Marine Management Organisation

MMO Stage 3 Site Assessment: Land's End and Cape Bank MPA (Draft)

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Title: MMO Stage 3 Site Assessment: Land's End and Cape Bank MPA (Draft)

Contents

Executive Summary

This assessment analyses the impact of anchored nets and lines and traps on the designated features circalittoral rock and infralittoral rock in Land's End and Cape Bank Marine Protected Area (MPA) to determine whether an adverse effect on site integrity 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 will not result in an adverse effect on site integrity of the Land's End and Cape Bank MPA. Management measures will not therefore be implemented for anchored nets and lines and traps for Land's End and Cape Bank MPA.

1 Introduction

This assessment considers whether fishing activities are compatible with the conservation objectives of Land's End and Cape Bank MPA.

This site is designated as a special area of conservation (SAC). This assessment uses the best available evidence to review site characteristics and fishing activity and determine if fishing activity is causing an adverse effect on the integrity of the site. If so, the 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 Natural England conservation advice package was used for background on site geography, designations, features, and conservation objectives in this assessment:

- Natural England Conservation Advice – Land's End and Cape Bank SAC[1]

Land's End and Cape Bank MPA is located to the west of the Land's End peninsula, extending to approximately 22 km from the coast and covering an area of approximately 302 km² (**Figure 1**). Fishing activity in the site is regulated by Cornwall Inshore Fisheries and Conservation Authority (IFCA) (0 to 6 nautical miles (nm)) and MMO (beyond 6 nm). Natural England (0 to 12 nm) is the relevant Statutory Nature Conservation body for the site.

The site has two main rocky reef areas comprised of upstanding reef fringing the coast (the Land's End part of the site) and upstanding reef further offshore that roughly aligns with the coastline (the Cape Bank part of the site). The reefs are primarily granite and are a mosaic of infralittoral and circalittoral rock, although infralittoral rock dominates the coastal reef, and circalittoral rock dominates the offshore reef. The influence of relatively warm waters from the Gulf Stream and the Lusitanian current gives a distinct character to the communities. The rocky reef in the coastal margin is topographically complex, resulting in high biological and biotope diversity dominated by tide-swept kelp forest and kelp parks with dense foliose red algae. The rocky reef within the Cape Bank part of the site is of particular conservation interest and is dominated by high biodiversity tide-swept communities such as sponges, faunal and algal turfs, crustose communities, sea fans, cup corals and soft corals, some of which are of high conservation importance.

[1] Natural England Conservation Advice: naturalengland.org.uk (last accessed 29 June 2023)

