Marine Management Organisation

MMO Stage 3 Site Assessment: Cape Bank MPA (Draft)






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Contents

Executive Summary

This assessment analyses the impact of anchored nets and lines and traps on the designated features moderate energy circalittoral rock and subtidal coarse sediment in Cape Bank Marine Protected Area (MPA) to determine whether a significant risk of hindering the conservation objectives of the site can be excluded. The assessment sets out the evidence considered and analyses the quality of that evidence.

The assessment finds that the ongoing use of anchored nets and lines and traps at the described levels will not result in a significant risk of hindering the achievement of the conservation objectives of the Cape Bank MPA. Management measures will therefore not be implemented for anchored nets and lines and traps. However, there is a risk that an increase in trap fishing activity may hinder the achievement of the conservation objectives, therefore implementation of a monitoring and control plan is recommended.

1 Introduction

This assessment considers whether fishing activities are compatible with the conservation objectives of Cape Bank MPA.

This site is designated as a marine conservation zone (MCZ). This assessment uses the best available evidence to review site characteristics and fishing activity and determine if there is a significant risk of fishing activities hindering the conservation objectives of the site. If so, Marine Management Organisation (MMO) will develop and introduce suitable management measures, such as MMO byelaws. If MMO byelaws are required, then these will be subject to public consultation and will require confirmation from the Secretary of State to come into force.

2 Site information

2.1 Overview

The following Joint Nature Conservation Committee (JNCC) site information, Natural England and JNCC conservation advice package and Department for Environment Food and Rural Affairs (Defra) factsheet were used for background on site geography, designations, features, for conservation objectives and general management approaches:

- JNCC Site Information - Cape Bank MCZ[1]
- Natural England and JNCC Conservation Advice - Cape Bank MCZ[2]
- Defra Factsheet - Cape Bank MCZ[3]

Cape Bank MPA is located in the Western Channel and Celtic Sea region to the west of Land's End and covers an area of approximately 474 km^2 (**Figure 1**). The site straddles the 6 nautical miles (nm) and 12 nm limits. Fishing activity in the site is regulated by Cornwall Inshore Fisheries and Conservation Authority (IFCA) (0 to 6 nm) and MMO (beyond 6 nm). Natural England (0 to 12 nm) and JNCC (beyond 12 nm) are the relevant Statutory Nature Conservation bodies for the site.

[1] https://jncc.gov.uk/our-work/cape-bank-mpa/ (last accessed 21 June 2023)
[2] Marine site detail (naturalengland.org.uk) (last accessed 21 June 2023)
[3] Cape Bank Marine Conservation Zone factsheet (publishing.service.gov.uk) (last accessed 21 June 2023)

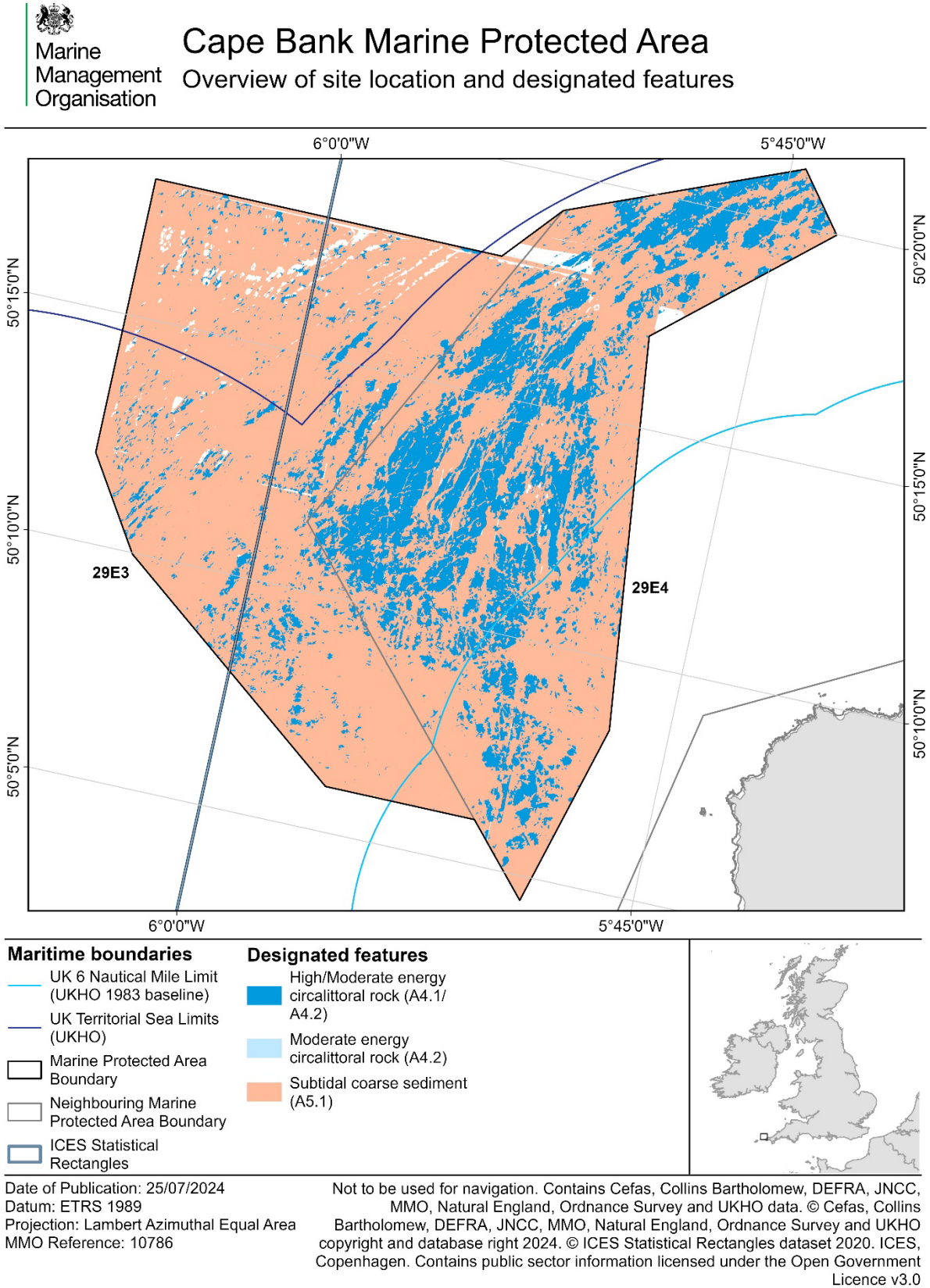

Figure 1: Site overview map.

Cape Bank MPA was designated as an MCZ in May 2019 to protect the features listed in **Table 1.**

The rocky reef extends in a broad, arching crescent roughly in line with the coastline. The reef includes a rock platform, found at approximately 45 to 55 metres (m) depth, which is the base for three steep rocky ridges which run for 20 kilometres (km) along the reef. The ridges are over 1 km wide and climb up to 25 m from the rock platform. The reef is a site of high biodiversity, characterised by species such as bryozoans, sponges, soft corals, cup corals and anemones, as well as starfish and sea urchins. The reef also provides habitat for the commercially important spiny lobster *Palinurus elephas*. Other notable species include the pink sea-fan *Eunicella verrucosa.*

Subtidal coarse sediment is widespread and covers 76 % of the site providing habitats for a variety of animals that are found buried in the seabed, such as bristleworms, burrowing anemones and venus clams. This sediment also provides nursery grounds for many ecologically and commercially important fish species such as flatfish, seabass *Dicentrarchus labrax* and sand eels. The designated features and their conservation objectives are set out below in **Table 1**.

Table 1: Designated features and general management approach.

Designated feature	General Management Approach
Moderate energy circalittoral rock	**Recover to favourable condition.** The following attributes and targets have been identified as driving the 'recover to favourable condition' status: • presence and spatial distribution of biological communities - Recover the presence and spatial distribution of circalittoral rock communities. • presence and abundance of key structural and influential species - [Maintain OR Recover OR Restore] the abundance of listed species*, to enable each of them to be a viable component of the habitat. • species composition of component communities - Recover the species composition of component communities.
Subtidal coarse sediment	

The general management approaches for the features of Cape Bank MPA have been set based on a vulnerability assessment.

