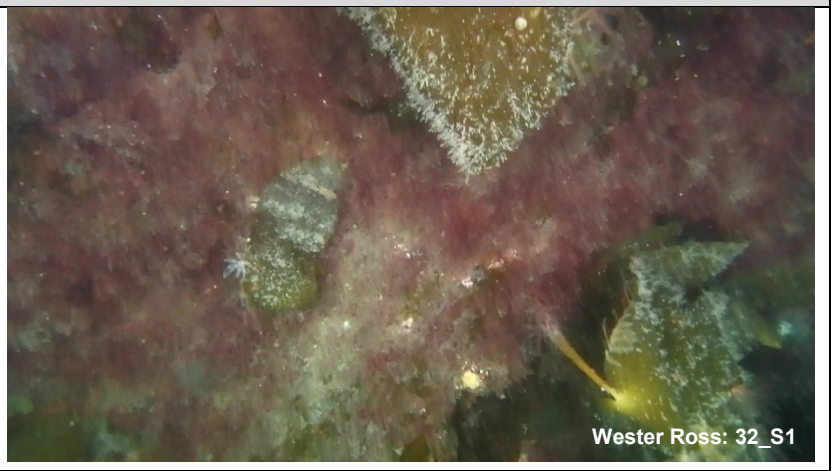
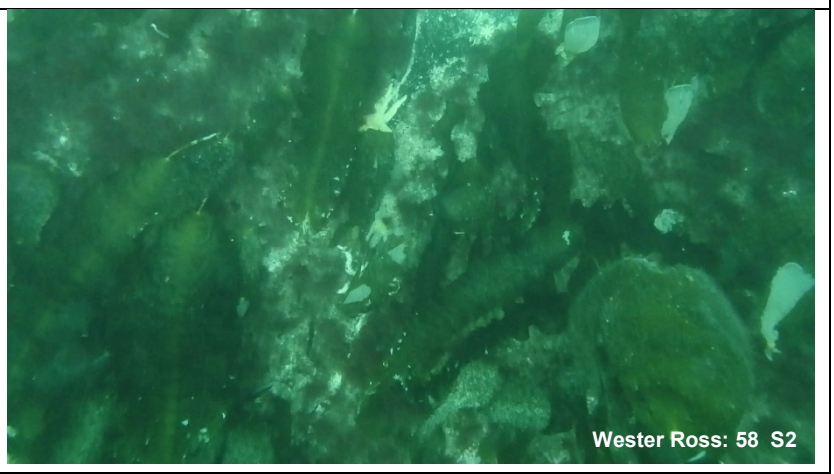
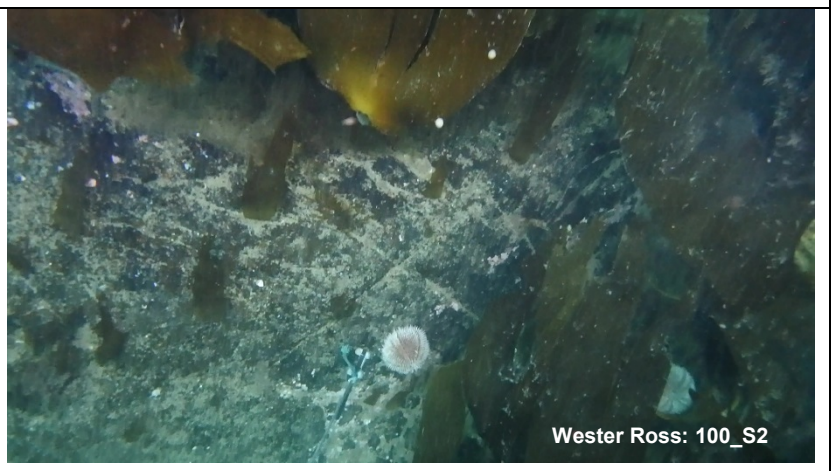
Biotope reference collection.

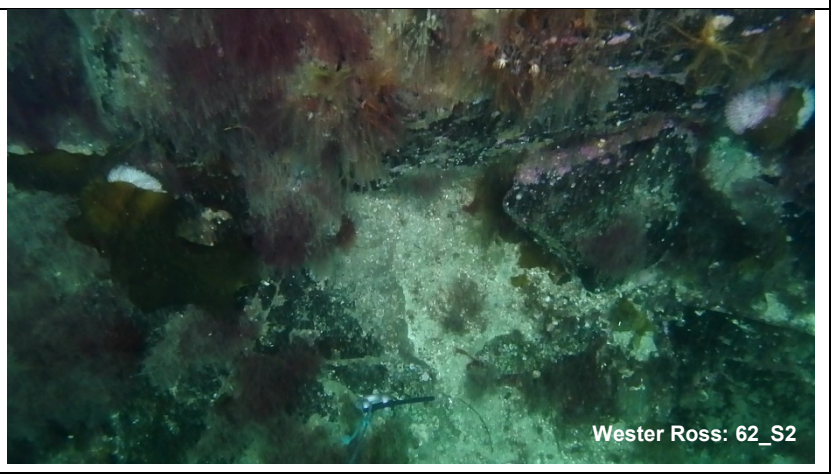
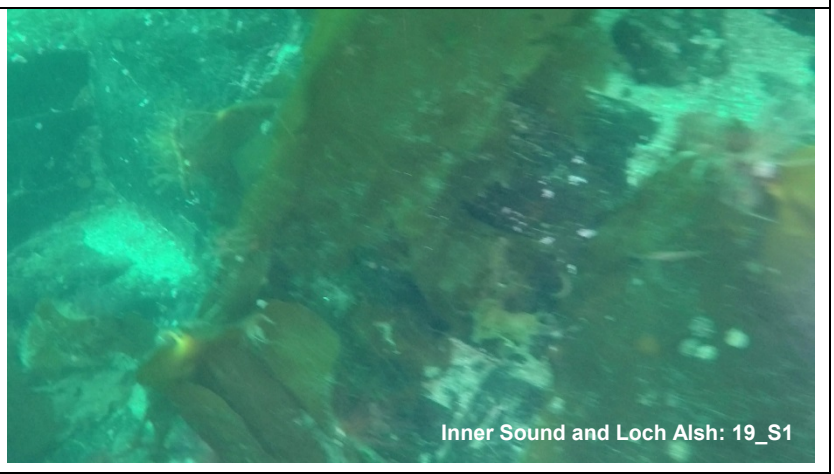
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.HIR.KFaR.FoR *Foliose red seaweeds on exposed lower infralittoral rock* *Wester Ross*: 57_S2, 80_S3, 95_S1 *Small Isles*: 39_S2, 41_S2, 82_S2 *Inner Sound and Loch Alsh*: 63_S2, 63_S4	
IR.HIR.KSed *Sediment-affected or disturbed kelp and seaweed communities* *Wester Ross*: 6_S3, 126_S1 *Inner Sound and Loch Alsh*: 46_S1, 66_S1	
IR.HIR.KSed.Sac *Saccorhiza polyschides and other opportunistic kelps on disturbed sublittoral fringe rock* *Small Isles:* 40-2_S3	

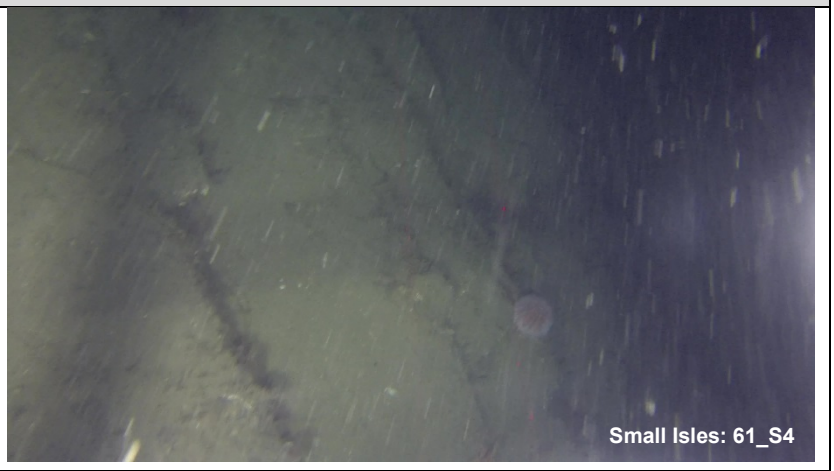
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.HIR.KSed.SlatSac *Saccharina latissima and/or Saccorhiza polyschides on exposed infralittoral rock* *Wester Ross*: 6_S2, 28_S2, 56_S1 *Small Isles*: 83_S2	
IR.HIR.KSed.XKScrR *Mixed kelps with scour-tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock* *Wester Ross*: 83_S2, 83_S4, 86_S1 *Small Isles*: 08_S2, 11_S1, 36_S1, 37_S1, 40_S2, 40_S4, 41_S1, 48_S1 *Inner Sound and Loch Alsh*: 47_S1	
IR.MIR.KR *Kelp and red seaweeds (moderate energy infralittoral rock*) *South Arran and Clyde Sea:* 39_S1	