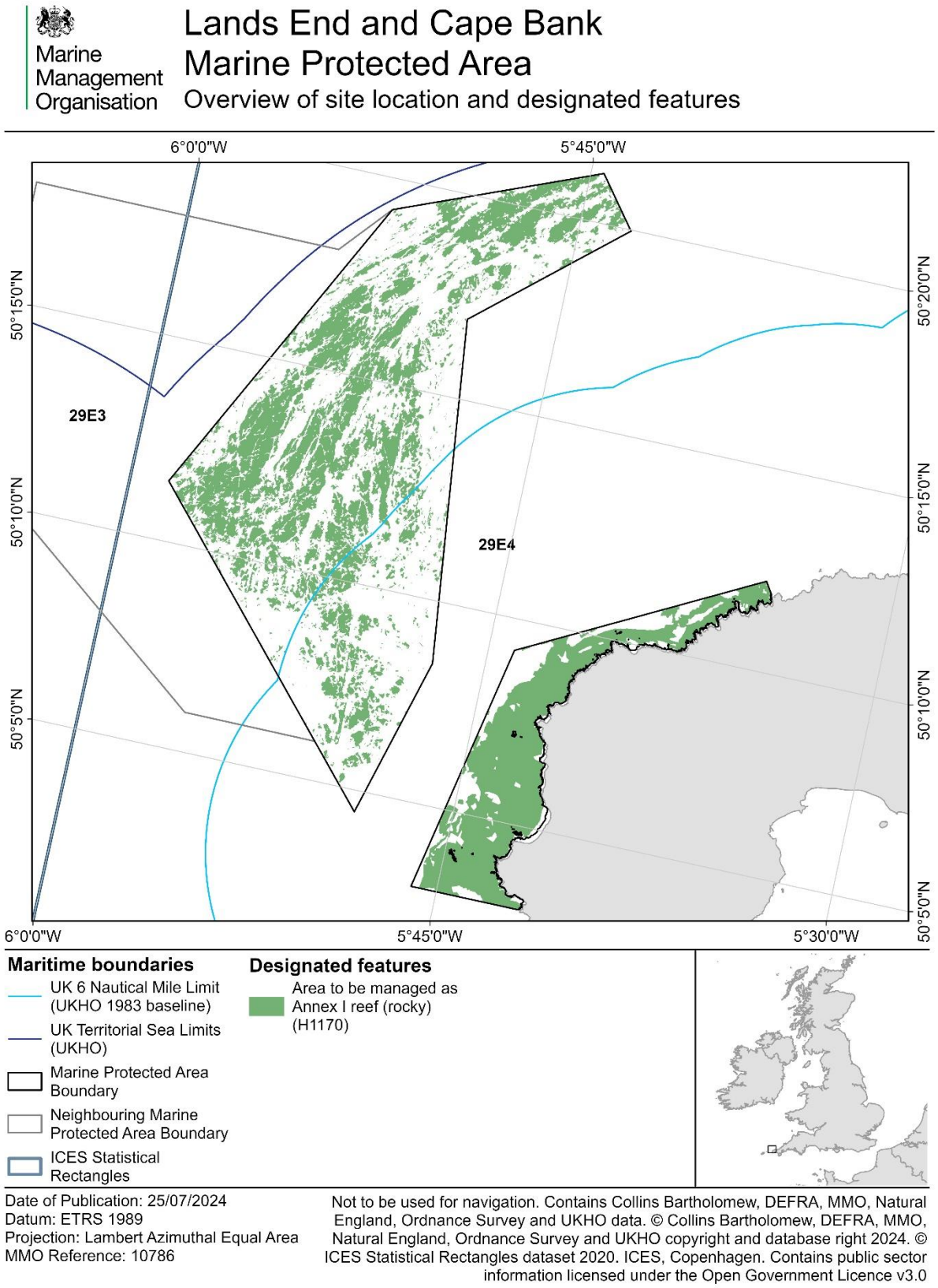

Figure 1: Site overview map.

Land's End and Cape Bank MPA was designated as a Special Area of Conservation (SAC) in 2017.

The designated features and their conservation objectives are set out below in **Table 1.**

The conservation objectives for the features of Land's End and Cape Bank MPA have been set based on a direct assessment.

Table 1: Designated features, including sub-features, and conservation objectives.

Designated feature	Sub-feature	Conservation objective
Reefs	Circalittoral rock	Maintain in favourable condition
	Infralittoral rock	

Natural England conducted condition assessments in 2022 and reported the condition of the reef feature as favourable[2].

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. This includes the Land's End portion of the site in which the infralittoral rock and associated kelp biotopes are located covering approximately 181 km².

Bottom towed gear interactions with the features moderate energy circalittoral rock and Infralittoral rock have not been included in this assessment as they have already been addressed in the MMO Stage 2 assessment of Land's End and Cape Bank MPA[3]. Stage 2 assessed the impacts of fishing using bottom towed gears on rock, rocky and biogenic reef in 13 MPAs.

[2] Natural England Feature Condition Assessment – Land's End and Cape Bank SAC: naturalengland.org.uk (last accessed 12 August 2024)

[3] Stage 2 MPA Fisheries Assessment www.gov.uk/government/publications/marine-protected-areas-bottom-towed-fishing-gear-byelaw-2023 (last accessed 12 August 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 'likely significant effect (LSE)' test required by regulation 63 of the Conservation of Habitats and Species Regulations 2017[4] and regulation 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017[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. if the effect/impact of the pressure is not likely to be significant; 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. if the potential scale or magnitude of any effect is likely to be significant.
    c. if it is not possible to determine whether the magnitude of any effect is likely to be significant; or
    d. if MMO has information that the activity or pressure is occurring in the site and/or does need to be considered further.

3.1 Activities taking place

Table 2 lists all commercial fishing gears included 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

[4] www.legislation.gov.uk/uksi/2017/1012/regulation/63
[5] www.legislation.gov.uk/uksi/2017/1013/regulation/28

- fisheries landings data (logbooks and sales records)
- MMO catch recording project data
- ICES rectangle level fishing effort data in days (reference: MMO1264)
- swept area ratio (SAR) data

For more information about the above evidence sources, please see the Stage 3 MPA Site Assessment Methodology document[6], which describes each type of fishing activity evidence and summarises the strengths and limitations of each source.

Table 2: Fishing activities covered by this assessment present in VMS records (2016 to 2021) and landings data (2016 to 2020) for Land's End and 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.
	Gill nets (not specified)	GN	
Anchored nets and lines	Longlines (demersal)	LLS	Present in VMS data.
	Set gillnet (anchored)	GNS	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.
Anchored nets and lines	Longline (unspecified)	LL	
Anchored nets and lines	Gillnets and entangling nets	GEN	
Bottom towed gear	Twin bottom otter trawl	OTT	Present in VMS data.
Bottom towed gear	Otter trawls (unspecified)	OT	Present in under 12 m vessel landings data for ICES statistical rectangles that overlap the site.

[6] Stage 3 MPA Site Assessment Methodology document: www.gov.uk/government/publications/stage-3-site-assessments (last accessed 12 August 2024).

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

Gear type	Gear name	Gear code	Justification
			statistical rectangles that overlap the site.

3.2 Pressures, features and activities screened out

This section identifies activities or pressures that are **occurring but do not need to be considered** for Land's End and 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 Land's End and 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 Land's End and 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 gear:** the MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023 prohibits bottom towed gear activity within the Cape Bank portion of the MPA and replaced an earlier MMO byelaw which prohibited bottom towed gear activity from 2013 onwards. Whilst fishing activity data sources include some indications of bottom towed gear fishing activity occurring between 2016-2021, this is a result of bottom towed gear fishing vessels transiting the area at speeds usually associated with fishing, principally due to strong currents and tides in the area. Bottom towed gear fishing will therefore 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 Land's End and 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 Land's End and 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

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 and traps Impacts Evidence documents.

- Stage 3 Fishing Gear MPA Impact Evidence Anchored Nets and Lines[7];
- Stage 3 Fishing Gear MPA Impact Evidence Traps[8].

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 level information, including sensitivity assessments, risk profiling of pressures from conservation advice packages, and Natural England advice to assess the sensitivities of pressures on the designated features of the site.

Table 3 details the pressures for each gear type – anchored nets and lines (A), bottom towed gear (B) 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.