There is no direct feature condition assessment available for this site, in its absence Natural England conducted a vulnerability assessment, which includes sensitivity and exposure information for features and activities in a site. This is used as a proxy for condition. The favourable condition targets for the attributes listed in **Table 1** for the moderate energy circalittoral rock and subtidal coarse sediment features have been set as recover due to their high sensitivity to pressures from bottom towed gear. More information on this can be found in Natural England and the JNCCs supplementary advice on conservation objectives[4].

2.2 Scope of this assessment

The scope of this assessment covers fishing activities alone, and relevant activities in combination with fishing. It does not cover areas of this site inshore of 6 nm, for which Cornwall IFCA is the regulator.

Bottom towed gear interactions with the features moderate energy circalittoral rock have not been included in this assessment as they have already been addressed in the MMO Stage 2 assessment of Cape Bank MPA[5] and prohibited by the MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023[6]. Stage 2 assessed the impacts of fishing using bottom towed gears on rock, rocky and biogenic reef in 13 MPAs.

[4] Designated Sites View (naturalengland.org.uk) (last accessed 21 June 2023)
[5] Stage 2 MPA Fisheries Assessment: www.gov.uk/government/publications/marine-protected-areas-bottom-towed-fishing-gear-byelaw-2023 (last accessed 22 April 2024).
[6] MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023: www.gov.uk/government/publications/marine-protected-areas-bottom-towed-fishing-gear-byelaw-2023 (last accessed 22 April 2024).

3 Part A - Identified pressures on the MPA

Part A of this assessment was carried out in a manner that is consistent with the 'capable of affecting (other than insignificantly)' test required by section 126 of the Marine and Coastal Access Act 2009[5].

Part A assesses the interactions between pressures from fishing gears and the designated features of this site, screening for interactions that require further consideration. Assessment of interactions not screened out in Part A will form Part B of the assessment. For each activity assessed in Part A, there are two possible outcomes for each identified pressure-feature interaction:

1. The pressure-feature interactions **are not** included for assessment in Part B and screened out:
    a. if the feature is not exposed to the pressure, and is not likely to be in the future;
    b. the pressure is not capable of affecting the feature, other than insignificantly; or
    c. if MMO has information that the activity or pressure is not occurring in the site and/or does not need to be considered further.

2. The pressure-feature interactions **are** included for assessment in Part B:
    a. if the feature is exposed to the pressure, or is likely to be in the future;
    b. the pressure is capable of affecting the feature, other than insignificantly;
    c. if it is not possible to determine whether the pressure is capable of affecting the feature, other than insignificantly; or
    d. if MMO has information that the activity or pressure is occurring in the site and/or does need to be considered further.

Consideration of a pressure on a protected feature in a MPA includes consideration of the pressure's exposure to, or effect on, any ecological or geomorphological process on which the conservation of the protected feature is wholly or in part dependent.

3.1 Activities taking place

Table 2 lists all commercial fishing gears considered for assessment. All other gears have been screened out of further assessment as they do not take place and are not likely to take place in the future, as there are no vessel monitoring system (VMS) records present within the site linked to these gear codes, nor do they appear in landings data for International Council for the Exploration of the Sea (ICES) statistical rectangles that overlap the site.

To determine fishing activity occurring within the site, the following evidence sources were used:

- VMS data

- fisheries landings data (logbooks and sales records)
- MMO catch recording project data
- ICES rectangle level fishing effort data in days (reference: MMO1264)
- expert opinion from MMO marine officers, inshore fisheries and conservation officers; and
- swept area ratio calculations.

For more information about the above evidence sources, please see the Stage 3 MPA Site Assessment Methodology document[7], which describes each type of fishing activity evidence and summarises the strengths and limitations of each source.

Table 2: Fishing activities present in VMS records (2016 to 2021) and landings data (2016 to 2020) for Cape Bank MPA.

Gear type	Gear name	Gear code	Justification
Anchored nets and lines	Trammel net	GTR	Present in VMS records and under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Set gillnet (anchored)	GNS	
	Gill nets (not specified)	GN	
	Longlines (demersal)	LLS	Present in VMS data.
	Longline (unspecified)	LL	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Gillnets and entangling nets	GEN	
Bottom towed gear	Twin bottom otter trawl	OTT	Present in VMS data.
	Scottish / fly seine	SSC	
	Midwater otter trawl	OTM	
	Midwater pair trawl	PTM	
	Nephrops trawls	TBN	

[7] Stage 3 MPA Site Assessment Methodology document: www.gov.uk/government/publications/stage-3-site-assessments (Last accessed: 07 August 2024)

Gear type	Gear name	Gear code	Justification
Bottom towed gear	Towed dredge	DRB	Present in VMS records and in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Bottom otter trawl	OTB	
	Beam trawl	TBB	
	Otter trawls (unspecified)	OT	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
Midwater gear	Purse seine (ring net)	PS	Present in VMS records and in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Hook and line (unspecified)	LX	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Hand-operated pole-and-line	LHP	
	Hand fishing	HF	
	Encircling gillnet	GNC	
	Drift gillnet	GND	
Shore-based	Hand dredge	DRH	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Beach seine	SB	
Traps	Trap	FIX	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
	Pot/Creel	FPO	Present in VMS records and in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
Miscellaneous	Miscellaneous	MHX, MIS	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.

3.2 Pressures and activities screened out

This section identifies activities or pressures that are **occurring but do not need to be considered** for Cape Bank MPA.

The gear types and pressures screened out on this basis are listed below with justification:

- **Midwater gears:** although the use of midwater gears does occur within Cape Bank MPA, there is no feasible pathway for gears of this type to interact with benthic designated features as part of normal operation (not considering gear failure or net loss). These gears are not designed to operate on or near the seabed and are deployed entirely within the water column. Therefore, the use of midwater gear within Cape Bank MPA is not considered to be capable of affecting the designated features other than insignificantly and is not considered further within this assessment.
- **Bottom towed gears:** the Land's End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw[8] has been in place since 2013, however it has recently been amended by the MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023[9]. The Land's End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw (2013) now only prohibits bottom towed gear activity from the Cape Bank portion of the site inside of 6 nm. The portion of the site offshore of 6 nm is protected from bottom towed gear activity via the MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023. Whilst bottom towed gear fishing activity occurs in the data reporting period of 2016-2021 for this assessment, it will not be considered further as it has been prohibited by the 2023 byelaw.
- **Shore based activities:** although landings data show that fishing activity using hand dredge and beach seine occurs within the site, this is based on all activity occurring within site overlapping ICES rectangles. ICES rectangle 29E4 encompasses the majority of Cape Bank MPA, but also covers a large area of coast where shore-based activities occur. As the assessment focuses on the designated features of the Cape Bank MPA beyond 6 nm from shore, shore-based activities will not affect them and therefore will not be assessed further.
- **Unknown gear:** 'other gear' has been declared as having been used to land fish from this ICES statistical rectangle. The gear code used to report these landings does not provide any further information relating to the fishing

[8] www.gov.uk/government/publications/lands-end-and-cape-bank-european-marine-site-specified-areas-bottom-towed-gear-byelaw (last accessed 03/06/2024)
[9] www.gov.uk/government/publications/marine-protected-areas-bottom-towed-fishing-gear-byelaw-2023 (last accessed 03/06/2024)

method used. It is therefore not possible to assess the likelihood of this fishing method interacting with the seabed and it is not considered further within this assessment.

3.3 Pressures to be taken forward to Part B

The Stage 3 Fishing Gear MPA Impacts Evidence documents detail all pressures created by fishing activity on features of interest. The documents justify which pressures should be taken forward for consideration for each feature. This is documented in **Table A1. 2** in the anchored nets and lines, traps, and bottom towed gear Impacts Evidence documents:

- Stage 3 Fishing Gear MPA Impact Evidence Anchored Nets and Lines[10]
- Stage 3 Fishing Gear MPA Impact Evidence Traps[11]
- Stage 3 Fishing Gear MPA Impact Evidence Bottom Towed Gear[12]

Bottom towed gear interactions with the features moderate energy circalittoral rock have not been included in this assessment as they have already been addressed in the Stage 2 assessment of Cape Bank MPA. Stage 2 assessed the impacts of fishing using bottom towed gears on rock, rocky and biogenic reef in 13 MPAs. These features were chosen for Stage 2 as they are some of the most sensitive to the impacts of bottom towed gears.