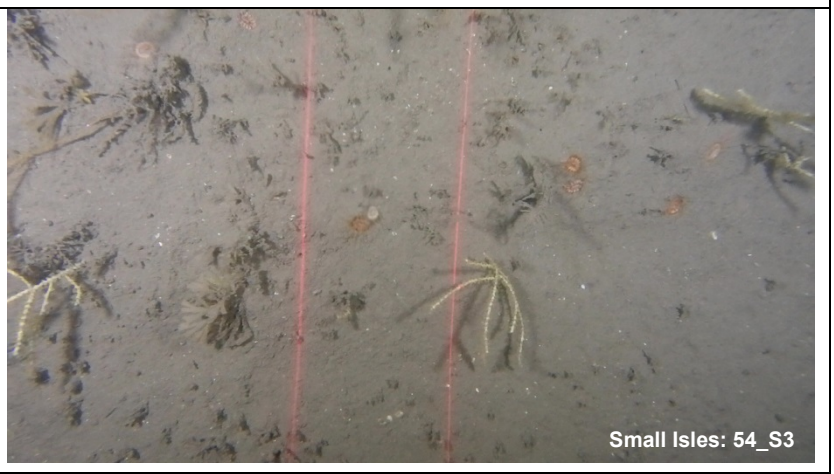
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.MIR.KR.Lhyp *Laminaria hyperborea and foliose red seaweeds on moderately exposed infralittoral rock* *Wester Ross*: 24_S2, 62_S1, 62_S3, 63_S1, 88_S1 *Small Isles*: 04_S1, 82_S3, 83_S4 *Inner Sound and Loch Alsh*: 57_S1, 58_S1	 Inner Sound and Loch Alsh: 57_S1
IR.MIR.KR.Lhyp.Ft *Laminaria hyperborea forest and foliose red seaweeds on moderately exposed upper infralittoral rock* *Wester Ross*: 81_S1, 84_S1, 87_S1, 93_S1, 105_S3, 107_S1, 114_S1 *Small Isles*: 08_S1, 40_S1	 Wester Ross: 87_S1
IR.MIR.KR.Lhyp.Pk *Laminaria hyperborea park and foliose red seaweeds on moderately exposed lower infralittoral rock* *Wester Ross*: 105_S2, 107_S2 *Small Isles*: 04_S2	 Small Isles: 04_S2

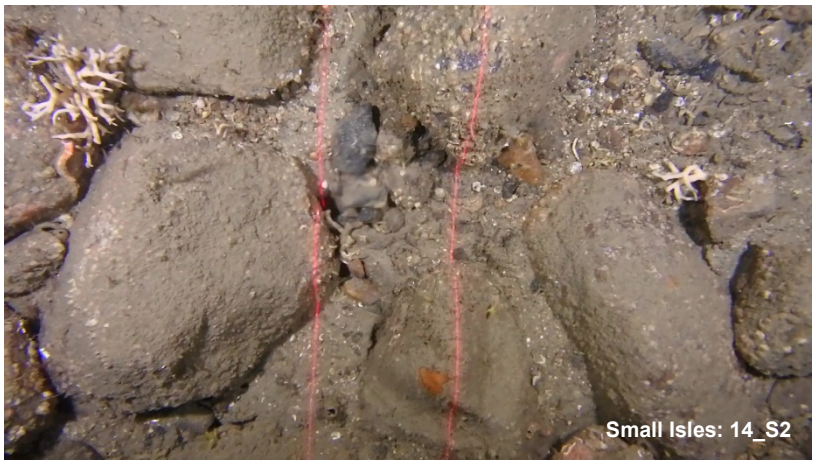
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.MIR.KR.Lhyp.GzFt *Grazed Laminaria hyperborea forest with coralline crusts on upper infralittoral rock* *Wester Ross*: 58_S1	 Wester Ross: 114_S1
IR.MIR.KR.XFoR *Dense foliose red seaweeds on silty moderately exposed infralittoral rock* *Small Isles*: 26_S1, 27_S1, 27_S3, 38_S1 *Inner Sound and Loch Alsh*: 43_S2	 Small Isles: 26_S1
IR.MIR *Moderate energy infralittoral rock* *Small Isles*: 19_S2	 Small Isles: 19_S2

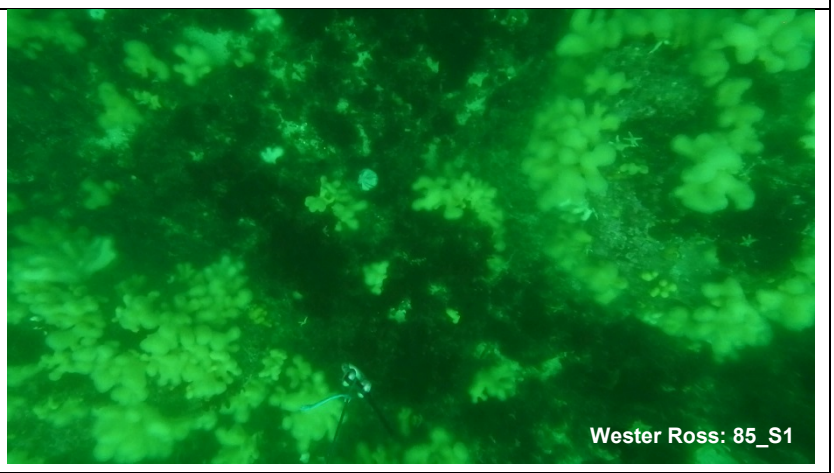
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.LIR.K.LhypSlat *Mixed Laminaria hyperborea and Saccharina latissima on sheltered infralittoral rock* *Wester Ross*: 13_S1, 32_S1, 57_S1, 60_S1, 61_S1, 66_S1, 79_S2 *Small Isles*: 04_S3	
IR.LIR.K.LhypSlat.Ft *Mixed Laminaria hyperborea and Saccharina latissima forest on sheltered upper infralittoral rock* *Wester Ross*: 58_S2	
IR.LIR.K.LhypSlat.Gz *Grazed, mixed Laminaria hyperborea and Saccharina latissima on sheltered infralittoral rock* *Wester Ross*: 100_S2 *Small Isles*: 68_S2	

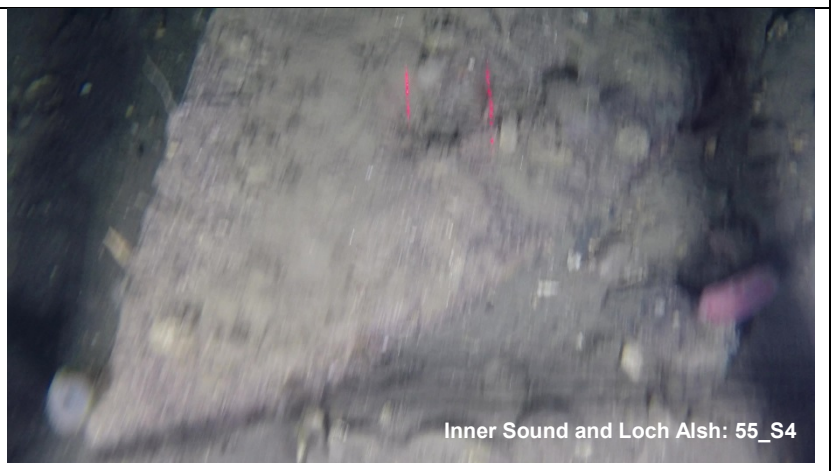
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
IR.LIR.K.Slat *Saccharina latissima on very sheltered infralittoral rock* South Arran and Clyde Sea: 05_S2, 31_S1, 32_S1, 36_S1, 58_S1	
IR.LIR.K.Slat.Pk *Saccharina latissima park on very sheltered lower infralittoral rock* *Wester Ross*: 36_S1, 42_S2, 58_S3, 61_S2, 62_S2, 66_S2, 98_S2, 98_S4, 109_S3	
IR.LIR.K.Slat.Gz *Grazed Saccharina latissima with Echinus, brittlestars and coralline crusts on sheltered infralittoral rock* *Inner Sound and Loch Alsh*: 19_S1	

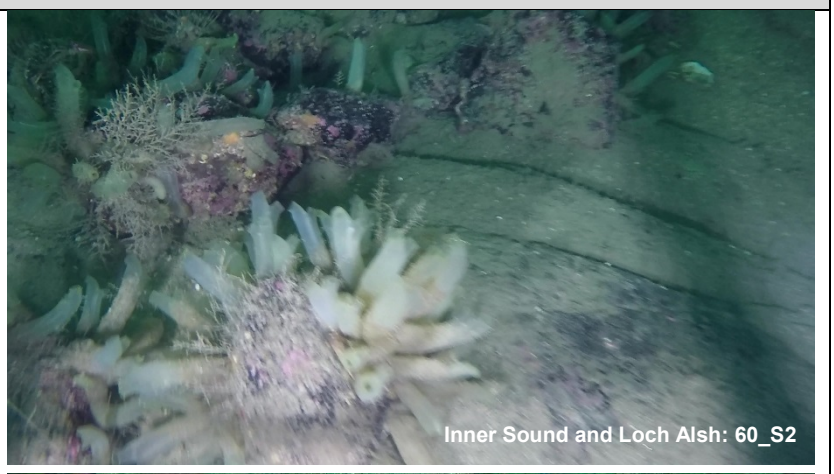
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR *Circalittoral rock (and other hard substrata)* *Small Isles*: 15_S1, 56_S1, 61_S1, 61_S3, 61_S4 *Inner Sound and Loch Alsh*: 75_S1	
CR.HCR.XFa.SwiLgAs *Mixed turf of hydroids and large ascidians with Swiftia pallida and Caryophyllia (Caryophyllia) smithii on weakly tide-swept circalittoral rock* *Small Isles*: 54_S1, 57_S1	
CR.HCR.XFa.SpNemAdia *Sparse sponges, Nemertesia spp. and Alcyonidium diaphanum on circalittoral mixed substrata* *Small Isles*: 75_S1 *Inner Sound and Loch Alsh*: 10.2_S2	