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

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

Table 3: Sensitivity to potential pressures from fishing activities on designated features.

Potential pressures	Designated features			
	Circalittoral rock		Infralittoral rock	
	A	T	A	T
Abrasion or disturbance of the substrate on the surface of the seabed				
Barrier to species movement				
Deoxygenation				
Hydrocarbon and polycyclic aromatic hydrocarbon (PAH) contamination				
Introduction of light				
Introduction or spread of invasive non-indigenous species				
Organic enrichment				
Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion				
Removal of non-target species				
Removal of target species				
Synthetic compound contamination				
Transition elements and organo-metal contamination				

4 Part B – Fishing activity assessment

Part B of this assessment was carried out in a manner that is consistent with the 'appropriate assessment' required by regulation 63 of the Conservation of Habitats and Species Regulations 2017[9] and regulation 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017[10].

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'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.

[9] www.legislation.gov.uk/uksi/2017/1012/regulation/63

[10] www.legislation.gov.uk/uksi/2017/1013/regulation/28

Table 4: Relevant favourable condition targets for identified pressures.

Feature	Attribute	Target	Relevant pressures
Reefs	Distribution: presence and spatial distribution of biological communities	Maintain the presence and spatial distribution of reef communities.	Relevant to: • Abrasion or disturbance of the substrate on the surface of the seabed • Changes in suspended solids (water clarity) • Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion • Removal of non-target species • Removal of target species • Smothering and siltation rate changes
	Extent and distribution	Maintain the total extent of reef habitat at 24,938 ha, and spatial distribution as defined on the map, subject to natural variation in sediment veneer.	
	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: physical structure of rocky substrate	Maintain the surface and structural complexity, and the stability of the reef structure.	
	Structure: species composition of component communities	Maintain the species composition of component communities.	
	Supporting processes: Sedimentation rates	Maintain the natural rate of sediment deposition.	

4.1 Fisheries access and existing management

Non-UK vessels can operate within Land's End and Cape Bank MPA, provided that they have a licence issued by the UK to do so. Nationalities which fished within the MPA from 2016 to 2021 include UK, Belgium, France and Ireland. VMS records indicate that UK, French and Irish vessels were most prevalent. More information on non-UK vessel access to UK waters can be found on MMO's Single Issuing Authority page[11].

Land's End and Cape Bank MPA is subject to the following relevant legislative restrictions that are applicable to fishing occurring in the site:

1. Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023

The MMO Marine Protected Areas Bottom Towed Fishing Gear Byelaw 2023 prohibits bottom towed gear activity within the Cape Bank portion of the MPA and replaced an earlier MMO byelaw which prohibited bottom towed gear activity from 2013 onwards. Whilst fishing activity data sources include some indications of bottom towed gear fishing activity occurring between 2016-2021, this is a result of bottom towed gear fishing vessels transiting the area at speeds usually associated with fishing, principally due to strong currents and tides in the area. Bottom towed gear fishing will therefore 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: Fishing activity data** display a detailed breakdown of fishing activity within Land's End and 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 and not already subject to management, VMS data show that the most prevalent gear types operated by over 12 metre (m) vessels within the site are traps. Landings data show that the most prevalent gears operated by under 12 m vessels within the site are traps and gillnets.

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. Fishing effort days are derived from logbooks and is collected at ICES rectangle and then apportioned accordingly.

Anchored nets and lines:

[11] The UK Single Issuing Authority: www.gov.uk/guidance/united-kingdom-single-issuing-authority-uksia (last accessed 26 July 2023).

Average fishing effort recorded by UK vessels under 12 m in length using anchored nets and lines between 2016 and 2021 for the area of Land's End and Cape Bank MPA that intersects ICES rectangles 29E4 was 233 days. Land's End and Cape Bank MPA covers 6.41 % of ICES rectangle 29E4.

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 annual average VMS count of 1 between 2016 and 2021, and approximately 0.04 tonnes landed on average between 2016 and 2020, primarily derived from gillnetting activity. Under 12 m vessels using anchored nets and lines landed approximately 35.01 tonnes per year on average between 2016 and 2020.

Traps:

Traps are the most frequently deployed gear in the site according to VMS data. Between 2016 and 2021 there were 386 traps VMS records on average per year. Vessels over 12 m in length using pots/creels landed approximately 86.9 tonnes on average per year between 2016 and 2020.

Under 12 m vessels using pots/creels landed approximately 45.51 tonnes per year on average between 2016 and 2020. Average fishing effort recorded by UK vessels under 12 m in length using traps between 2016 and 2021 for the area of Land's End and Cape Bank MPA that intersects ICES rectangle 29E4 was 258 days.

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, conservation objectives, 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 Land's End and 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 the Joint Nature Conservation Committee (JNCC) and Natural England.

4.3.1 Anchored nets and lines

The following features of Land's End and Cape Bank MPA have been considered in relation to pressures from anchored nets and lines.

Circalittoral rock; Infralittoral rock:

The relevant pressures on the features of Land's End and Cape Bank MPA (outlined above) from anchored nets and lines were identified in **Table 3** and are:

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

Section 4.2 describes the fishing activity within Land's End and 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 the 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 in the site.