To determine whether a pressure should be taken forward for this particular site, **Table 3** uses the information from the Impacts Evidence documents, alongside site-specific information, including sensitivity assessments, risk profiling of pressures from conservation advice packages, and Natural England and JNCC advice to assess the sensitivities of pressures on the designated features of the site.

[10] www.gov.uk/government/publications/stage-3-impacts-evidence (last accessed 07 August 2024)
[11] www.gov.uk/government/publications/stage-3-impacts-evidence (last accessed 07 August 2024)
[12] www.gov.uk/government/publications/stage-3-impacts-evidence (last accessed 07 August 2024)

Table 3 details the pressures for each gear type - anchored nets and lines (A) and traps (T) - to be assessed in Part B, taking into account the pressures screened in and out in **sections 3.1 and 3.2.**

Key	
	Dark blue highlighting indicates that the feature is sensitive to this pressure from the gear type in this site, and that the interaction should be taken forward for consideration.
	Light blue highlighting indicates that feature is sensitive to the pressure in general, but the gear type is unlikely to exert this pressure to an extent where impacts are of concern in the site.
	Grey highlighting indicates that there is insufficient evidence to make sensitivity conclusions, or that a sensitivity assessment has not been made for this feature to this pressure from the gear type.
	If there is no highlighting within a cell, this indicates that the pressure from the gear type is not relevant to the feature.

Table 3: Sensitivity to potential pressures from fishing activities on designated features of Cape Bank MPA.

Potential Pressures	Designated Features			
	Moderate energy circalittoral rock		Subtidal coarse sediment	
	A	T	A	T
Abrasion or disturbance of the substrate on the surface of the seabed				
Barrier to species movement				
Changes in suspended solids (water clarity)				
Deoxygenation				
Hydrocarbon and PAH contamination				
Introduction of light				
Introduction of microbial pathogens				
Introduction or spread of invasive non-indigenous species				
Litter				
Organic enrichment				
Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion				
Physical change (to another seabed type)				
Physical change (to another sediment type)				
Removal of non-target species				
Removal of target species				
Smothering and siltation rate changes				
Synthetic compound contamination				
Transition elements and organo-metal contamination				
Underwater noise changes				
Visual disturbance				

4 Part B - Fishing activity assessment

Part B of this assessment was carried out in a manner that is consistent with the 'significant risk of hindering the achievement of the conservation objectives' test required by section 126 of the Marine and Coastal Access Act 2009[13].

Table 3 shows the fishing activities and pressures identified in Part A which have been included for assessment in Part B. The important targets for favourable condition were identified within Natural England and JNCC's conservation advice supplementary advice tables and are shown in **Table 4**. 'Important' in this context means only those targets relating to attributes that will most efficiently and directly help to define condition. These attributes should be clearly capable of identifying a change in condition.

Table 4 shows which targets were identified as important. The impacts of pressures on features were assessed against these targets to determine whether the activities causing the pressures are compatible with the site's conservation objectives.

[13] www.legislation.gov.uk/ukpga/2009/23/section/126

Table 4: Relevant favourable condition targets for identified pressures for all site features.

Attribute	Target	Relevant pressures
Distribution: presence and spatial distribution of biological communities	Recover the presence and spatial distribution of circalittoral rock communities. *	• Abrasion or disturbance of the substrate on the surface of the seabed • Removal of non-target species • Removal of target species
Structure and function: presence and abundance of key structural and influential species	[Maintain OR Recover OR Restore] the abundance of listed species, to enable each of them to be a viable component of the habitat.	
Structure: species composition of component communities	Recover the species composition of component communities. *	

* A recover target has been set as part of the GMA due to this feature's high sensitivity to pressures from bottom towed gear.

4.1 Fisheries access and existing management

Non-UK vessels can operate within Cape Bank MPA, if they have a licence issued by the UK to do so. Nationalities which fished within the MPA between 2016 to 2021 included UK, Belgium, France, Ireland and Netherlands. VMS records indicate that UK and Belgium vessels were the most prevalent. More information on non-UK vessel access to UK waters can be found on MMO's Single Issuing Authority page[14].

Cape Bank MPA is subject to the following MPA specific legislative catch restrictions that are applicable to fisheries occurring in the site:

1. Land's End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw[15]
2. Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023[16]

The Land's End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw has been in place since 2013, however it has recently been amended by the MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023. This byelaw prohibits bottom towed gear activity within the 6-12 nm limit of Cape Bank MPA. Whilst bottom towed gear fishing activity occurs in the data reporting period of 2016-2021 for this assessment, it will not be considered further as it has been prohibited by the 2023 byelaw.

4.2 Fishing activity summary

Table A1. 1 to **Table A1. 7** in Annex 1 display a detailed breakdown of fishing activity within Cape Bank MPA. When discussing weights from landings in this section, figures used are a total of weights from UK and EU member states.

Of the fishing activities not screened out in Part A of this assessment or already subject to management, VMS data show that the most prevalent gear type operated by over 12 m vessels within the site is pots/creels. Landings data show that the most prevalent gears operated by under 12 m vessels within the site are traps.

4.2.1 Anchored nets and lines:

According to VMS and landings data for over 12 m vessels, the use of anchored nets and lines in the site appears to be minimal with an average count of 2 between 2016 and 2021, and approximately 0.12 tonnes landed on average between 2016 and

[14] The UK Single Issuing Authority: www.gov.uk/guidance/united-kingdom-single-issuing-authority-uksia (last accessed 26 July 2023).
[15] www.gov.uk/government/publications/lands-end-and-cape-bank-european-marine-site-specified-areas-bottom-towed-gear-byelaw (last accessed 26 July 2023).
[16] Marine_Protected_Areas_Bottom_Towed_Fishing_Gear_Byelaw_2023.pdf (last accessed 3 June 2024)

2020 across GN, GNS and GTR. Under 12 m vessels using anchored nets and lines landed approximately 56.92 tonnes per year on average between 2016 and 2020.

Under 12 m landings are recorded at ICES rectangle level and for the purpose of assessment have been attributed to the MPA based on the proportion of the ICES rectangle it overlays. 233 days was recorded as the average fishing effort days by UK vessels under 12 m in length using anchored nets and lines between 2016 and 2021 for the area of Cape Bank MPA that intersects ICES rectangles 29E3 and 29E4. Cape Bank MPA covers 2.78 % of ICES rectangle 29E3 and 10.35 % of ICES rectangle 29E4. Fishing effort days are derived from logbooks and is collected at ICES rectangle and then apportioned accordingly.

4.2.2. Traps

Pots/creels are the most frequently deployed gear in the site according to VMS data. Between 2016 and 2021 there were 493 pot/creels VMS records on average per year. Vessels over 12 metres (m) in length using pots/creels landed approximately 117 tonnes on average per year between 2016 and 2020.

Under 12 m vessels using pots/creels landed approximately 74.33 tonnes per year on average between 2016 and 2020. Under 12 m landings are recorded at ICES rectangle level and have been attributed to the MPA based on the proportion of the ICES rectangle it overlays.

Average fishing effort recorded by UK vessels under 12 m in length using all traps between 2016 and 2021 for the area of Cape Bank MPA that intersects ICES rectangles 29E3 and 29E4 were 258 days. Fishing effort for vessels deploying traps is spread evenly, both spatially and temporally, throughout the site, with little or no variation in the amount of effort applied to the designated features of the site.

4.3 Pressures by gear type

The Stage 3 Fishing Gear MPA Impacts Evidence documents for anchored nets and lines and traps collate and analyse the best available evidence on the impacts of different fishing gears on MPA features. This section summarises the analyses and conclusions of those documents, and considers these alongside site level information, including the nature and condition of the habitats and species present, the general management approaches for designated features, intensity of fishing activity taking place and exposure to natural disturbance.