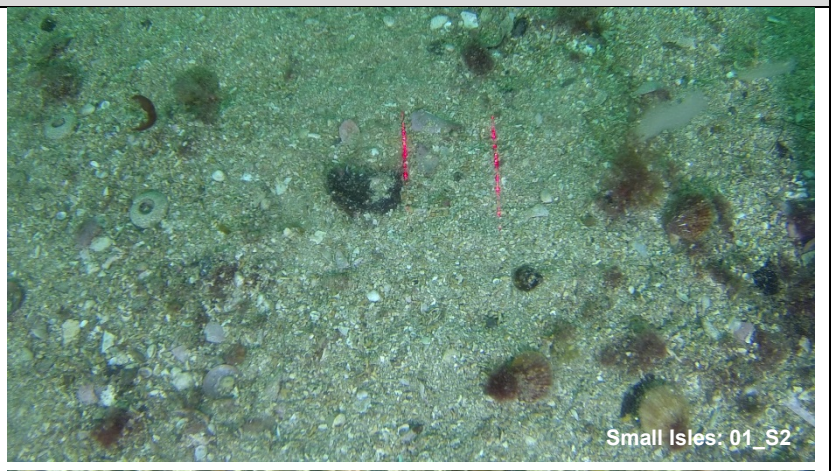
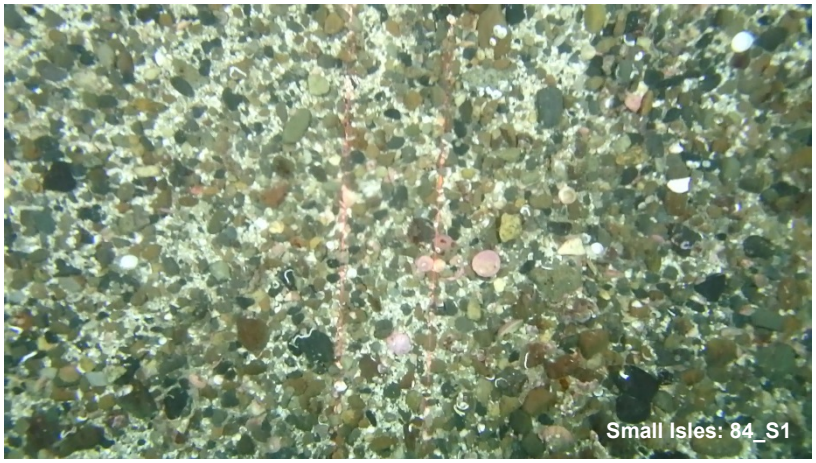
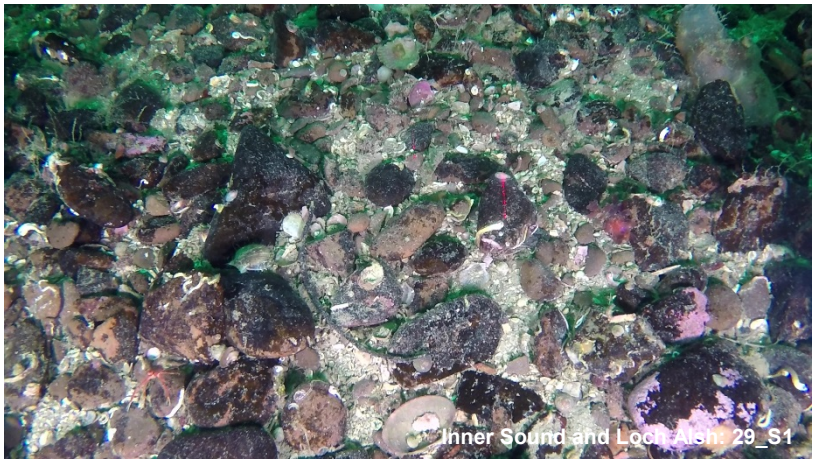
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR.MCR *Moderate energy circalittoral rock* *Small Isles*: 33_S2	
CR.MCR.EcCr *Echinoderms and crustose communities* *Wester Ross*: 19_S1, 19_S2, 30_S2, 30_S4, 108_S2, 127_S2 *Small Isles*: 14_S1, 20_S2, 20_S4, 43_S1, 61_S2, 63_S2 *Inner Sound and Loch Alsh*: 05_S2, 15_S1, 58_S3	
CR.MCR.EcCr.CarSwi *Caryophyllia (Caryophyllia) smithii and Swiftia pallida on circalittoral rock* *Small Isles*: 14_S4, 22_S1, 30_S1, 30_S4, 34_S2, 54_S3, 56_S2	

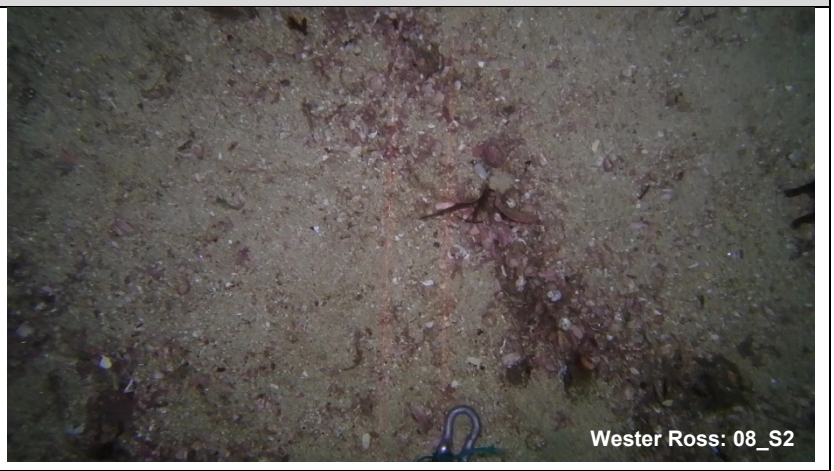
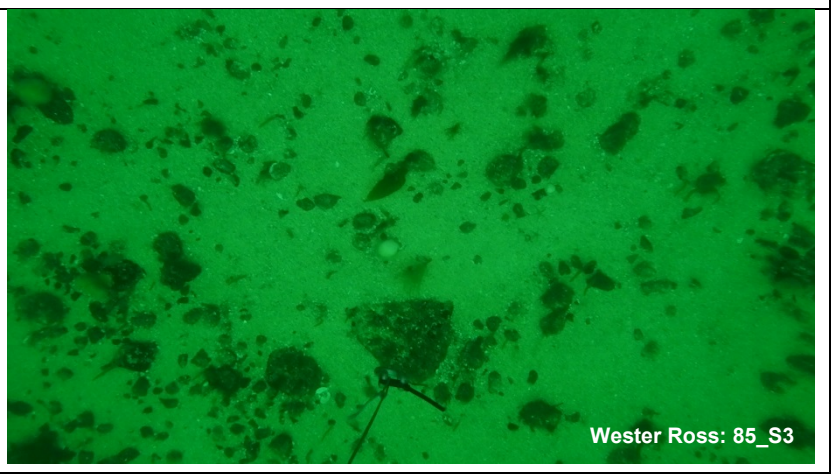
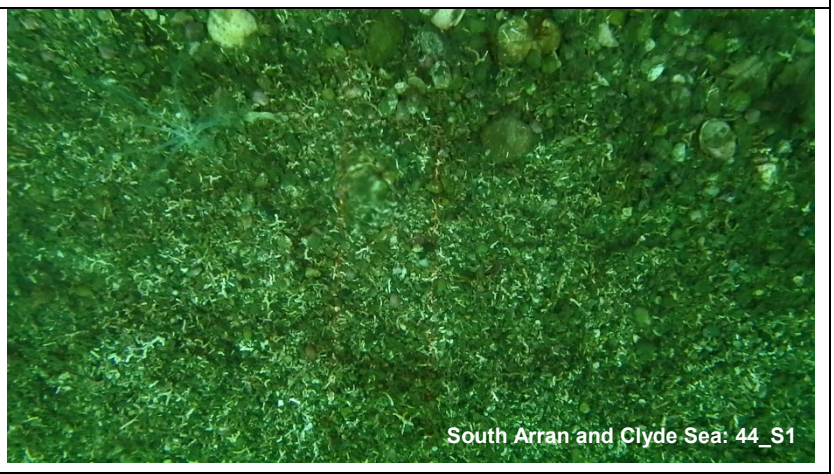
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR.MCR.EcCr.CarSp *Caryophyllia (Caryophyllia) smithii, sponges and crustose communities on wave-exposed circalittoral rock* *Small Isles*: 24_S2, 24_S4	
CR.MCR.EcCr.CarSp.PenPcom *Caryophyllia (Caryophyllia) smithii and sponges with Pentapora foliacea, Porella compressa and crustose communities on wave-exposed circalittoral rock* *Small Isles*: 07_S1, 07_S2, 14_S2	 