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 nets and the associated ground lines and anchors, as well as by their movement over the seabed during rough weather. Circalittoral rock dominates the offshore section, however it is likely that infralittoral rock could be present at a local scale. Impacts from fishing activity will be similar for both features, therefore the features have been grouped in the assessment as 'reef'. The specific biotopes potentially present for each feature are detailed in **Annex 2: Biotope information.**

Reef

Table A2. 1 and **Table A2. 2** in Annex 2 lists the biotopes that may be found within the circalittoral rock feature and infralittoral rock features of the Land's End and Cape Bank MPA. The relevant sensitivities are available within Natural England's Advice on Operations for the Land's End and Cape Bank MPA[12]. Biotope sensitivity data was then extracted from The Marine Life Information Network (MarLIN, 2018) to outline biotope sensitivity for the relevant pressure.

For the circalittoral rock feature, five of the biotopes identified as being potentially present at the site have high sensitivity to abrasion from anchored nets and lines, 15 have medium sensitivity, and 17 have low sensitivity shown in **Table A2. 1** in Annex 2.

[12] Natural England Advice on Operations – Land's End and Cape Bank SAC: naturalengland.org.uk (last accessed 13 August 2024).

For the infralittoral rock feature, thirty-six of the biotopes identified as being potentially present at the site have medium sensitivity to abrasion from anchored nets and lines and 25 have low sensitivity shown in **Table A2. 2** in Annex 2.

Limited VMS count data was available for anchored nets and lines activity in the site between 2016 and 2021, with only 1 VMS count recorded on average annually in the data reporting period. Under 12 m vessels landings data identified approximately 35.01 tonnes per year on average between 2016 and 2020 being landed within ICES rectangle 29E4 indicating higher levels of activity compared to vessels over 12 m. 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 this feature.

As described in section 7.1 of the anchored nets and lines Impacts Evidence document[7], 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. Some studies have also categorised rock with erect and branching species as having a high sensitivity to all intensities of fishing with static nets and lines. 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. The overarching conclusion from the literature available is that rocky reef features are estimated to have no or low sensitivity to all but heavy levels of fishing intensity from static fishing gear.

The reef features are 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 and at the current levels of anchored nets and lines activity it would allow time for some degree of recovery among resilient biotopes.

It is therefore 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 'maintain in favourable condition' of this feature of Land's End and Cape Bank MPA.

Therefore, MMO concludes that the ongoing use of anchored nets and lines at the activity levels described will not result in an adverse effect on site integrity for Land's End and Cape Bank MPA.

4.3.2 Traps

The following features of Land's End and Cape Bank MPA have been considered in relation to pressures from traps.

Circalittoral rock; Infralittoral rock.

The relevant pressures on the features of Land's End and 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 Land's End and Cape Bank MPA and indicates that, according to VMS records for the site, traps are most frequently deployed gear in the site. Between 2016 and 2021 there were 386 VMS records on average per year. Vessels over 12 m in length using traps landed approximately 86.9 tonnes on average per year between 2016 and 2020 whilst Under 12 m vessels using traps landed approximately 45.51 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. Circalittoral rock dominates the offshore section, however it is likely that infralittoral rock could be present at a local scale. Impacts from fishing activity will be similar for both features, therefore the features have been grouped in the assessment as 'reef'. The specific biotopes potentially present for each feature are detailed in **Annex 2: Biotope information**

Reef

Traps and anchored nets and lines fishing gear exert similar pressures on the biotopes associated with the reef features of the site, therefore the biotopes identified in **Table A2. 1** and **Table A2. 2** of Annex 2 also apply here for the traps section. For the circalittoral rock feature, five of the biotopes identified as being potentially present at the site have high sensitivity to abrasion from anchored nets and lines, 15 have medium sensitivity, and 17 have low sensitivity. For the infralittoral rock feature, thirty-six of the biotopes identified as being potentially present at the site have medium sensitivity to abrasion from anchored nets and lines and 25 have low sensitivity.

As described in section 7.1 of the traps Impacts Evidence document[8], 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 (Rees, 2018) 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.

The known figures for trap activity in the area is not considered to be low, however the spatial scale of impact of static gear is far lower than mixed gear. However, there is still potential of risk to biotopes with medium or high sensitivity to abrasion, particularly with regards to the circalittoral rock feature, and a greater risk should activity levels over the reef features increase.

Overall, it is unlikely that the ongoing use of traps at the described levels will pose a significant risk of hindering the achievement of the conservation objective of ‘maintain in favourable condition’ of the reef features of Land’s End and Cape Bank MPA. However, given the number of potentially highly sensitive biotopes and the current levels of trap activity it is recommended a monitoring and control plan be implemented.

Therefore, MMO concludes that the ongoing use of traps at the activity levels described will not result in an adverse effect on site integrity for Land’s End Cape Bank MPA.

4.4 Part B conclusion

The assessment of anchored nets and lines, and traps on the circalittoral rock and infralittoral rock features of Land's End and Cape Bank MPA has concluded that the ongoing use of these fishing gears at levels that have been described will not result in an adverse effect on the site integrity. Therefore, management measures will not be implemented for anchored nets and lines, and traps for Land's End and Cape Bank MPA. However, it is recommended a monitoring and control plan 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 have an adverse effect on the site integrity; 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. Land's End 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, 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 adverse effect on site integrity 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 adverse effects to site integrity. Anchored nets and lines and traps are the only fishing activities occurring within Land's End and 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 no other relevant activities occurring within or adjacent to the Land's End and Cape Bank MPA, within a 5 km buffer of the portion of the site seawards of the 6 nm limit. Therefore, only fishing in-combination with other fishing activities are considered hereafter.