In the context of MPA assessment, the pressures removal of target and non-target species refer to any damage, loss, or removal of species defined as a designated feature or integral to the integrity of a designated feature (for example key structural or influential species). This may occur through intentional or unintentional catch associated with the act of commercial fishing. For the purposes of benthic feature assessments, the physical effects of fishing gears on seabed communities are best addressed through the assessment of abrasion and penetration pressures. As there

are no designated species features associated with Cape Bank MPA, and the detail of key structural and influential species is yet to be fully defined, we conclude that impacts from target and non-target removal pressures can be scoped out from further assessment of this site. These pressures may require consideration as a result of any future evidence review, in conjunction with updated conservation advice from JNCC and/or Natural England.

4.3.1 Anchored nets and lines

The following features of Cape Bank MPA have been considered in relation to the following pressures from anchored nets and lines:

Moderate energy circalittoral rock; subtidal coarse sediment.

The relevant pressures on the features of Cape Bank MPA (outlined above) from anchored nets and lines were identified in **Table 4** and are:

- abrasion or disturbance of the substrate on the surface of the seabed.

Section 4.2 describes the fishing activity within Cape Bank MPA and indicates that, according to VMS records and landings data, the use of anchored nets and lines appears minimal. However, fishing effort data for under 12 m UK fleet indicates that anchored nets and lines may be used, although there is limited confidence as to whether this fishing activity is occurring at site.

Impacts on these features relating to abrasion or disturbance of the substrate on the surface of the seabed occur primarily during setting and retrieval of nets and the associated ground lines and anchors, as well as by their movement over the seabed during rough weather.

Moderate energy circalittoral rock

Table A2.1 in Annex 2 lists the biotopes that may be found within the moderate energy circalittoral rock feature of the site. The relevant sensitivities are available within Natural England and JNCC's Advice on Operations for Cape Bank MPA[17]. The potential for biotope presence is determined by the broad-scale habitat. As data from records is limited, the likelihood of presence is evaluated in **Table A2.1** of Annex 2. Biotope sensitivity data was then extracted from The Marine Life Information Network (MarLIN) to outline biotope sensitivity for the relevant pressure.

For the circalittoral rock feature, eleven biotopes were identified as being potentially present and having medium sensitivity to abrasion from anchored nets and lines. Biotopes with medium sensitivity are presented in **Table A2.1** of Annex 2. Given the depth range of this site is 30 m to 75 m, it is unlikely that seven of the biotopes identified by broad-scale habitat occur within the site and a low confidence in

[17] https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UKMCZ0076 (last accessed 23 June 2023).

likelihood of presence of one biotope was identified due to rocky feature not having soft chalk/clay. **Table A2.1** of Annex 2 shows three biotopes with medium sensitivity to abrasion and those which have not been excluded based on physical parameters. Record of biotopes within the Cape Bank MPA are very limited; this does not equate to a confirmed absence and hence low confidence in the presence/absence of these biotopes; therefore precaution is to be taken when assessing the potential for effects on sensitive biotopes.

The landings data for the under 12 m fleet does not indicate where this activity occurs within Cape Bank MPA, the use of anchored nets and lines may be occurring over the moderate energy circalittoral rock feature and therefore abrasion cannot be ruled out.

As described in section 7.1 of the anchored nets and lines Impacts Evidence document[10], sensitivity assessments suggest there is the potential for static gear such as anchored nets and lines to cause damage to rocky reefs and sensitive epifauna. Although targeted research on the impacts of netting on reef is extremely limited, there are some literature reviews that state that high levels of netting and associated anchoring can damage reefs and the associated communities through cumulative damage over time.

The potential for impact will depend on the intensity of fishing activity taking place, with increasing activity increasing the likelihood of weights and ropes associated with nets and lines damaging, entangling, or removing epifaunal species. A study has shown that rock with erect and branching species has high sensitivity to anchored nets and lines at light-heavy fishing intensity. Epifaunal and epifloral communities' recovery following gill netting activity is not well understood, however, as with other gears, the likely impact of nets and lines on rocky reef will vary based on several factors including gear type, fishing intensity, habitat, and environmental variables. Whilst certain studies have categorised rock with erect and branching species as having high sensitivity at all levels of static fishing, these were based on expert judgement rather than supported by empirical evidence and the overarching conclusion from the literature available is that rocky reef features are estimated to have low sensitivity to all but heavy levels of fishing intensity from static fishing gear.

From VMS data anchored nets and line activity is very low. Therefore, it can be reasonably argued that the faunal communities are likely capable of recovering from abrasion at current activity levels.

Given the level of anchored nets and lines activity currently occurring within the site is low, coupled with the spatial footprint of the gear and no evidence of highly sensitive biotopes being present within these rocky reef habitats, it is unlikely that the ongoing use of anchored nets and lines at the described levels will pose a significant risk of hindering the achievement of the conservation objective of Cape Bank MPA.

Subtidal coarse sediment

Twelve biotopes were identified as being potentially present on the subtidal coarse sediment feature at Cape Bank MPA, however none were identified as having medium or high sensitivity to abrasion from anchored nets and lines. Eight biotopes were identified as having low sensitivity and the remaining four biotopes are not sensitive to abrasion from this gear type.

As described in section 9.3 of the anchored nets and lines Impacts Evidence document[10], abrasion impacts from anchored nets and lines are unlikely to negatively impact the extent or distribution of any sediment feature or structure and function of the ecosystem in a significant manner. Subtidal sediment habitats are considered resilient to all but intense fishing activity using anchored nets and lines on species rich sediment habitats or those with long-lived bivalves. VMS and over 12 m landings data show that anchored nets and lines activity within the site is minimal with an average count of 1 and approximately 0.12 tonnes landed on average between 2016 and 2020. Sediment habitats are resilient to all but very high intensity levels, as the data does not indicate where the activity occurs, it could be over the feature, however the activity levels are so low this is not considered to be a problem.

Based on the rationale above, there is a low risk of impacts on this feature relating to abrasion or disturbance of the substrate on the surface of the seabed. Effects occur primarily during setting and retrieval of nets and the associated ground lines and anchors, as well as by their movement over the seabed during rough weather. The site is also subject to moderate hydrodynamic energy of the Western Channel and Celtic Sea, so it is likely that these biological communities are acclimatised to some level of natural disturbance.

Given that anchored nets and lines activity within the site is low and there are no highly sensitive biotopes identified as potentially present on the subtidal coarse sediment feature, coupled with good resilience and high recoverability of those biotopes that are likely to be present, it is unlikely that the ongoing use of anchored nets and lines at described levels will pose a significant risk of hindering the achievement of the conservation objective of ‘recover to favourable condition’ of this feature of Cape Bank MPA.

Therefore, MMO conclude that the ongoing use of anchored nets and lines at the described levels does not pose a significant risk of hindering the achievement of the conservation objectives of Cape Bank MPA.

4.3.2 Traps

The following features of Cape Bank MPA have been considered in relation to the following pressures from traps:

Moderate energy circalittoral rock; subtidal coarse sediment

The relevant pressures on the features of Cape Bank MPA (outlined above) from traps were identified in **Table 4** and are:

- abrasion or disturbance of the substrate on the surface of the seabed.

Section 4.2 describes the fishing activity within Cape Bank MPA and indicates that, according to VMS records for the site, traps are the most frequently deployed gear in the site. Between 2016 and 2021 there were 493 pot/creels VMS records on average per year. Vessels over 12 metres (m) in length using pots/creels landed approximately 117 tonnes on average per year between 2016 and 2020 whilst under 12 m vessels using traps landed approximately 74.33 tonnes per year on average in the same data reporting period.

Impacts on these features relating to abrasion or disturbance of the substrate on the surface of the seabed occur primarily during the setting and retrieval of traps and their associated ropes, weights and anchors, as well as by their movement over the seabed during rough weather.

Moderate energy circalittoral rock

Traps and anchored nets and lines fishing gear exert similar pressures on the biotopes associated with the circalittoral rock features of the site, therefore the biotopes identified in **Table A2.1** of Annex 2 as having medium sensitivity to abrasion in the anchored nets and lines section **(section 4.3.1)** also apply here for the traps section.