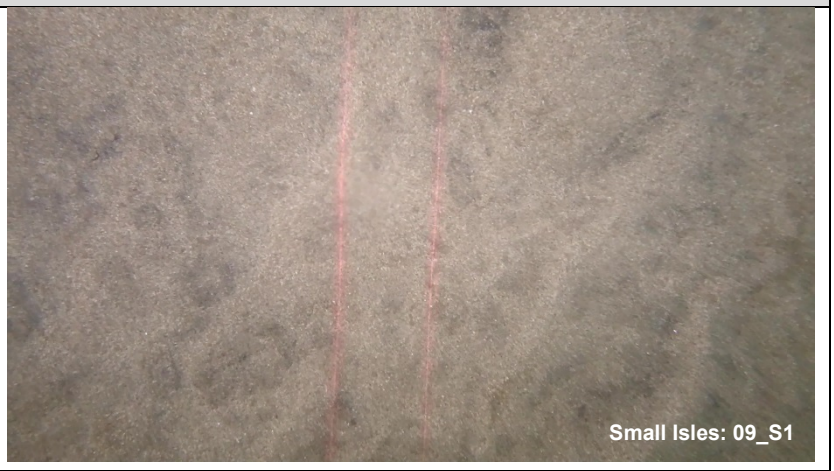
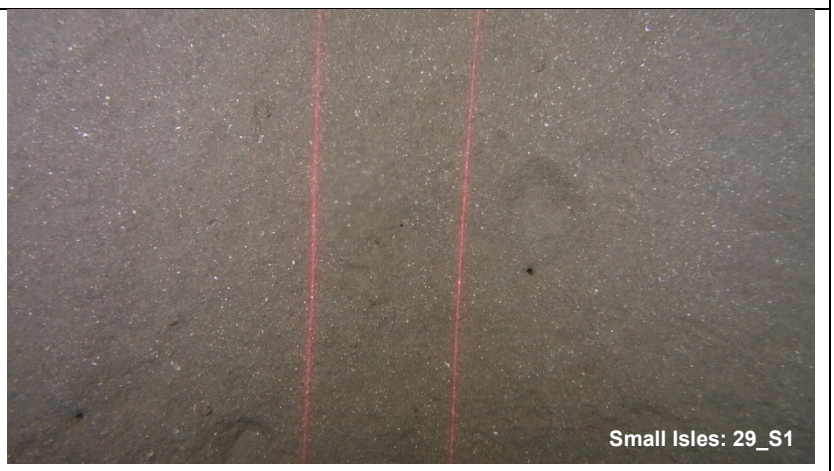
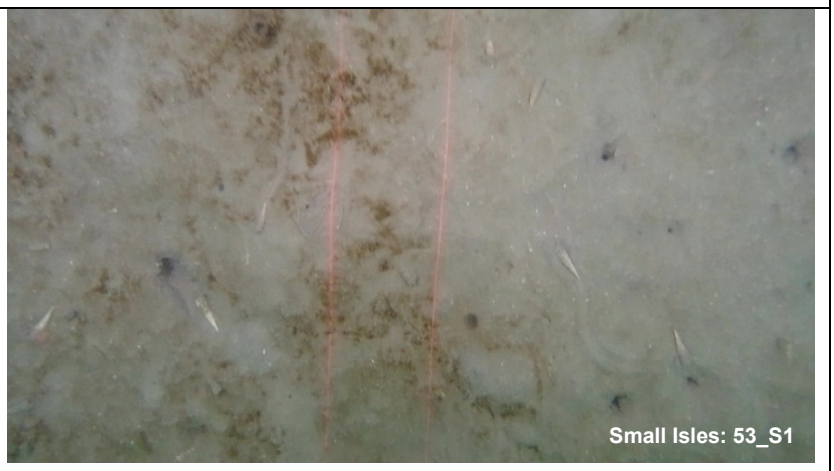
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR.MCR.EcCr.FaAlCr *Faunal and algal crusts on exposed to moderately wave-exposed circalittoral rock* *Wester Ross*: 10_S1, 10_S3, 11_S1, 16_S3, 57_S3, 58_S4, 59_S1, 64_S1, 89_S1, 90_S1, 91_S1, 94_S1, 101_S2 *Small Isles*: 02_S1, 02_S3, 05_S1, 06_S1, 10_S1, 28_S1, 28_S3, 38_S2, 39_S1, 40_S5, 60_S1, 81_S1 *Inner Sound and Loch Alsh*: 59_S2	 Wester Ross: 64_S1  Small Isles: 05_S1
CR.MCR.EcCr.FaAlCr.Adig *Alcyonium digitatum, Spirobranchus triqueter, algal and bryozoan crusts on wave-exposed circalittoral rock* *Wester Ross*: 85_S1 *Small Isles*: 02_S2	 Wester Ross: 85_S1

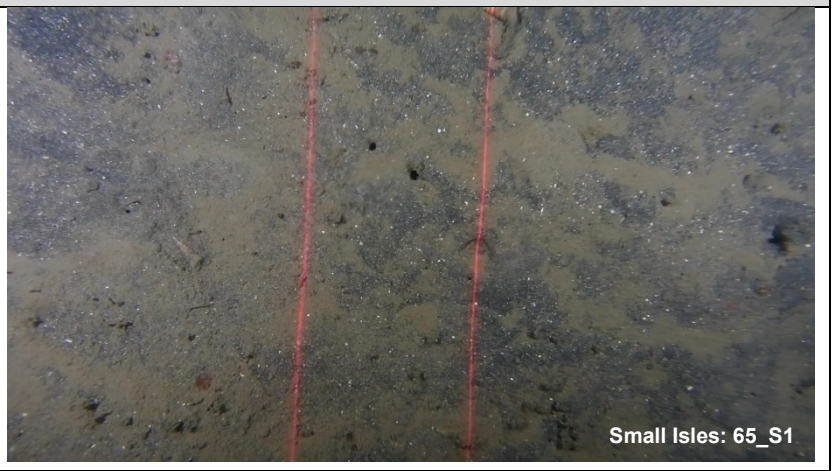
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR.MCR.EcCr.FaAlCr.Spi *Faunal and algal crusts with Spirobranchus triqueter and sparse Alcyonium digitatum on exposed to moderately wave-exposed circalittoral rock* *Wester Ross*: 08_S1	
CR.MCR.EcCr.FaAlCr.Car *Caryophyllia (Caryophyllia) smithii with faunal and algal crusts on moderately wave-exposed circalittoral rock* *Wester Ross*: 38_S1, 40_S2 *Small Isles*: 01_S1	
CR.LCR.BrAs *Brachiopod and ascidian communities* *Inner Sound and Loch Alsh*: 55_S4	

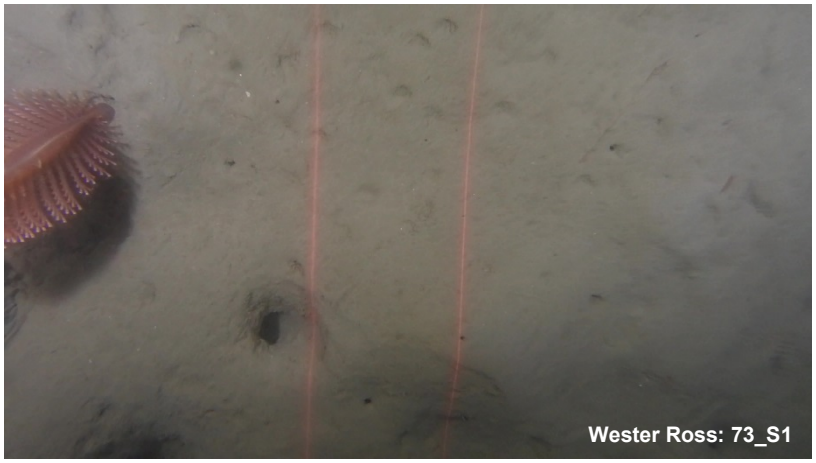
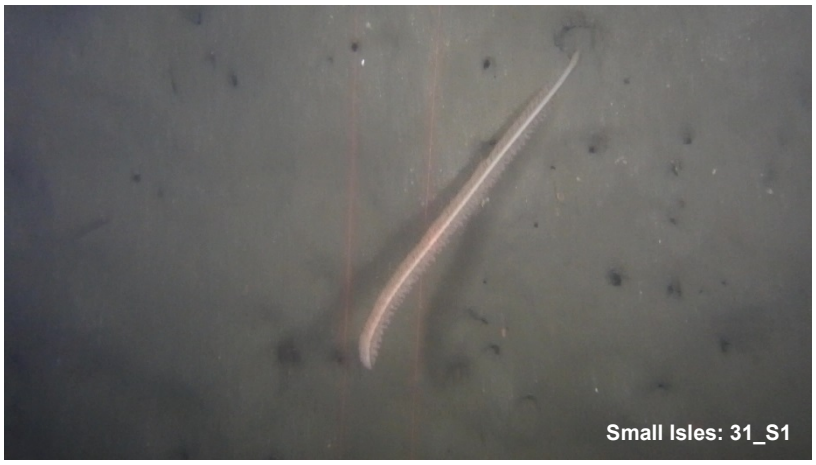
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
CR.LCR.BrAs.AmenCio *Solitary ascidians, including Ascidia mentula and Ciona intestinalis, on wave-sheltered circalittoral rock* *Wester Ross*: 44_S2 *Inner Sound and Loch Alsh*: 20_S1, 26_S1, 31_S1, 48_S1, 48_S2, 60_S2	 
CR.LCR.BrAs.AmenCio.Ant *Solitary ascidians, including Ascidia mentula and Ciona intestinalis, with Antedon spp. on wave-sheltered circalittoral rock* *Inner Sound and Loch Alsh*: 22_S1, 23_S2	