Table 3 from **section 3.3**, was used to identify medium-high risk pressures exerted by fishing which require in-combination assessment (**Table 5**).

Table 5 summarises the pressures exerted by fishing and identifies those pressures exerted by all gears (Y: pressure exerted). Activity-pressure interactions are highlighted dark blue to indicate an in-combination effect. Only fishing activity with no proposed or current fisheries management in place are considered.

Table 5: Pressures exerted by fishing.

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

5.1 In-combination pressure sections

The fishing pressures exerted by anchored nets and lines and traps will be considered in this section.

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 387 counts, 386 for traps and 1 for anchored nets and lines, between 2016 and 2021 (Annex 1, Table A1.1). The annual average UK under 12 m vessels 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, between 2016 and 2021 (Annex 1, Table A1.10). 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 86.94 tonnes, 86.9 tonnes from traps and 0.04 tonnes from anchored nets and lines, between 2016 and 2020 (Annex 1, Tables A1.2 and A1.4). For the same period, the annual average live weight landings combined for under 12 m UK vessels totalled 80.52 tonnes, 45.51 tonnes from traps and 35.01 tonnes from anchored nets and lines (Annex 1, Table A1.7).

The cumulative 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, although the combined annual average anchored nets and lines and trap effort totalled 387 (VMS counts) and 491 effort days for under 12 m vessels. The total annual average live weight landings for traps (132 tonnes) and an increment of only 35 tonnes for anchored nets and lines, indicates combined effort intensity levels would not have a significant in-combination effect at the levels described. Furthermore, considering the small physical footprint of these gears on the seabed, and the absence of any highly sensitive biotopes and/or species to all but intense fishing from static gear (Section 4.3), the combined in-combination effects are considered insignificant at described levels. Moreover, the likelihood of some gear separation due to the difference in target catch by traps compared with anchored nets and lines (for example traps target rockier habitats and anchored nets and lines softer sediments), reduces any significant combined in-combination risk further.

Therefore, MMO concludes that the combined pressures from anchored nets and lines and traps will not result in an adverse effect on site integrity for the Land's End and Cape Bank MPA at the levels described.

5.3 Part C conclusion

MMO concludes that fishing in-combination will not result in an adverse effect on the site integrity for the Land's End and 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 may result in adverse effect on site integrity of Land's End and Cape Bank MPA.

Part B of this assessment concluded that the ongoing use of anchored nets and lines and traps on the reef features of Land's End and Cape Bank MPA will not result in an adverse effect on site integrity at described levels.

Part C of this assessment concluded that the ongoing use of anchored nets and lines and traps in combination with each other will not result in an adverse effect on site integrity of Land's End and 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)
- 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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Annexes

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	0	0	0	0	1	100	0
	GN Total		**1**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**33**	**0**
	GTR	UK	1	100	0	0	0	0	0	0	0	0	0	0	1	100	0
	GTR Total		**1**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**33**	**0**
	LLS	EU	1	100	0	0	0	0	0	0	0	0	0	0	1	100	0
	LLS Total		**1**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**33**	**0**
Anchored Net/Line Total			**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**
Demersal trawl	OTB	EU	30	100	27	100	17	100	22	100	3	100	3	100	102	100	17
	OTB Total		**30**	**88**	**27**	**87**	**17**	**85**	**22**	**37**	**3**	**60**	**3**	**43**	**102**	**65**	**17**
	OTT	EU	2	100	1	100	2	100	16	100	2	100	2	100	25	100	4

			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**
	OTT Total		**2**	**6**	**1**	**3**	**2**	**10**	**16**	**27**	**2**	**40**	**2**	**29**	**25**	**16**	**4**
	TBB	EU	1	50	0	0	1	100	2	10	0	0	2	100	6	21	1
	TBB	UK	1	50	3	100	0	0	19	90	0	0	0	0	23	79	4
	TBB Total		**2**	**6**	**3**	**10**	**1**	**5**	**21**	**36**	**0**	**0**	**2**	**29**	**29**	**19**	**5**
Demersal trawl Total			**34**	**9**	**31**	**13**	**20**	**4**	**59**	**12**	**5**	**2**	**7**	**1**	**156**	**6**	**26**
Dredge	DRB	EU	0	0	0	0	0	0	3	100	7	100	0	0	10	100	2
	DRB Total		**0**	**0**	**0**	**0**	**0**	**0**	**3**	**100**	**7**	**100**	**0**	**0**	**10**	**100**	**2**
Dredge Total			**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**7**	**2**	**0**	**0**	**10**	**0**	**2**
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	0	0	1	100	0	0	0	0	1	100	0
	OTM Total		**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**0**	**0**	**1**	**100**	**0**
Midwater Trawl Total			**0**	**0**	**0**	**0**	**0**	**0**	**1**	**100**	**0**	**0**	**0**	**0**	**1**	**100**	**0**

			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	FPO	EU	0	0	0	0	2	0	1	0	0	0	0	0	3	0	1
	FPO	UK	334	100	213	100	488	100	421	100	284	100	572	100	2,312	100	385
	FPO Total		**334**	**100**	**213**	**100**	**490**	**100**	**422**	**100**	**284**	**100**	**572**	**100**	**2,315**	**100**	**386**
Traps Total			**334**	**90**	**213**	**87**	**490**	**96**	**422**	**87**	**284**	**96**	**572**	**99**	**2,315**	**93**	**386**
Grand Total			**371**	**1**	**244**	**0**	**510**	**1**	**485**	**1**	**297**	**0**	**579**	**1**	**2,486**	**1**	**415**