The VMS data shows that trap activity is widespread across the site and occurs over the moderate energy circalittoral rock. Pots/creels are the most frequently deployed gear in the site according to VMS data. Between 2016 and 2021 there were 493 pot/creels VMS records on average per year. Under 12 m vessels using pots/creels landed approximately 74.33 tonnes per year on average between 2016 and 2020, however there is limited confidence in the spatial distribution of effort by vessels under 12 m, therefore uncertainties exist as to how much of this effort is occurring over the feature.

As described in section 7.1 of the traps Impacts Evidence document[11], sensitivity assessments suggest there is the potential for static gear such as traps to cause damage to rocky reefs and sensitive epifauna. Rock with low-lying fast-growing faunal turf were shown to have medium sensitivity to traps at high fishing intensity. Rock with erect and branching species were shown to have medium sensitivity to traps at moderate-heavy fishing intensity. Scientific literature has outlined that certain rocky reef habitats such as those dominated by erect and branching species, fast growing faunal turfs and kelp, are sensitive to high levels of potting activity, but more experimental evidence is required to confirm this. In addition, abundances of erect and potentially fragile species are expected to decline due to physical abrasion from pot fishing, with bare rock and percentage cover of encrusting species increasing.

Therefore, the potential for impact will be dependent on the intensity of fishing activity taking place and the biotopes present within the site. Abrasion impacts from traps may occur during deployment, positioning (via dragging), tidal/current

movement and swell, and recovery (via hauling). Direct abrasive contact may occur from the trap itself; the end weight and anchors and indirect impacts may occur from scour, or the rubbing effects caused by the associated trap ropes. Furthermore, the abrasion pressure is unlikely to impact the rocky substrate itself, being more likely to impact the taxa associated with the rocky reef habitats.

The physical footprints of traps are much smaller than mobile gears such as trawls and dredges and it is unlikely that they would land, soak and be hauled, in the same location on successive fishing trips. The majority of literature before 2015 has suggested that traps are unlikely to significantly impact rocky reef biotopes. However, more recent studies suggest that traps will have negative impacts on the biological functions of reef habitats at high spatial and temporal densities. In addition, any loss of reef structure can result in reduced species abundance/richness, biomass, and consequentially ecosystem functioning. Recoverability of many of the species listed in the biotopes is good as they reach sexual maturity quickly, can reproduce asexually to aid recovery of damaged populations, and can undertake resting stages that are very resistant of environmental perturbation. The site is also subject to moderate hydrodynamic energy of the Western Channel and Celtic Sea, so it is likely that these biological communities are acclimatised to some level of natural disturbance. Recoverability will however be reliant on activity levels and regular repeated activity can prevent recovery from happening.

Overall given the comparatively low spatial footprint of the gear and no evidence of highly sensitive biotopes being present, it is unlikely that the ongoing use of traps at described levels will pose a significant risk of hindering the achievement of the conservation objective of ‘recover to favourable condition’ of Cape Bank MPA. To help facilitate achieving the conservation objective a monitoring and control plan should be implemented.

Subtidal coarse sediment

Twelve biotopes were identified as potentially being present on the subtidal coarse sediment feature at Cape Bank MPA, however none were identified as having medium or high sensitivity to abrasion from traps activity. Eight biotopes were identified as having low sensitivity and the remaining four biotopes are not sensitive to abrasion from this gear type.

As described in section 9.4 of the traps Impacts Evidence document[11], abrasion impacts from this gear type are unlikely to impact the sediment itself but may impact biological communities associated with this feature. However, abrasion impacts from this gear type are unlikely to be a concern unless they occur where particularly sensitive species are present or when fishing occurs at damaging levels of intensity.

Recoverability of many of the species listed in the biotopes is good as they reach sexual maturity quickly, can reproduce asexually to aid recovery of damaged populations, and can undertake resting stages that are very resistant of

environmental perturbation. The site is also subject to moderate hydrodynamic energy of the Western Channel and Celtic Sea, so it is likely that these biological communities are acclimatised to some level of natural disturbance. Recoverability will, however, be reliant on activity levels and regular repeated activity can prevent recovery from happening.

Based on the rationale above, there is a low risk of impacts on this feature relating to abrasion or disturbance of the substrate on the surface of the seabed. Risk is likely to occur primarily during the setting and retrieval of traps and their associated ropes, weights and anchors, as well as by their movement over the seabed during rough weather.

Given the low sensitivity of the biotopes likely to be present within this feature it is unlikely that the ongoing use of traps at the levels described will pose a significant risk of hindering the achievement of the conservation objective of 'recover to favourable condition' of this feature of Cape Bank MPA.

Therefore, MMO conclude that the ongoing use of traps at the described levels does not pose a significant risk of hindering the achievement of the conservation objectives of Cape Bank MPA.

4.4 Part B conclusion

The assessment of anchored nets and lines and traps on moderate energy circalittoral rock and subtidal coarse sediment features of Cape Bank has concluded that the ongoing use of anchored nets and lines and traps at the described levels will not result in a significant risk of hindering the achievement of the conservation objectives of the MPA. Management measures will not therefore be implemented for anchored nets and lines and traps for Cape Bank MPA. It is recognised that should activity levels increase there may be some risk of hindering the achievement of the conservation objectives of the MPA therefore a monitoring and control plan is to be implemented.

5 Part C - In-combination assessment

This section assesses the impacts of fishing activities in-combination with relevant activities taking place. This includes the following:

- fishing interactions assessed in Part B but which were not considered, alone, to pose a significant risk of hindering the achievement of the conservation objectives; and
- other activities: such as marine development infrastructure plans and projects that occur in the MPA.

ArcGIS software has been used to check relevant activities that occur within, or adjacent to, the assessed site where there could be a pathway for impact. To determine relevant activities to be included in this part of the assessment, a distance of 5 km was selected as suitable to capture any potential way in which the activity could impact the benthic features of the site in-combination with effects of the fishing activities assessed. Cape Bank MPA straddles the 6 nm limit and therefore, only activities that are within 5 km of the portion of the site seawards of the 6 nm limit were considered. This assessment considers the in-combination impacts of marine licensable activities that are ongoing or upcoming, and with the same medium to high-risk pressure impact pathways as permitted fishing activity. As the models were run using ArcGIS in August 2023, any licences that ended before this date were screened out of the assessment.

The North Sea Transition Authority (NSTA) is responsible for regulating the oil, gas and carbon storage industries, and as such these activities fall outside of MMO's marine licensing remit. Oil, gas and carbon storage industry activities are not currently considered in this draft assessment, as information on the potential pressures exerted by associated activities is currently under review, and the likelihood of these activities resulting in an in-combination significant risk of hindering the achievement of the site's conservation objectives with fishing is expected to be very low. Following formal consultation, relevant oil, gas and carbon storage industry activities that could impact the site in-combination with the effects of assessed fishing activities will be included before finalising this assessment, alongside marine licence applications submitted after August 2023.

There may be historic and/or operational submarine cables within this MPA, these cables are already in-situ and are unlikely to have any residual abrasion/removal pressure in-combination with the assessed fishing activity. Any abrasion/removal pressure from submarine cable operation and maintenance activity will be temporary with limited seabed impacts and is therefore unlikely to have significant in-combination effects with assessed fishing.

No gear types were identified in Part B as requiring management to avoid posing a significant risk of hindering the achievement of the site conservation objectives. Anchored nets and lines and traps are the only fishing activities occurring within

Cape Bank MPA that interact with the seabed. In-combination effects of these fishing activities as well as these activities in-combination with other relevant activities will be assessed in this section.

In accordance with the methodology detailed above, ArcGIS identified one project, within the 5 km buffer applied. **Table 5** shows this activity and the relevant category from the JNCC Pressures-Activities Database (PAD)[18].

Table 5: summary of marine licensable activities and associated PAD categories.

Marine licence case reference number[19]	PAD Category	Description
MLA/2022/00239	Anchorage and moorings: Construction	Installation of 4 floating buoy moorings to collect metocean data (wave and currents). Outside of the MPA boundary. **No direct or indirect pressure pathway for impact and therefore, no in-combination effects possible.**

The PAD and **Table 3** from **section 3.3**, were used to identify medium-high risk pressures exerted by fishing and non-fishing activities to identify those which require in-combination assessment (**Table 6**).