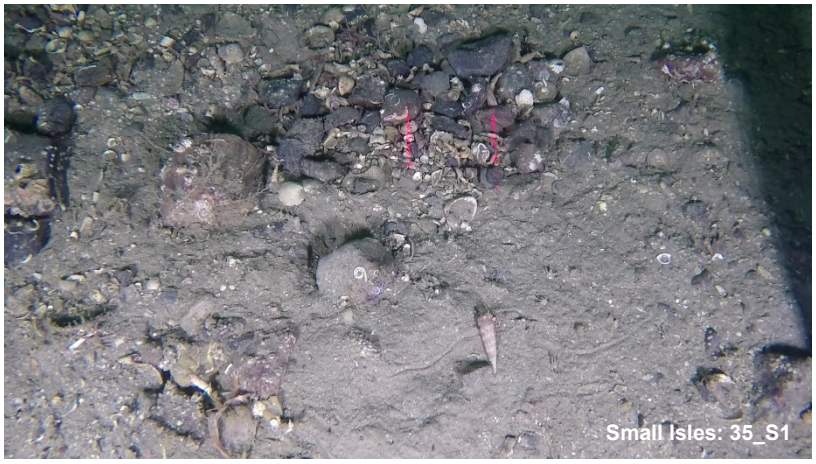
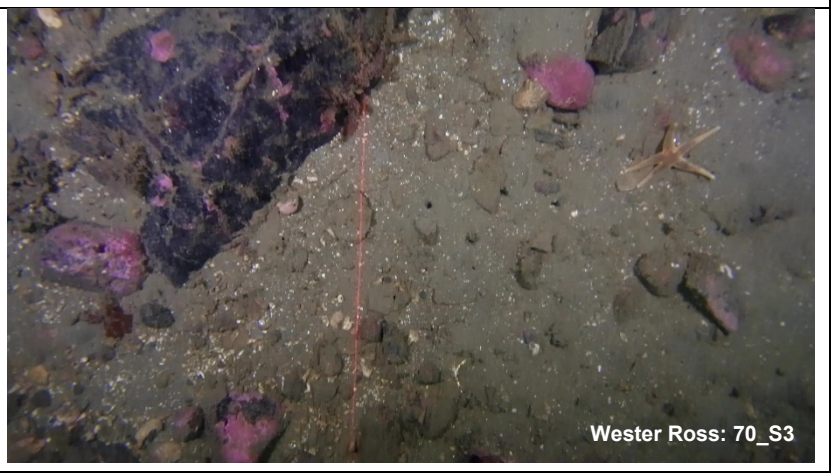
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SCS *Sublittoral coarse sediment (unstable cobbles and pebbles, gravels and coarse sands)* *Wester Ross*: 55_S1, 63_S2, 80_S2, 80_S4, 82_S1, 92_S1, 95_S2 *Small Isles*: 01_S2, 03_S1, 03_S2, 13_S1, 14_S6, 24_S1, 24_S3, 24_S5, 25_S1, 28_S4, 38_S3, 41_S5, 41_S6, 42_S1, 43_S2, 45_S1, 50_S1, 50_S2, 51_S1, 71_S1, 73_S1, 74_S1, 80_S1, 82_S1, 83_S1, 84_S1, 84_S3, 85_S1 *Inner Sound and Loch Alsh*: 01_S1, 02_S1, 03_S1, 03_S3, 05_S1, 05_S3, 10.2_S1, 11_S1, 16_S1, 29_S1, 32_S1, 66_S2	  

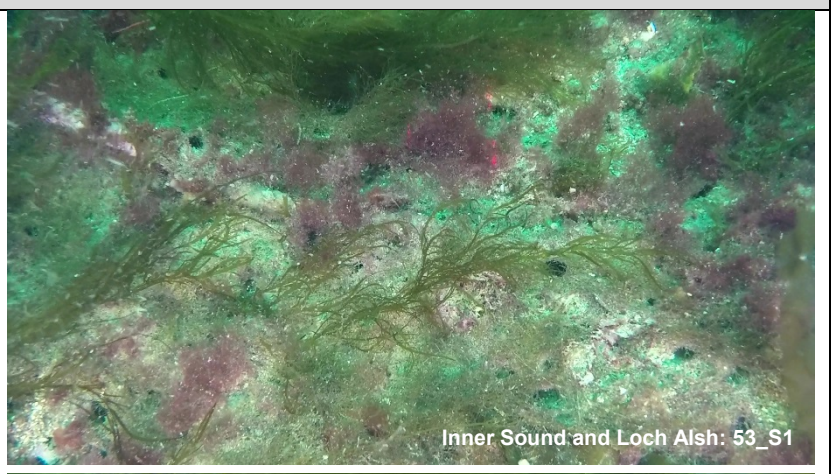
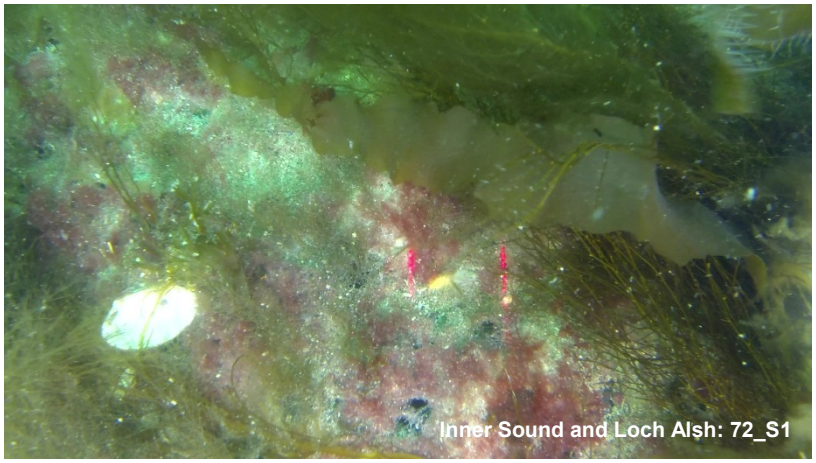
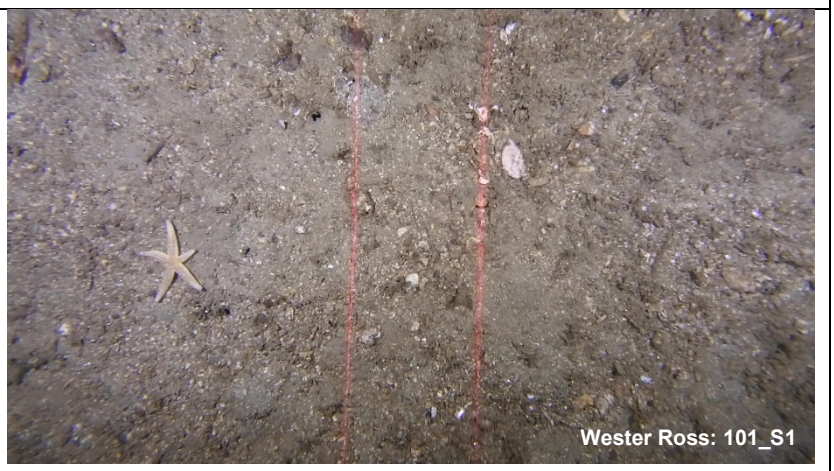
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SCS.ICS *Infralittoral coarse sediment* *Wester Ross*: 8_S2, 29_S1, 30_S1, 31_S2, 98_S1, 98_S5, 103_S1, 105_S1, 106_S1, 108_S1, 109_S1, 113_S1, 115_S1, 123_S1, 128_S2	
SS.SCS.CCS *Circalittoral coarse sediment* *Wester Ross*: 10_S2, 18_S1, 18_S2, 35_S2, 37_S1, 39_S1, 43_S1, 44_S1, 51_S1, 52_S1, 85_S3, 127_S1	
SS.SCS.CCS.Nmix *Neopentadactyla mixta in circalittoral shell gravel or coarse sand* *South Arran and Clyde Sea:* 40_S1, 44_S1, 45_S1, 50_S1, 53_S1	

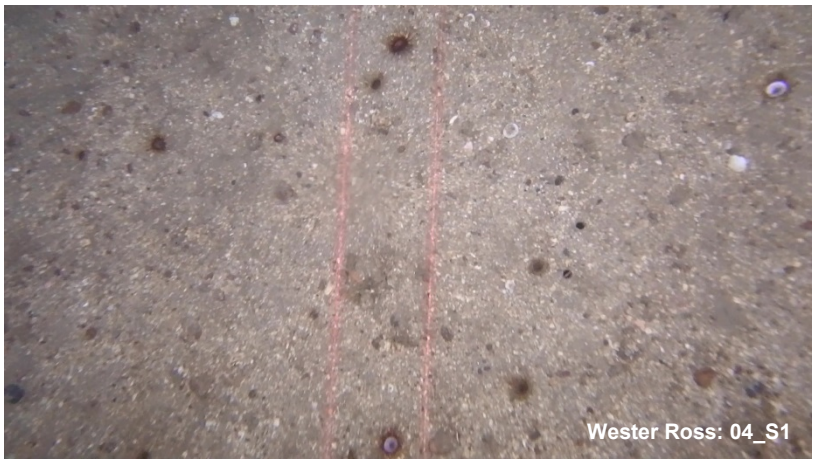
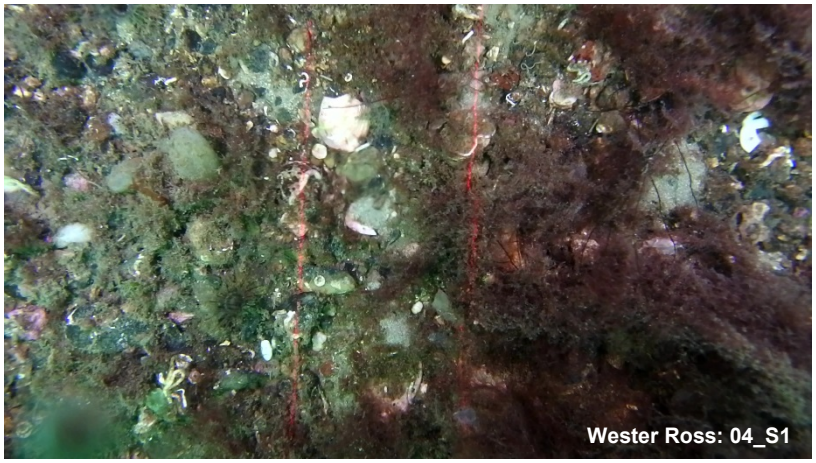
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SSa *Sublittoral sands and muddy sands* *Small Isles*: 09_S1, 12_S1, 36_S2, 58_S1, 59_S1, 78_S1, 79_S1, 86_S1 *Inner Sound and Loch Alsh*: 04_S1	
SS.SSa.CMuSa *Circalittoral muddy sand* *Small Isles*: 29_S1 *South Arran and the Clyde Sea:* 13_S1, 71_S1, 82_S1, 112_S1, 113_S1, 118_S1, 119_S2, 123_S1, 123_S3, 126_S1, 127_S1, 129_S1	
SS.SMu.ISaMu *Infralittoral sandy mud* *Small Isles*: 53_S1	