Table A1.2: UK live weight landings tonnage (t) estimates by gear from vessels over 12 m in length in the MMO section of Land's End and 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	0.18	0.04
	GTR	0.01	0	0	0	0	0.01	<0.01
Anchored Net/Line Total		**0.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.18**	**0.04**
Demersal trawl	TBB	0.41	1.09	0	0.58	0	2.08	0.42
Demersal trawl Total		**0.41**	**1.09**	**0.00**	**0.58**	**0.00**	**2.08**	**0.42**
Traps	FPO	90.13	59.07	122.17	93.74	69.15	434.26	86.85
Traps Total		**90.13**	**59.07**	**122.17**	**93.74**	**69.15**	**434.26**	**86.85**
Grand Total		**90.72**	**60.15**	**122.17**	**94.32**	**69.15**	**436.52**	**87.30**

Table A1.3: EU27 live weight landings tonnage (t) estimates by gear from vessels over 12 m in length in the MMO section of Land's End and 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)
Demersal trawl	OTB	3.01	2.50	1.21	1.78	0.28	8.78	1.76
	OTT	0.13	0	0.29	0.04	0.01	0.47	0.09
	TBB	0.30	0	0.21	0.34	0	0.85	0.17
Demersal trawl Total		**3.44**	**2.50**	**1.71**	**2.15**	**0.29**	**10.10**	**2.02**
Dredge	DRB	0	0	0	0	0.47	0.47	0.09
Dredge Total		**0**	**0**	**0**	**0**	**0.47**	**0.47**	**0.09**
Midwater Trawl	OTM	0	0	0	0	0	0	0
Midwater Trawl Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**
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		**3.44**	**2.50**	**1.95**	**2.15**	**0.76**	**10.81**	**2.16**

Table A1.4: Percentage of each ICES rectangle intersected by the MMO section of Land's End and Cape Bank MPA.

ICES rectangle	Percentage overlap (%)
29E4	6.41

Table A1.5: UK live weight landings tonnage (t) estimates by gear from vessels under 12 m in length for the MMO section of Land's End and 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	15.02	7.73	0	0	0	22.75	4.55
	GN	15.75	23.80	33.04	29.88	25.85	128.31	25.66
	GNS	8.56	2.96	5.11	2.75	1.83	21.21	4.24
	GTR	1.75	0.74	0.15	0.15	0	2.79	0.56
	LL	0	0	<0.01	0	0	0	<0.01
Anchored Net/Line Total		**41.08**	**35.22**	**38.30**	**32.78**	**27.67**	**175.06**	**35.01**
Demersal Seine	SB	1.32	0.11	0	0	0	1.43	0.29
Demersal Seine Total		**1.32**	**0.11**	**0**	**0**	**0**	**1.43**	**0.29**
Demersal trawl	OT	3.22	1.42	0	0	0	4.63	0.93
	OTB	0	7.01	10.04	9.30	5.64	31.99	6.40
	OTT	0	0	0	0	0	0	0
	TBB	0	0	0.11	0	0.10	0.21	0.04
Demersal trawl Total		**3.22**	**8.43**	**10.15**	**9.30**	**5.75**	**36.84**	**7.37**
Dredge	DRB	6.30	8.26	2.72	6.30	1.13	24.71	4.94
	DRH	<0.01	0	0	0	0	<0.01	<0.01
Dredge Total		**6.31**	**8.26**	**2.72**	**6.30**	**1.13**	**24.71**	**4.94**
Midwater - Gill Drift	GND	1.20	1.04	0.44	2.12	0.55	5.35	1.07
Midwater - Gill Drift Total		**1.20**	**1.04**	**0.44**	**2.12**	**0.55**	**5.35**	**1.07**
Midwater - Gill Encircling	GNC	78.84	86.40	107.89	95.48	143.48	512.08	102.42
Midwater - Gill Encircling Total		**78.84**	**86.40**	**107.89**	**95.48**	**143.48**	**512.08**	**102.42**

Gear group	Gear code	2016	2017	2018	2019	2020	Total (2016-2020)	Average (2016-2020)
Midwater - surrounding	PS	0	3.78	0.44	0	0.84	5.06	1.01
Midwater - surrounding Total		**0.00**	**3.78**	**0.44**	**0**	**0.84**	**5.06**	**1.01**
Midwater Hook/Lines	HF	0.86	1.04	0.05	0.04	0.06	2.05	0.41
	LHP	38.84	48.85	39.65	36.49	21.28	185.11	37.02
	LX	0.10	0.05	0.02	0.03	0.01	0.19	0.04
Midwater Hook/Lines Total		**39.80**	**49.94**	**39.72**	**36.56**	**21.35**	**187.36**	**37.47**
Traps	FIX	0.24	0.31	0	0	0	0.55	0.11
	FPO	56.90	47.70	50.40	42.98	29.04	227.02	45.40
Traps Total		**57.14**	**48.00**	**50.40**	**42.98**	**29.04**	**227.57**	**45.51**
Unknown	MIS	0	0.31	0.41	0.83	0.35	1.90	0.38
Unknown Total		**0**	**0.31**	**0.41**	**0.83**	**0.35**	**1.90**	**0.38**
Grand Total		**228.90**	**241.48**	**250.47**	**226.34**	**230.16**	**1,177.35**	**235.47**

Table A1.6: Mean annual surface and subsurface SAR values for C-squares intersecting the MMO section of Land's End and Cape Bank MPA (2016 to 2020). All numbers are rounded to two decimal places.