Table 6 summarises the pressures exerted by fishing and non-fishing activities and identifies those exerted by both (Y: pressure exerted). Activity-pressure interactions are highlighted dark blue to illustrate an in-combination effect. Only fishing activity with no proposed or current fisheries management in place are considered.

[18] JNCC Pressures-Activities Database (PAD**):** hub.jncc.gov.uk/assets/97447f16-9f38-49ff-a3af-56d437fd1951

[19] Detail on the marine licence activity can be viewed on the public register of marine licence applications and decisions, searching by the marine licence case reference number: Marine case management system - Public register - MCMS (marinemanagement.org.uk) URL: www.marinelicensing.marinemanagement.org.uk/mmofox5/fox/live/MMO_PUBLIC_REGISTER

Table 6: Pressures exerted by fishing and non-fishing activities.

	Non-fishing activities	Fishing activities	
Potential pressures	**Anchorage and moorings: Construction**	**Anchored nets and lines**	**Traps**
Abrasion or disturbance of the substrate on the surface of the seabed	Y	Y	Y
Removal of non-target species		Y	Y
Removal of target species		Y	Y

5.1 In-combination pressure sections

Fisheries vs fisheries in-combination pressures will be considered in this section. The pressures exerted by the non-fishing activity will also be considered in-combination with the anchored nets and lines and traps fishing pressures.

5.2 Fishing vs Fishing in-combination pressures

5.2.1 Abrasion and disturbance of the substrate on the surface of the seabed and removal of target and non-target species

As noted in Part B (**Section 4.3**), impacts from the removal of target and non-target species pressure is not being considered in detail in this assessment. In-combination impacts from the removal of target and non-target species pressures are more fully assessed under the pressure abrasion, as the detail of key structural and influential species is yet to be fully defined. Therefore, the removal pressures are not considered further in this in-combination assessment. The pressures may require further consideration as future evidence becomes available, in conjunction with updated conservation advice from JNCC and Natural England.

The annual average VMS records for over 12 m vessels within the MPA totalled 495 counts, 493 for traps and 2 for anchored nets and lines, between 2016 and 2021 (**Annex 1, Table A1. 1**). For the same period, UK under 12 m vessels annual average fishing effort estimated to have been derived from the MPA totalled 491 days, 258 days for traps and 233 days for anchored nets and lines (**Annex 1, Table A1. 7**). The fishing effort data is further supported by the estimated live weight landings for both UK and EU vessels. The annual average live weight landings combined for over 12 m vessels totals 117.16 tonnes, 117.04 tonnes from traps and 0.12 tonnes from anchored nets and lines, between 2016 and 2020 (**Annex 1, Table A1. 2 and Table A1. 3**). For the same period, the annual average live weight landings combined for under 12 m UK vessels totalled 131.25 tonnes, 74.33 tonnes from traps and 56.92 tonnes from anchored nets and lines (**Annex 1, Table A1. 5**).

The combined impacts from anchored nets and lines and traps could potentially increase the risk of negative effects from the pressure abrasion and disturbance of the substrate on the surface of the seabed. However, the total combined annual average anchored nets and lines and trap effort (495 VMS counts and 491 effort days) is not considered significant at the levels described. Furthermore, considering the small physical footprint of these gears on the seabed, the absence of any highly sensitive biotopes and/or species to the gear-pressures at described activity levels (**Section 4.3**), and the likelihood of some gear separation due to the difference in target catch by traps compared with marine anchored nets and lines (for example traps targeted on rockier habitats and anchored nets and lines on softer sediments), the combined in-combination impact is considered insignificant at described levels.

Therefore, MMO concludes that the combined pressures from anchored nets and lines and traps will not result in a significant risk of hindering the achievement of the conservation objectives for the Cape Bank MPA at the levels described.

5.3 Fishing vs non-fishing activities in-combination pressures

5.3.1 Abrasion and disturbance of the substrate on the surface of the seabed

The designated features of the Cape Bank MPA are sensitive to physical damage through surface abrasion and disturbance of the substrate from anchored nets and lines and traps during gear deployment, movement of the gear on the seabed due to tidal movements and storm activity, and as the gear is dragged along the seabed during retrieval.

Activities associated with the installation of floating buoy moorings which might cause abrasion or disturbance of the seabed relate to anchorage of buoys. These will be in-situ for a period of up to 12 months, with occasional maintenance visits planned in that period. These anchoring solutions can smother or impede the growth of biological communities within their footprint and have the potential to cause localised physical damage through abrasion and scouring of the substrate in which they are located, particularly in the highly hydrodynamic conditions of the Celtic Sea and Western Channel.

As detailed in **section 5.2.1**, for abrasion and disturbance of substrate on the surface of the seabed, at described activity levels anchored nets and lines and traps are not considered to be causing a significant in-combination impact via the abrasion and disturbance pressure. It is possible that activities linked to the gravity based mooring solution, in-combination with anchored nets and lines and traps may increase the potential for this pressure to have negative cumulative effects on the designated features of the MPA. However, the buoys and gravity based mooring solutions will be installed adjacent to (within the MPA buffer) and not within the boundary of the MPA. Therefore, it is expected that the buoys and their mooring

frames will have no direct or indirect pressure pathway in-combination with fishing pressures.

Therefore, MMO concludes that the combined pressures from anchored nets and lines and traps and other relevant activities will not result in a significant risk of hindering the achievement of the conservation objectives for the Cape Bank MPA.

5.4 Part C conclusion

MMO concludes that fishing in-combination with other relevant activities will not result in a significant risk of hindering the achievement of the conservation objectives for the Cape Bank MPA.

Further management measures will not therefore be implemented for fishing activities currently occurring within the MPA.

6 Conclusion and proposed management

Part A of this assessment concluded that anchored nets and lines and traps are capable of affecting (other than insignificantly) the designated features of Cape Bank MPA.

Part B of this assessment concluded that the ongoing use of anchored nets and lines and traps on the moderate energy circalittoral rock and subtidal coarse sediment features of the Cape Bank MPA will not result in a significant risk of hindering the achievement of the conservation objectives of the MPA at the described levels.

Part C of this assessment concluded that the ongoing use of anchored nets and lines and traps, alone or in-combination, does not pose a significant risk of hindering the achievement of the conservation objectives of the Cape Bank MPA.

Further management measures will not therefore be implemented for fishing activities currently occurring within the MPA.

7 Review of this assessment

MMO will review this assessment every five years, or earlier if significant new information is received. Such information could include:

- updated conservation advice;
- updated advice on the condition of the site's feature(s); and
- significant increase in activity levels.

To coordinate the collection and analysis of information regarding activity levels, and to ensure that any required management is implemented in a timely manner, a monitoring and control plan will be implemented for this site. This plan will be developed in line with MMO's Monitoring and Control Plan framework.

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Annex 1: Fishing activity data

Table A1. 1: VMS record count per nation group (UK and EU Member State) and proportional activity (%), per gear, per gear group, per year (2016 to 2021), totals and annual average (2016 to 2021). All numbers are rounded to the nearest whole number.

			2016		2017		2018		2019		2020		2021		Total (2016 to 2021)		Annual average (2016 to 2021)
Gear group	**Gear code**	**Nation group**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**
Anchored Net/Line	**GN**	UK	1	100	0	0	0	0	0	0	1	100	0	0	2	100	0
	GN total		**1**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**2**	**22**	**0**
	GNS	UK	2	100	0	0	0	0	0	0	0	0	1	100	3	100	1
	GNS total		**2**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**50**	**3**	**33**	**1**
	GTR	UK	1	100	0	0	0	0	0	0	0	0	1	100	2	100	0
	GTR total		**1**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**50**	**2**	**22**	**0**
	LLS	EU	1	100	0	0	0	0	1	100	0	0	0	0	2	100	0
	LLS total		**1**	**20**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**0**	**0**	**2**	**22**	**0**
Anchored Net/Line total			**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**9**	**0**	**2**
Demersal Seine	**SSC**	EU	0	0	0	0	0	0	0	0	1	100	0	0	1	100	0
	SSC total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**1**	**100**	**0**
Demersal Seine total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**
Demersal trawl	**OTB**	EU	1,009	100	432	100	918	100	229	100	144	100	155	97	2,887	100	481
	OTB	UK	0	0	0	0%	0	0	0	0	0	0	4	3	4	0	1
	OTB total		**1,009**	**81**	**432**	**74**	**918**	**88**	**229**	**50**	**144**	**39**	**159**	**31**	**2,891**	**69**	**482**
	OTT	EU	3	100	2	100	2	100	16	100	2	100	2	100	27	100	5
	OTT total		**3**	**0**	**2**	**0**	**2**	**0**	**16**	**3**	**2**	**1**	**2**	**0**	**27**	**1**	**5**