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMu.CSaMu *Circalittoral sandy mud* *Wester Ross*: 70_S2, 124_S1 *Small Isles*: 19_S1, 19_S3, 57_S2, 64_S1, 65_S1, 67_S1 *South Arran and the Clyde Sea:* 68_S1, 84_S1	
SS.SMu.CFiMu *Circalittoral fine mud* *South Arran and Clyde Sea:* 85_S1, 87_S1	

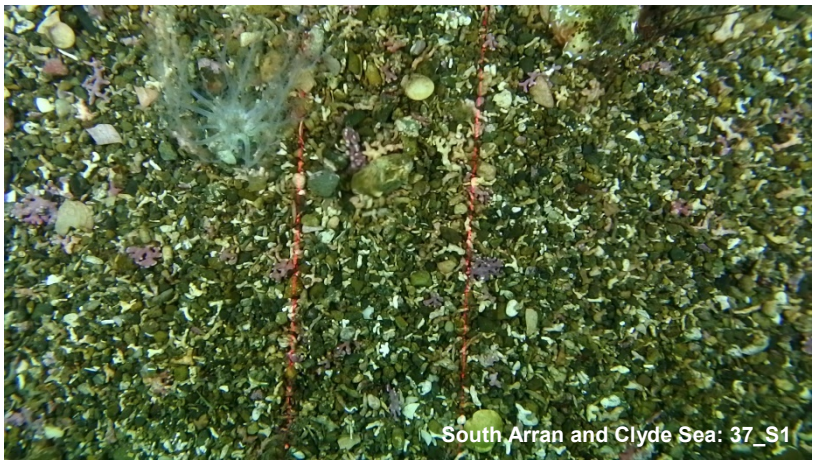
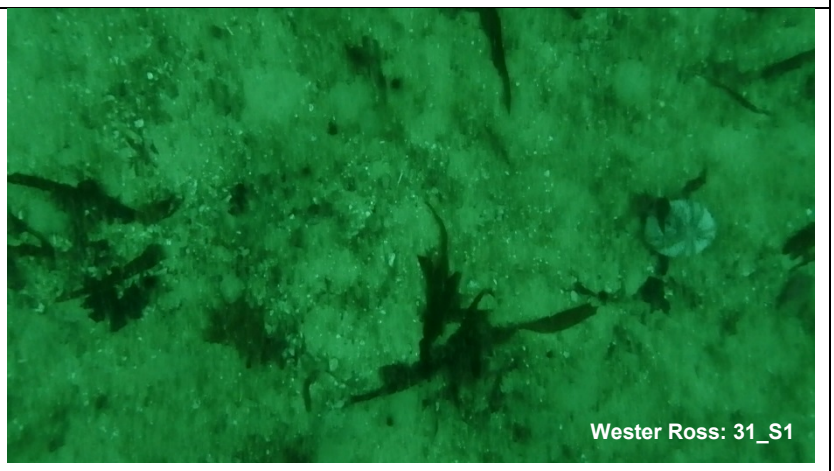
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMu.CFiMu.SpnMeg *Seapens and burrowing megafauna in circalittoral fine mud* *Wester Ross*: 53_S1, 54_S1, 73_S1, 77_S4, 129_S2 *Small Isles*: 18_S1, 34_S4, 54_S2, 66_S1 *Inner Sound and Loch Alsh*: 09.2_S2, 55_S2, 61_S1, 61_S3, 62_S1 *South Arran and the Clyde Sea:* 88_S1	 Wester Ross: 54_S1  Wester Ross: 73_S1
SS.SMu.CFiMu.SpnMeg.Fun *Seapens, including Funiculina quadrangularis, and burrowing megafauna in undisturbed circalittoral fine mud* *Small Isles*: 20_S3, 21_S1, 23_S1, 31_S1, 32_S1, 33_S3, 52_S1, 55_S1, 56_S3 *Inner Sound and Loch Alsh*: 55_S3, 73_S1, 74_S1, 75_S2, 76_S1	 Small Isles: 31_S1

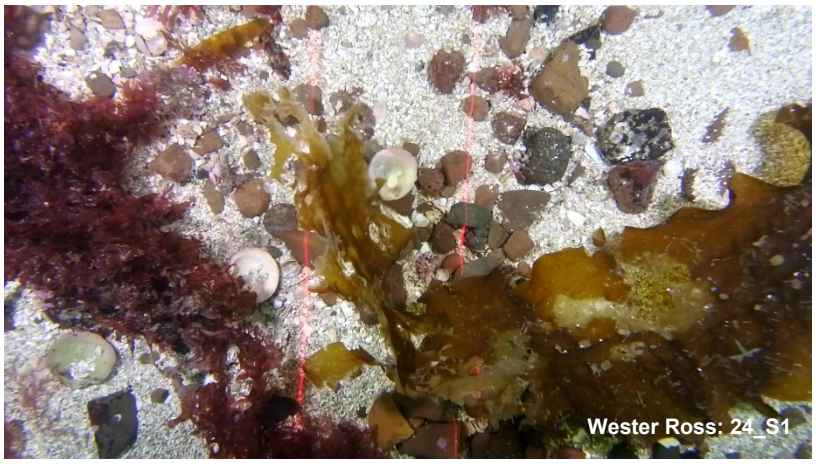
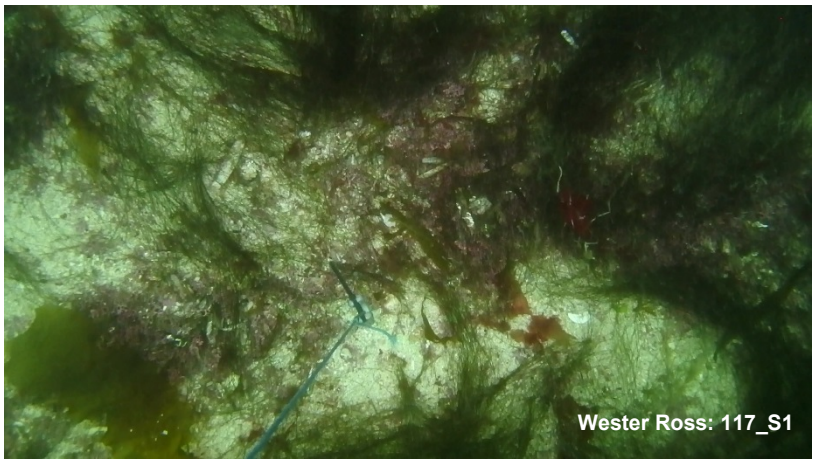
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMu.CFiMu.MegMax *Burrowing megafauna and Maxmuelleria lankesteri in circalittoral mud* *Inner Sound and Loch Alsh*: 65_S1, 65_S3	
SS.SMx *Sublittoral mixed sediment* *Wester Ross*: 124_S2, 128_S1, 128_S3, 128_S4 *Small Isles*: 03_S3, 07_S3, 14_S3, 20_S1, 22_S2, 29_S2, 33_S1, 34_S1, 34_S3, 35_S1, 38_S4, 61_S6, 72_S1 *Inner Sound and Loch Alsh*: 08_S1, 09.2_S1, 10.1_S2, 14_S1, 25_S1, 27_S1, 49_S1, 49_S2, 60_S1, 60_S3, 65_S2, 65_S4	
SS.SMx.IMx *Infralittoral mixed sediment* *Wester Ross*: 69_S1, 70_S1, 70_S3, 72_S1, 75_S1, 102_S1	

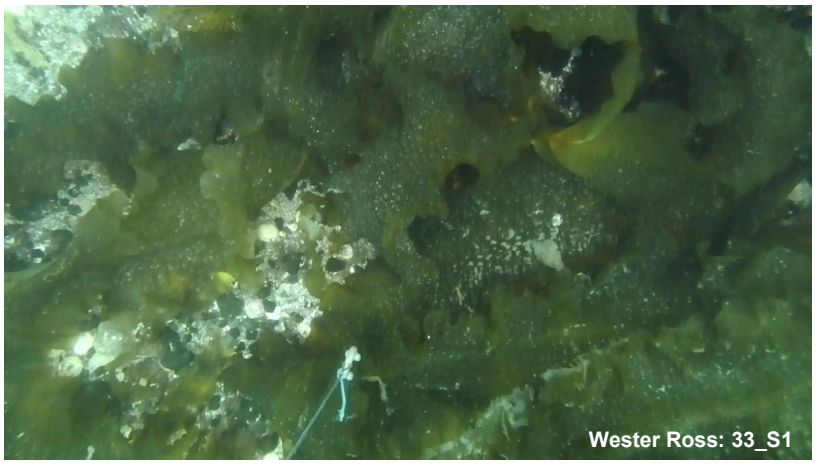
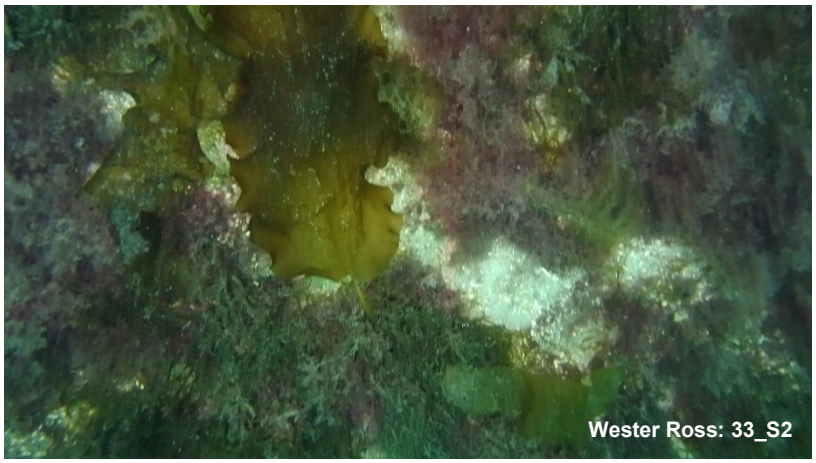
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMx.IMx.Lim *Limaria hians beds in tide-swept sublittoral muddy mixed sediment* *Inner Sound and Loch Alsh*: 53_S1, 54_S1, 67_S1, 71_S1, 72_S1	 
SS.SMx.CMx *Circalittoral mixed sediment* *Wester Ross*: 101_S1, 129_S1 *South Arran and the Clyde Sea:* 08_S1, 41_S1, 42_S1, 46_S1, 47_S1, 55_S1, 66_S1, 69_S1, 80_S1, 86_S1, 96_S1, 99_S1, 103_S1, 130_S1, 134_S1	