Gear group	SAR category	2016	2017	2018	2019	2020
Demersal Seines	**Surface**	0	0	0	0	0
	Subsurface	0	0	0	0	0
Dredges	**Surface**	<0.01	0	0	0	<0.01
	Subsurface	<0.01	0	0	0	<0.01
Demersal Trawls	**Surface**	1.30	0.64	0.90	0.41	0.36
	Subsurface	0.31	0.12	0.16	0.11	0.20
Bottom Towed Gear	**Surface**	1.30	0.64	0.90	0.41	0.36
	Subsurface	0.31	0.12	0.16	0.11	0.20

Table A1.7: Fishing effort (days) recorded by UK vessels under 12 m in length, separated by gear type for the area of Land's End and Cape Bank MPA that intersects ICES rectangle 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 (see 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 A2. 1: Circalittoral rock biotopes that may be found within the Cape Bank portion of the MPA with high or medium sensitivity to the abrasion/disturbance of the substrate on the surface of the seabed pressure from anchored nets and lines and traps.

Biotope	Sensitivity
Eunicella verrucosa and *Pentapora foliacea* on wave-exposed circalittoral rock (Readman *et al.*, 2023)	Abrasion: High
Sponge communities on deep circalittoral rock (Readman, 2018a)	Abrasion: High
Phakellia ventilabrum and axinellid sponges on deep, wave-exposed circalittoral rock (Readman, Lloyd and Watson, 2023f)	Abrasion: High
Communities of circalittoral caves and overhangs (Readman and Hiscock, 2018)	Abrasion: High
Sponges, cup corals and anthozoans on shaded or overhanging circalittoral rock (Readman, 2018b)	Abrasion: High
Bryozoan turf and erect sponges on tide-swept circalittoral rock (Readman, Lloyd and Watson, 2023a)	Abrasion: Medium
Sparse sponges, *Nemertesia spp*., and *Alcyonidium diaphanum* on circalittoral mixed substrata (Readman, Lloyd and Watson, 2023g)	Abrasion: Medium
Sponges and anemones on vertical circalittoral bedrock (Readman, Lloyd and Watson, 2023h)	Abrasion: Medium
Brittlestars overlying coralline crusts, *Parasmittina trispinosa* and *Caryophyllia smithii* on wave-exposed circalittoral rock (De-Bastos, Williams and Hill, 2023)	Abrasion: Medium
Mixed turf of bryozoans and erect sponges with *Sagartia elegans* on tide-swept circalittoral rock (Readman, Lloyd and Watson, 2023e)	Abrasion: Medium
Urticina felina and sand-tolerant fauna on sand-scoured or covered circalittoral rock (Tillin and Hiscock, 2016)	Abrasion: Medium
Brittlestars on faunal and algal encrusted exposed to moderately wave-exposed circalittoral rock (De-Bastos *et al.*, 2023a)	Abrasion: Medium
Sabellaria reefs on circalittoral rock (Tillin, Gibb, *et al.*, 2023)	Abrasion: Medium

Biotope	Sensitivity
Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay (Tillin and Hill, 2016)	Abrasion: Medium
Polydora sp. tubes on moderately exposed sublittoral soft rock (De-Bastos *et al.*, 2023b)	Abrasion: Medium
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
Circalittoral faunal communities in variable salinity (Readman, Lloyd and Watson, 2023b)	Abrasion: Medium
Cushion sponges and hydroids on turbid tide-swept sheltered circalittoral rock (Readman, Lloyd and Watson, 2023c)	Abrasion: Medium
Cushion sponges, hydroids and ascidians on turbid tide-swept sheltered circalittoral rock(Readman, Lloyd and Watson, 2023c), 2016)	Abrasion: Medium
Cushion sponges and hydroids on turbid tide-swept variable salinity sheltered circalittoral rock (Readman, Lloyd and Watson, 2023d)	Abrasion: Medium

Table A2. 2: Infralittoral rock biotopes that may be found within Land's End and Cape Bank MPA with medium sensitivity to the abrasion/disturbance of the substrate on the surface of the seabed pressure from anchored nets and lines and traps.