			2016		2017		2018		2019		2020		2021		Total (2016 to 2021)		Annual average (2016 to 2021)
Gear group	**Gear code**	**Nation group**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**
	TBB	EU	144	63	117	77	119	93	123	57	189	84	242	70	934	72	156
	TBB	UK	85	37	34	23	9	7	92	43	36	16	103	30	359	28	60
	TBB total		**229**	**18**	**151**	**26**	**128**	**12**	**215**	**47**	**225**	**61**	**345**	**67**	**1,293**	**31**	**216**
	TBN	EU	0	0	0	0	0	0	0	0	0	0	6	100	6	100	1
	TBN total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**6**	**0**	**1**
Demersal trawl total			**1,241**	**73**	**585**	**68**	**1,048**	**62**	**460**	**42**	**371**	**50**	**512**	**43**	**4,217**	**58**	**703**
Dredge	**DRB**	EU	1	6	0	0	0	0	5	100	10	100	0	0	16	52	3
	DRB	UK	15	94	0	0	0	0	0	0	0	0	0	0	15	48	3
	DRB total		**16**	**100**	**0**	**0**	**0**	**0**	**5**	**100**	**10**	**100**	**0**	**0**	**31**	**100**	**5**
Dredge total			**16**	**1**	**0**	**0**	**0**	**0**	**5**	**0**	**10**	**1**	**0**	**0**	**31**	**0**	**5**
Midwater - surrounding	**PS**	EU	0	0	0	0	0	0	0	0	1	100	0	0	1	100	0
	PS total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**1**	**100**	**0**
Midwater – surrounding total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**
Midwater Trawl	**OTM**	EU	0	0	0	0	33	100	3	100	0	0	0	0	36	100	6
	OTM total		**0**	**0**	**0**	**0**	**33**	**87**	**3**	**100**	**0**	**0**	**0**	**0**	**36**	**88**	**6**
	PTM	UK	0	0	0	0	5	100	0	0	0	0	0	0	5	100	1
	PTM total		**0**	**0**	**0**	**0**	**5**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**12**	**1**
Midwater Trawl total			**0**	**0**	**0**	**0**	**38**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**41**	**1**	**7**
Traps	**FPO**	EU	0	0	0	0	2	0	1	0	0	0	0	0	3	0	1
	FPO	UK	427	100	281	100	595	100	617	100	351	100	686	100	2,957	100	493
	FPO total		**427**	**100**	**281**	**100**	**597**	**100**	**618**	**100**	**351**	**100**	**686**	**100**	**2,960**	**100**	**493**

			2016		2017		2018		2019		2020		2021		Total (2016 to 2021)		Annual average (2016 to 2021)
Gear group	**Gear code**	**Nation group**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**
Traps total			**427**	**25**	**281**	**32**	**597**	**35**	**618**	**57**	**351**	**48**	**686**	**57**	**2,960**	**41**	**493**
Unknown	**NK**	EU	0	0	0	0	0	0	0	0	0	0	1	100	1	100	0
	NK total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**1**	**100**	**0**
Unknown total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
Grand total			**1,689**	**2**	**866**	**1**	**1,683**	**2**	**1,087**	**2**	**735**	**1**	**1,201**	**2**	**7,261**	**2**	**1,210**

Table A1. 2: UK live weight landings tonnage (t) estimates by gear from vessels over 12 m in length in the MMO section of Cape Bank MPA (2016 to 2020). All numbers are rounded to two decimal places.

Gear group	Gear code	2016	2017	2018	2019	2020	Total (2016 to 2020)	Average (2016 to 2020)
Anchored Net/Line	GN	0.18	0	0	0	0.34	0.51	0.1
	GNS	0.08	0	0	0	0	0.08	0.02
	GTR	0.01	0	0	0	0	0.01	<0.01
Anchored Net/Line Total		**0.26**	**0**	**0**	**0**	**0.34**	**0.6**	**0.12**
Demersal trawl	TBB	12.94	7.35	1.95	15.16	8.32	45.73	9.15
Demersal trawl Total		**12.94**	**7.35**	**1.95**	**15.16**	**8.32**	**45.73**	**9.15**
Dredge	DRB	0.24	0	0	0	0	0.24	0.05
Dredge Total		**0.24**	**0**	**0**	**0**	**0**	**0.24**	**0.05**
Midwater Trawl	PTM	0	0	209.73	0	0	209.73	41.95
Midwater Trawl Total		**0**	**0**	**209.73**	**0**	**0**	**209.73**	**41.95**
Traps	FPO	116.07	85.96	158.35	141.26	83.28	584.93	116.99
Traps Total		**116.07**	**85.96**	**158.35**	**141.26**	**83.28**	**584.93**	**116.99**
Grand Total		**129.51**	**93.32**	**370.03**	**156.42**	**91.94**	**841.23**	**168.25**

Table A1. 3: EU27 live weight landings tonnage (t) estimates by gear from vessels over 12 m in length in the MMO section of Cape Bank MPA (2016 to 2020). All numbers are rounded to two decimal places.

Gear group	Gear code	2016	2017	2018	2019	2020	Total (2016-2020)	Average (2016-2020)
Anchored Net/Line	GNS	0	0	0	0	0	0	0
Anchored Net/Line Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Demersal Seine	SDN	0	0	0	0	0	0	0
Demersal Seine Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Demersal trawl	OTB	90.30	34.87	61.18	17.65	12.72	216.72	43.34
	OTT	0.24	0	0.29	0.04	0.01	0.58	0.12
	TBB	35.33	21.76	20.27	15.12	28.54	121.02	24.20
Demersal trawl Total		**125.87**	**56.63**	**81.75**	**32.81**	**41.27**	**338.33**	**67.67**
Dredge	DRB	0	0	0	0	0.54	0.54	0.11
Dredge Total		**0**	**0**	**0**	**0**	**0.54**	**0.54**	**0.11**
Midwater Trawl	OTM	0	0	184.88	1.27	0	186.14	37.23
	PTM	0	0	0	0	0	0	0
Midwater Trawl Total		**0**	**0**	**184.88**	**1.27**	**0.00**	**186.14**	**37.23**
Traps	FPO	0	0	0.23	0	0	0.23	0.05
Traps Total		**0**	**0**	**0.23**	**0**	**0**	**0.23**	**0.05**
Grand Total		**125.87**	**56.63**	**266.86**	**34.07**	**41.81**	**525.24**	**105.05**

Table A1. 4: Percentage of each ICES rectangle intersected by the MMO section of Cape Bank MPA.

ICES rectangle	Percentage overlap (%)
29E3	2.79
29E4	10.35

Table A1. 5: UK live weight landings tonnage (t) estimates by gear from vessels under 12 m in length for the MMO section of Cape Bank MPA (2016 to 2020). All numbers are rounded to two decimal places.