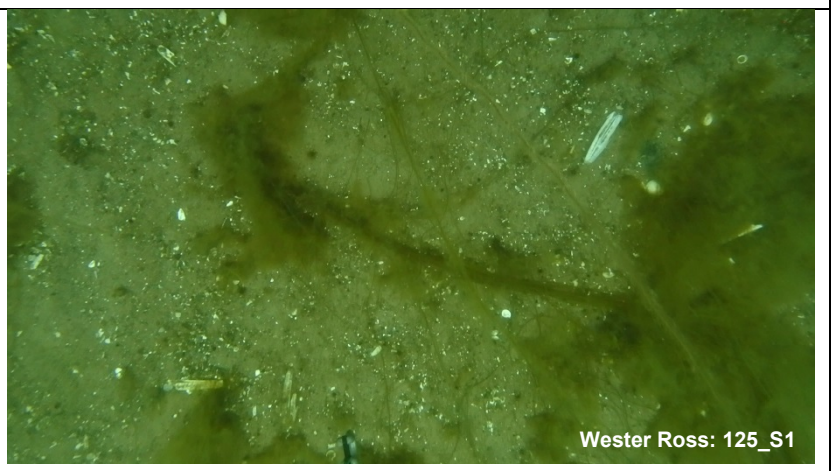
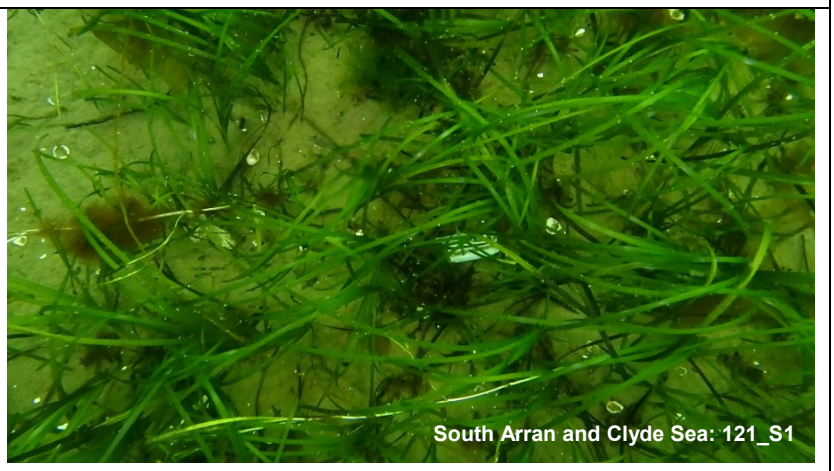
Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMx.CMx.CIloMx *Cerianthus lloydii and other burrowing anemones in circalittoral muddy mixed sediment* *Wester Ross*: 4_S1, 5_S1, 7_S1, 11_S2, 12_S1, 14_S1, 19_S3, 23_S5, 30_S3, 30_S5, 35_S1, 37_S2, 40_S1, 50_S1, 71_S1, 111_S1, 119_S1, 122_S1, 126_S2, 130_S1 *Small Isles*: 17_S1, 26_S2, 27_S2, 28_S2, 30_S3, 46_S1, 62_S1, 63_S1 *Inner Sound and Loch Alsh*: 33_S1, 34_S1 *South Arran and the Clyde Sea:* 06_S2, 07_S1, 17_S3, 20_S1, 21_S1, 22_S1, 25_S1, 67_S1, 89_S1, 102_S1, 107_S1, 108_S1, 111_S1, 115_S1	 
SS.SMx.CMx.OphMx *Ophiothrix fragilis and/or Ophiocomina nigra brittlestar beds on sublittoral mixed sediment* *South Arran and the Clyde Sea:* 56_S1, 57_S1, 62_S1	

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMp.MrI *Maerl beds* *Wester Ross*: 16_S1, 16_S2, 17_S1, 20_S1, 21_S1, 21_S2, 22_S1, 23_S1, 23_S2, 23_S3, 23_S4, 25_S1, 26_S1, 27_S1, 27_S3, 28_S1, 32_S2, 79_S1, 99_S1, 104_S1, 107_S3, 112_S1, 117_S2 *Small Isles*: 41_S3 *Inner Sound and Loch Alsh*: 12_S1, 21_S1, 23_S1, 23_S3, 24_S1, 30_S1, 36_S1, 37_S1, 38_S1, 39_S1, 39_S2, 39_S3, 40_S1, 41_S1, 42_S1, 43_S1, 44_S1, 45_S1 *South Arran and the Clyde Sea:* 01_S1, 02_S1, 03_S1, 04_S1, 05_S1, 05_S3, 09_S1, 10_S1, 14_S1, 16_S1, 17_S1, 17_S2, 18_S1, 19_S1, 23_S1, 24_S1, 26_S1, 27_S1, 28_S1, 29_S2, 30_S1, 31_S2, 33_S1, 34_S1, 35_S1, 38_S1, 49_S1, 51_S1, 52_S1, 57_S2, 57_S3, 61_S1, 63_S1, 64_S1, 65_S1, 74_S2, 75_S2, 77_S1, 90_S1, 91_S1, 92_S1, 94_S1, 97_S1, 98_S1, 101_S1, 106_S1, 110_S1	 Wester Ross: 21_S1  Wester Ross: 104_S1

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMp.Mrl.Pcal.Nmix *Phymatolithon calcareum maerl beds with Neopentadactyla mixta and other echinoderms in deeper infralittoral clean gravel or coarse sand* *South Arran and the Clyde Sea:* 37_S1, 60_S1, 109_S1	
SS.SMp.KSwSS *Kelp and seaweed communities on sublittoral sediment* *Wester Ross*: 17_S2, 31_S1, 85_S2 *Inner Sound and Loch Alsh*: 09.1_S1, 10.1_S1	
SS.SMp.KSwSS.Bon *Mats of Bonnemaisonia* [hamifera] on *infralittoral muddy gravel* *South Arran and Clyde Sea:* 43_S1, 48_S1, 52_S2	

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMp.KSwSS.SlatR *Saccharina latissima and red seaweeds on infralittoral sediments* *Wester Ross*: 1_S1, 2_S1, 6_S1, 9_S1, 15_S1, 24_S1, 27_S2, 27_S4, 28_S3, 34_S1, 36_S2, 42_S1, 45_S1, 46_S1, 47_S1, 48_S1, 49_S1, 67_S1, 68_S1, 69_S2, 72_S2, 74_S1, 76_S1, 77_S3, 78_S1, 83_S1, 83_S3, 98_S3, 110_S1, 116_S1, 117_S1, 118_S1, 120_S1, 121_S1 *Small Isles*: 16_S1, 44_S1, 77_S1, 87_S1 *Inner Sound and Loch Alsh*: 09.1_S2, 13_S1, 17_S1, 18_S1, 19_S2, 35_S1, 37_S2, 50_S2, 50_S3, 56_S1, 58_S2, 59_S1, 63_S1, 63_S3, 64_S1, 64_S2, 67_S2, 68_S1, 69_S1, 70_S1 *South Arran and the Clyde Sea:* 12_S1, 15_S1, 29_S1, 37_S2, 70_S1, 72_S1, 73_S1, 74_S1, 75_S1, 76_S1, 78_S1, 79_S1, 81_S1, 83_S1, 90_S2, 93_S1, 95_S1, 104_S1, 105_S1, 114_S1, 116_S1, 117_S1	 Wester Ross: 24_S1  Wester Ross: 117_S1

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMp.KSwSS.SlatR.CbPb *Red seaweeds and kelps on tide-swept mobile infralittoral cobbles and pebbles* *Wester Ross*: 33_S1, 41_S1, 65_S1, 77_S2, 80_S1, 109_S2, 113_S2, 119_S2 *Small Isles*: 41_S4, 47_S1, 84_S2 *Inner Sound and Loch Alsh*: 03_S2 *South Arran and the Clyde Sea:* 06_S1, 54_S1, 59_S1	 Wester Ross: 33_S1
SS.SMp.KSwSS.SlatR.Gv *Saccharina latissima and robust red algae on infralittoral gravel and pebble* *Wester Ross*: 3_S1, 33_S2, 77_S1, 96_S1, 100_S1, 116_S2, 119_S3 *Small Isles*: 49_S1, 68_S1, 68_S3, 69_S1, 70_S1, 76_S1, 83_S3, 83_S5 *Inner Sound and Loch Alsh*: 06_S1, 07_S1, 28_S1, 50_S1, 51_S1, 52_S1, 54_S2	 Wester Ross: 33_S2

Biotope (biotope code and MNCR habitat description) and associated sample IDs	Reference Image
SS.SMp.KSwSS.SlatR.Sa *Saccharina latissima and filamentous red algae on infralittoral sand* *Wester Ross*: 97_S1	
SS.SMp.KSwSS.SlatCho *Saccharina latissima and Chorda filum on sheltered upper infralittoral muddy sediment* *Wester Ross*: 125_S1 *South Arran and the Clyde Sea:* 11_S1	
SS.SMp.SSgr.Zmar *Zostera marina beds on lower shore or infralittoral clean or muddy sand* *South Arran and Clyde Sea:* 119_S1, 120_S1, 121_S1, 122_S1, 123_S2, 124_S1, 125_S1, 127_S2, 128_S1, 131_S1, 132_S1, 133_S1	

Appendix 5

Summary of the distribution of features of interest in the four survey areas.