Biotope	Sensitivity
Laminaria hyperborea and red seaweeds on exposed vertical rock (Stamp, Tyler-Walters, Burdett, *et al.*, 2023b)	Abrasion: Medium
Saccorhiza polyschides and other opportunistic kelps on disturbed upper infralittoral rock (T. E. Stamp, Hiscock, *et al.*, 2022)	Abrasion: Medium
Laminaria saccharina and/or *Saccorhiza polyschides* on exposed infralittoral rock (T. E. Stamp, Hiscock, *et al.*, 2022)	Abrasion: Medium
Laminaria saccharina, Chorda filum and dense red seaweeds on shallow unstable infralittoral boulders and cobbles (Hiscock *et al.*, 2022)	Abrasion: Medium
Dense *Desmarestia spp*. with filamentous red seaweeds on exposed infralittoral cobbles, pebbles and bedrock (Stamp, Lloyd and Tyler-Walters, 2022a)	Abrasion: Medium
Mixed kelps with scour-tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock (Stamp, Lloyd and Tyler-Walters, 2022b)	Abrasion: Medium
Halidrys siliquosa and mixed kelps on tide-swept infralittoral rock with coarse sediment (Stamp, Tyler-Walters, *et al.*, 2021)	Abrasion: Medium
Laminaria digitata and under-boulder fauna on sublittoral fringe boulders (Tillin, Stamp, *et al.*, 2023)	Abrasion: Medium
Laminaria digitata and piddocks on sublittoral fringe soft rock (Tillin, Tyler-Walters and Burdett, 2023)	Abrasion: Medium
Laminaria hyperborea on tide-swept, infralittoral rock (Stamp, Tyler-Walters, Burdett, *et al.*, 2023d)	Abrasion: Medium
Laminaria hyperborea forest, foliose red seaweeds and a diverse fauna on tide-swept upper infralittoral rock (Stamp, Tyler-Walters, Burdett, *et al.*, 2023g)	Abrasion: Medium
Laminaria hyperborea park with hydroids, bryozoans and sponges on tide-swept lower infralittoral rock (Stamp, Burdett and Tyler-Walters, 2023b)	Abrasion: Medium
Laminaria hyperborea on tide-swept infralittoral mixed substrata (Stamp, Burdett, Tyler-Walters, *et al.*, 2023b)	Abrasion: Medium
Laminaria hyperborea forest and foliose red seaweeds on tide-swept upper infralittoral mixed substrata (Stamp, Burdett, Lloyd, *et al.*, 2023)	Abrasion: Medium
Laminaria hyperborea park and foliose red seaweeds on tide-swept lower infralittoral mixed substrata (Stamp, Tyler-Walters, Burdett, *et al.*, 2023e)	Abrasion: Medium
Laminaria hyperborea and foliose red seaweeds on moderately exposed infralittoral rock (Stamp, Burdett and Tyler-Walters, 2023a)	Abrasion: Medium

Biotope	Sensitivity
Laminaria hyperborea forest and foliose red seaweeds on moderately exposed upper infralittoral rock (Stamp, Burdett and Tyler-Walters, 2023a)	Abrasion: Medium
Laminaria hyperborea park and foliose red seaweeds on moderately exposed lower infralittoral rock (Stamp, Tyler-Walters and Burdett, 2023b)	Abrasion: Medium
Grazed *Laminaria hyperborea* forest with coralline crusts on upper infralittoral rock (Stamp, Hiscock, Tyler-Walters, *et al.*, 2023a)	Abrasion: Medium
Grazed *Laminaria hyperborea* park with coralline crusts on lower infralittoral rock (Stamp, Tyler-Walters and Burdett, 2023a)	Abrasion: Medium
Laminaria hyperborea forest with a faunal cushion (sponges and polyclinids) and foliose red seaweeds on very exposed infralittoral rock (Stamp, Hiscock and Garrard, 2023)	Abrasion: Medium
Laminaria hyperborea with dense foliose red seaweeds on exposed infralittoral rock (Stamp, Tyler-Walters and Burdett, 2023c)	Abrasion: Medium
Laminaria hyperborea forest with dense foliose red seaweeds on exposed upper infralittoral rock (Stamp, Burdett, Tyler-Walters, *et al.*, 2023a)	Abrasion: Medium
Laminaria hyperborea park with dense foliose red seaweeds on exposed lower infralittoral rock (Stamp, Tyler-Walters and Burdett, 2023c)	Abrasion: Medium
Mixed *Laminaria hyperborea* and *Laminaria ochroleuca* forest on exposed infralittoral rock (Stamp, Tyler-Walters, Burdett, *et al.*, 2023f)	Abrasion: Medium
Laminaria hyperborea on moderately exposed vertical rock (Stamp, Tyler-Walters, Burdett, *et al.*, 2023c)	Abrasion: Medium
Laminaria digitata, ascidians and bryozoans on tide-swept sublittoral fringe rock (T. E. Stamp, Marshall, *et al.*, 2022)	Abrasion: Medium
Mixed kelp with foliose red seaweeds, sponges and ascidians on sheltered tide-swept infralittoral rock (Stamp et al., 2021)	Abrasion: Medium
Mixed kelp and red seaweeds on infralittoral boulders, cobbles and gravel in tidal rapids (Stamp, Williams, *et al.*, 2021a)	Abrasion: Medium
Laminaria saccharina with foliose red seaweeds and ascidians on sheltered tide-swept infralittoral rock (T. Stamp *et al.*, 2022)	Abrasion: Medium
Mixed *Laminaria hyperborea* and *Laminaria ochroleuca* forest on moderately exposed or sheltered infralittoral rock (Stamp, Williams, *et al.*, 2021b)	Abrasion: Medium
Mixed *Laminaria hyperborea* and *Laminaria saccharina* on sheltered infralittoral rock (Stamp, Lloyd and Mardle, 2022b)	Abrasion: Medium
Mixed *Laminaria hyperborea* and *Laminaria saccharina* forest on sheltered upper infralittoral rock (Stamp, Lloyd and Mardle, 2022a)	Abrasion: Medium

Biotope	Sensitivity
Mixed *Laminaria hyperborea* and *Laminaria saccharina* park on sheltered lower infralittoral rock (Stamp, Lloyd and Mardle, 2022c)	Abrasion: Medium
Codium spp. with red seaweeds and sparse *Laminaria saccharina* on shallow, heavily-silted, very sheltered infralittoral rock (Stamp, 2015)	Abrasion: Medium
Mytilus edulis beds on reduced salinity infralittoral rock (Tillin, Mainwaring, *et al.*, 2023)	Abrasion: Medium