Gear group	Gear code	2016	2017	2018	2019	2020	Total (2016-2020)	Average (2016-2020)
Anchored Net/Line	GEN	24.26	12.48	0	0	0	36.74	7.35
	GN	25.43	38.79	53.61	48.32	41.91	208.05	41.61
	GNS	14.01	4.81	8.57	4.47	2.95	34.80	6.96
	GTR	2.83	1.43	0.48	0.25	0	4.99	1.00
	LL	0	0	0.01	0	0	0.01	<0.01
Anchored Net/Line Total		**66.52**	**57.52**	**62.66**	**53.04**	**44.86**	**284.59**	**56.92**
Demersal Seine	SB	2.13	0.17	0	0	0	2.30	0.46
Demersal Seine Total		**2.13**	**0.17**	**0**	**0**	**0**	**2.30**	**0.46**
Demersal trawl	OT	5.19	2.29	0	0	0	7.48	1.50
	OTB	0	11.32	16.22	15.02	9.11	51.67	10.33
	OTT	0	0	0	0	0	0	0
	TBB	0	0	0.18	0	0.17	0.35	0.07
Demersal trawl Total		**5.19**	**13.60**	**16.40**	**15.02**	**9.28**	**59.49**	**11.90**
Dredge	DRB	10.18	13.34	4.40	10.17	1.82	39.91	7.98
	DRH	<0.01	0	0	0	0	<0.01	<0.01
Dredge Total		**10.18**	**13.34**	**4.40**	**10.17**	**1.82**	**39.91**	**7.98**
Midwater - Gill Drift	GND	1.93	1.68	0.71	3.43	0.90	8.64	1.73
Midwater - Gill Drift Total		**1.93**	**1.68**	**0.71**	**3.43**	**0.90**	**8.64**	**1.73**

Gear group	Gear code	2016	2017	2018	2019	2020	Total (2016-2020)	Average (2016-2020)
Midwater - Gill Encircling	GNC	127.31	139.51	174.20	154.17	231.68	826.87	165.37
Midwater - Gill Encircling Total		**127.31**	**139.51**	**174.20**	**154.17**	**231.68**	**826.87**	**165.37**
Midwater - surrounding	PS	0	6.10	0.71	0	1.35	8.16	1.63
Midwater - surrounding Total		**0**	**6.10**	**0.71**	**0**	**1.35**	**8.16**	**1.63**
Midwater Hook/Lines	HF	1.39	1.69	0.07	0.06	0.10	3.31	0.66
	LHP	62.73	78.89	64.06	58.99	34.38	299.05	59.81
	LX	0.16	0.07	0.03	0.04	0.01	0.31	0.06
Midwater Hook/Lines Total		**64.28**	**80.65**	**64.16**	**59.09**	**34.48**	**302.67**	**60.53**
Traps	FIX	0.40	0.49	0	0	0	0.89	0.18
	FPO	93.61	77.79	82.49	70.21	47.57	371.66	74.33
Traps Total		**94.01**	**78.28**	**82.49**	**70.21**	**47.57**	**372.55**	**74.51**
Unknown	MIS	0	0.50	0.67	1.34	0.57	3.07	0.61
Unknown Total		**0**	**0.50**	**0.67**	**1.34**	**0.57**	**3.07**	**0.61**
Grand Total		**371.56**	**391.36**	**406.40**	**366.46**	**372.50**	**1,908.27**	**381.65**

Table A1. 6: Mean annual surface and subsurface SAR values for C-squares intersecting the MMO section of Cape Bank MPA (2016 to 2020).

Gear group	SAR category	2016	2017	2018	2019	2020	Total
Demersal Seines	Surface	0	0	0	0	0	0
	Subsurface	0	0	0	0	0	0
Dredges	Surface	<0.01	0	0	0	<0.01	0
	Subsurface	0.01	0	0	0	<0.01	0
Demersal Trawls	Surface	2.38	1.10	1.77	0.66	0.60	6.52
	Subsurface	0.46	0.23	0.29	0.19	0.29	1.46
Bottom Towed Gear	Surface	2.38	1.10	1.77	0.07	0.60	5.92
	Subsurface	0.46	0.23	0.29	0.19	0.29	1.46

Table A1. 7: Fishing effort (days) recorded by UK vessels under 12 m in length, separated by gear type for the area of Cape Bank MPA that intersects the marine portion of ICES rectangles 29E3 and 29E4 (2016 to 2021). ICES rectangle level data has been apportioned to the MPA based on the percentage area of the ICES rectangle that intersects the MPA (Table A1. 4).

Gear group	Fishing effort (days at sea)							
	2016	2017	2018	2019	2020	2021	Total (2016 to 2021)	Annual average (2016 to 2021)
Demersal seine	2.69	1.66	0	0	0	0	4.35	0.72
Demersal trawl	14.18	41.40	50.95	47.46	35.23	46.76	235.99	39.33
Dredge	15.89	19.98	8.36	15.43	1.86	5.72	67.24	11.21
Bottom towed gear total	**32.76**	**63.04**	**59.31**	**62.89**	**37.09**	**52.48**	**307.57**	**51.26**
Midwater gill drift	10.45	5.85	6.42	3.96	3.36	3.78	33.82	5.64
Midwater gill encircling	18.37	14.85	15.16	14.26	22.62	20.87	106.14	17.69
Midwater hooks and lines	487.73	537.70	480.64	488.44	341.81	403.72	2,740.03	456.67
Midwater surrounding	0	0.57	0.05	0	0.21	0	0.83	0.14
Midwater gear total	**516.56**	**558.97**	**502.27**	**506.65**	**368.00**	**428.37**	**2,880.82**	**480.14**
Anchored nets and lines	283.93	259.00	244.29	236.28	174.27	201.57	1,399.33	233.22
Traps	276.22	250.38	288.72	275.15	209.39	248.57	1,548.44	258.07
Static gear total	**560.15**	**509.38**	**533.01**	**511.43**	**383.66**	**450.14**	**2,947.77**	**491.29**
Unknown	0	2.59	8.07	11.29	3.70	1.41	27.06	4.51
Unknown total	**0**	**2.59**	**8.07**	**11.29**	**3.70**	**1.41**	**27.06**	**4.51**
MPA total	**1,109.46**	**1,133.97**	**1,102.66**	**1,092.26**	**792.45**	**932.41**	**6,163.22**	**1,027.20**

Annex 2: Biotope information

Table A1: Moderate energy circalittoral rock biotopes that may be found within Cape Bank MPA with medium sensitivity to the abrasion/disturbance of the substrate on the surface of the seabed and removal of target and non-target species pressure from anchored nets and lines and traps.

Biotope	Sensitivity	Justification
Urticina felina and sand-tolerant fauna on sand-scoured or covered circalittoral rock (Tillin and Hiscock, 2016)	Abrasion: Medium Removal of non-target species: Medium	Suitable physical parameters, presence to be considered likely on precautionary basis given sensitivity
Brittlestars on faunal and algal encrusted exposed to moderately wave-exposed circalittoral rock (De-Bastos *et al.*, 2023a)	Abrasion: Medium Removal of non-target species: Medium	Suitable physical parameters, presence to be considered likely on precautionary basis given sensitivity
Sabellaria reefs on circalittoral rock (Tillin *et al.*, 2023)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence. (Biotope usually found within 30 m depth)
Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay (Tillin and Hill, 2016)	Abrasion: Medium Removal of target species: Medium Removal of non-target species: Low	Low confidence in likelihood of presence due to rocky feature not having soft chalk/clay.
Polydora sp. tubes on moderately exposed sublittoral soft rock (De-Bastos *et al.*, 2023b)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence (Biotope usually found within 30 m depth)
Mytilus edulis beds with hydroids and ascidians on tide-swept exposed to moderately wave-exposed circalittoral rock (Tyler-Walters, Mainwaring and Williams, 2022)	Abrasion: Medium Removal of target species: Medium Removal of non-target species: High	Low confidence in likelihood of presence. (Biotope usually found within 30 m depth)

Circalittoral faunal communities in variable salinity (Readman, Lloyd and Watson, 2023a)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence (Biotope usually found within 20 m depth)
Cushion sponges and hydroids on turbid tide-swept sheltered circalittoral rock (Readman, Lloyd and Watson, 2023b)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence (Biotope usually found within 20 m depth)
Cushion sponges, hydroids and ascidians on turbid tide-swept sheltered circalittoral rock (Readman, Lloyd and Watson, 2023b)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence (Biotope usually found within 20 m depth)
Cushion sponges and hydroids on turbid tide-swept variable salinity sheltered circalittoral rock (Readman, Lloyd and Watson, 2023c)	Abrasion: Medium Removal of non-target species: Medium	Low confidence in likelihood of presence (Biotope usually found within 20 m depth)
Brittlestars overlying coralline crusts, *Parasmittina trispinosa* and *Caryophyllia smithii* on wave-exposed circalittoral rock (De-Bastos, Williams and Hill, 2023)	Abrasion: Medium Removal of non-target species: Medium	Suitable physical parameters, presence to be considered likely on precautionary basis given sensitivity