Distribution of Priority Marine Features, MPA Protected Features and Annex I features by sites surveyed within each of the four survey areas.

Table A5.1

Distribution of protected features, PMFs and Annex 1 features in the Wester Ross survey area.

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')													Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
Badentarbert Bay					PF											
Dornie Sound					PF										x	
East of Loch Ewe Entrance						PMF									x	x

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
Loch Ewe Entrance															x	
Horse Island					PF											
Inner Summer Isles																x
Little Loch Broom	PF	PF			PF		PF								x	x
Loch Ewe	PF				PF											
Mellon Udrigle					PF	PMF									x	x
MR8 Loch Ewe	PF				PF		PF								x	x
Outer Loch Broom	PF														x	
Rieff					PF											

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
Skerries					PF	PMF	PF								x	x
South of Achiltibuie	PF				PF											
Summer Isles					PF	PMF									x	x
Tanera Mor and Beg					PF	PMF	PF								x	x
West of Loch Ewe					PF	PMF									x	x

Table A5.2

Distribution of protected features, PMFs and Annex 1 features in the Small Isles survey area.

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral sediment	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
Canna-East	PF				PMF							PMF				
Canna-West					PMF	PMF									x	x
Guirdil					PMF	PMF	PMF		PF	PF					x	x
Rum North East															x	x
Rum South East	PF	PF			PMF				PF	PF			PF		x	x
Rum East	PF	PF	PF						PF	PF					x	x
Rum West						PMF			PF	PF					x	x

Table A5.3

Distribution of protected features, PMFs and Annex 1 features in the Inner Sound and Loch Alsh survey area.

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral sediment	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica - aggregations	Stony Reef	Rocky reef
Applecross					PMF		PMF								x	
Crowlins					PMF	PMF	PMF								x	x
East Scalpay	PMF	PMF			PMF	PMF	PMF								x	
Kyleakin				PF	PMF											
Loch Alsh	PF	PF												PMF		x
Scalpay	PMF		PMF		PMF		PMF								x	

Table A5.4

Distribution of protected features, PMFs and Annex 1 features in the South Arran and Clyde Sea survey area.

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral sediment	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
East Pladda					PF		PF									
Holy Island North					PF		PF								x	
Holy Island South					PF		PF									
Inchmarnock	PMF				PMF		PMF								x	
Iron Ledges					PF		PF	PF							x	
Lochranza					PMF											
North Brodick					PMF		PMF									

Site name	Priority Marine Features ('PMF') and Protected Features ('PF')														Annex I sub-features	
	Burrowed mud	Tall seapen - Funiculina quadrangularis	Fireworks anemone - Pachycerianthus multiplicatus	Flame shell beds	Kelp and seaweed communities on sublittoral sediment	Kelp beds	Maerl beds	Maerl or coarse shell gravel with burrowing sea cucumbers	Northern sea fan and sponge communities	Northern sea fan - Swiftia pallida	Seagrass Beds	Shallow tide-swept coarse sands with burrowing bivalves	White cluster anemone - Parazoanthus anguicormus	Northern feather star - Leptometra celtica -	Stony Reef	Rocky reef
Sannox North of Brodick					PMF		PMF									
Skipness					PMF		PMF									
West Pladda					PF		PF								x	
Whiting Bay											PF					

Appendix 6

List of biotopes amalgamated for illustration purposes.

Primary biotopes amalgamated at a lower resolution level for display purposes in Section 3.

Table A6.1

Amalgamated biotopes from Wester Ross survey.

Display Biotope	Biotopes Amalgamated
IR.HIR.KFaR.FoR	IR.HIR.KFaR.FoR
IR.HIR.KSed	IR.HIR.KSed IR.HIR.KSed.SlatSac IR.HIR.KSed.XKScrR
IR.MIR.KR	IR.MIR.KR.Lhyp IR.MIR.KR.Lhyp.Ft IR.MIR.KR.Lhyp.Pk IR.MIR.KR.Lhyp.GzFt
IR.LIR.K.LhypSlat	IR.LIR.K.LhypSlat IR.LIR.K.LhypSlat.Ft IR.LIR.K.LhypSlat(.Gz)
IR.LIR.K.Slat	IR.LIR.K.Slat.Pk
CR.MCR.EcCr	CR.MCR.EcCr
CR.MCR.EcCr.FaAlCr	CR.MCR.EcCr.FaAlCr CR.MCR.EcCr.FaAlCr.Adig CR.MCR.EcCr.FaAlCr.Spi
CR.LCR.BrAs	CR.LCR.BrAs.AmenCio
SS.SCS	SS.SCS SS.SCS.ICS SS.SCS.CCS
SS.SMu	SS.SMu.CSaMu SS.SMu.CFiMu SS.SMu.CFiMu.SpnMeg
SS.SMx	SS.SMx SS.SMx.IMx SS.SMx.CMx SS.SMx.CMx.ClloMx
SS.SMp.Mrl	SS.SMp.Mrl
SS.SMp.KSwSS	SS.SMp.KSwSS SS.SMp.KSwSS.SlatR SS.SMp.KSwSS.SlatR.CbPb SS.SMp.KSwSS.SlatR.Gv SS.SMp.KSwSS.SlatR.Sa SS.SMp.KSwSS.SlatCho

Table A6.2

Amalgamated biotopes from Small Isles survey.

Display Biotope	Biotopes Amalgamated
IR.HIR.KFaR.FoR	IR.HIR.KFaR.FoR
IR.HIR.KSed	IR.HIR.Ksed.Sac IR.HIR.KSed.SlatSac IR.HIR.KSed.XKScrR
IR.MIR	IR.MIR
IR.MIR.KR	IR.MIR.KR.Lhyp IR.MIR.KR.Lhyp.Ft IR.MIR.KR.Lhyp.Pk IR.MIR.KR.XFoR
IR.LIR.K.LhypSlat	IR.LIR.K.LhypSlat IR.LIR.K.LhypSlat.Gz
CR.HCR.XFa	CR.HCR.XFa.SwiLgAs CR.HCR.XFa.SpNemAdia
CR.MCR.EcCr	CR.MCR.EcCr
CR.MCR.EcCr.CarSwi	CR.MCR.EcCr.CarSwi
CR.MCR.EcCr.CarSp	CR.MCR.EcCr.CarSp CR.MCR.EcCr.CarSp.PenPcom
CR.MCR.EcCr.FaAlCr	CR.MCR.EcCr.FaAlCr CR.MCR.EcCr.FaAlCr.Adig CR.MCR.EcCr.FaAlCr.Car
SS.SCS	SS.SCS
SS.SSa	SS.SSa SS.SSa.CMuSa
SS.SMu	SS.SMu.ISaMu SS.SMu.CSaMu SS.SMu.CFiMu.SpnMeg SS.SMu.CFiMu.SpnMeg.Fun
SS.SMx	SS.SMx SS.SMx.CMx.ClloMx
SS.SMp.Mrl	SS.SMp.Mrl
SS.SMp.KSwSS	SS.SMp.KSwSS.SlatR SS.SMp.KSwSS.SlatR.CbPb SS.SMp.KSwSS.SlatR.Gv

Table A6.3

Amalgamated biotopes from Inner Sound and Loch Alsh survey.

Display Biotope	Primary Biotopes
IR.HIR.KFaR.FoR	IR.HIR.KFaR.FoR
IR.HIR.KSed	IR.HIR.KSed IR.HIR.KSed.XKScrR
IR.MIR.KR	IR.MIR.KR.Lhyp IR.MIR.KR.XFoR
IR.LIR.K.Slat	IR.LIR.K.Slat.Gz
CR.HCR.XFa	CR.HCR.XFa.SpNemAdia
CR.MCR.EcCr	CR.MCR.EcCr
CR.MCR.EcCr.FaAlCr	CR.MCR.EcCr.FaAlCr
CR.LCR.BrAs	CR.LCR.BrAs CR.LCR.BrAs.AmenCio CR.LCR.BrAs.AmenCio.Ant
SS.SCS	SS.SCS
SS.SSa	SS.SSa
SS.SMu	SS.SMu.CFiMu.SpnMeg SS.SMu.CFiMu.SpnMeg.Fun SS.SMu.CFiMu.MegMax
SS.SMx	SS.SMx SS.SMx.CMx.ClloMx
SS.SMx.IMx.Lim	SS.SMx.IMx.Lim
SS.SMp.Mrl	SS.SMp.Mrl
SS.SMp.KSwSS	SS.SMp.KSwSS SS.SMp.KSwSS.SlatR SS.SMp.KSwSS.SlatR.CbPb SS.SMp.KSwSS.SlatR.Gv

Table A6.4

Amalgamated biotopes from South Arran and Clyde Sea survey.

Display Biotope	Primary Biotopes
IR.MIR.KR	IR.MIR.KR
IR.LIR.K.Slat	IR.LIR.K.Slat
SS.SCS.CCS.Nmix	SS.SCS.CCS.Nmix
SS.SSa	SS.SSa.CMuSa
SS.SMu	SS.SMu.CSaMu SS.SMu.CFiMu SS.SMu.CFiMu.SpnMeg
SS.SMx	SS.SMx.CMx SS.SMx.CMx.ClloMx SS.SMx.CMx.OphMx
SS.SMp.Mrl	SS.SMp.Mrl SS.SMp.Mrl.PcaI.Nmix
SS.SMp.KSwSS	SS.SMp.KSwSS.SlatR SS.SMp.KSwSS.SlatR.CbPb SS.SMp.KSwSS.SlatCho SS.SMp.KSwSS.Bon
SS.SMp.SSgr.Zmar	SS.SMp.SSgr.Zmar