Joint Recommendation regarding the protection of Deep-sea bed and Cold-water coral reef within The Canyons Marine Conservation Zone under Article 11 necessary for the purpose of complying with obligations under Article 13(4) of Directive 2008/56/EC and Article 18 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (the Basic Regulation)

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Joint Recommendation

1. Introduction

This joint recommendation contains a proposal for the regulation of fisheries activity and is initiated by the United Kingdom (UK) and submitted to the European Commission jointly by the UK and the following Member States: UK, France and Spain; being those Member States who have a direct management interest affected by the joint recommendation.

The overall aim of this joint recommendation is to ensure the protection of the broad scale habitat Deep-sea bed (EUNIS[1] habitat type A6), and the Habitat Feature of Conservation Importance Cold-water coral reefs within The Canyons Marine Conservation Zone (MCZ) from fisheries, thereby contributing to the obligation to recover these features to Favourable Condition in accordance with The Canyons Marine Conservation Zone Designation Order 2013[2].

It is the intention of the UK government (as the initiating Member State) to take forward measures in respect to fisheries activities exercised by all fishing vessels including those carrying the flag of other Member States of the EU.

2. The Recommendations to be Implemented

The following recommendation is proposed for adoption in The Canyons MCZ:

- the exclusion of all demersal gears (Table 1) to protect Deep-sea bed (A6), and Cold-water coral reefs across a proportion of the site and an increased reporting zone around the site (see Section 8 of Annex B).

Table 1: Gear types that are prohibited in the areas proposed for closure in the site

Gear types that are to be prohibited within the site's management area	**Gear code Annex XI in EU Regulation No 404/2011**	**International Standard Classification of Fishing Gears**
Beam Trawl	TBB	TBB
Bottom Trawl/Otter Trawl	OTB, OTT, PTB,TBN,TBS,TB	OTB,OTT,OT,PTB,TB
Seines	SDN, SSC, SX, SV	SB, SPR, SDN, SSC, SX, SV

[1] http://eunis.eea.europa.eu/habitats

[2] http://www.legislation.gov.uk/ukmo/2013/4/pdfs/ukmo_20130004_en.pdf

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Dredges	DRB	DRB, DRH
Demersal Static gears		
Driftnets	GND	GND
Gillnets	GEN, GN, GNS, GTN	GEN, GN, GNS, GTN
Longlines	LL, LLD, LLS,	LL, LLD, LLS,
Trammel nets	GTR	GTR

The coordinates of the site (Table 2) and management boundaries are as follows (Table 3):

Table 2: Co-ordinates of The Canyons MCZ

Point	Latitude	Longitude
1	48˚30’00.000”N	9˚48’00.000”W
2	48˚30’00.000”N	9˚36’00.000”W
3	48˚30’00.000”N	9˚33’33.400”W
4	48˚10’00.000”N	9˚33’37.110”W
5	48˚10’00.000”N	9˚48’00.200”W
6	48˚20’00.000”N	9˚48’00.000”W

Table 3: Co-ordinates of The Canyons management zone boundaries

Point	Latitude	Longitude
1	48° 28' 15.765" N	9° 48' 0.017" W
2	48° 29' 59.992" N	9° 45' 28.435" W
3	48° 29' 59.062" N	9° 35' 29.345" W
4	48° 28' 3.488" N	9° 38' 1.788" W
5	48° 26' 37.739" N	9° 41' 21.751" W
6	48° 24' 33.480" N	9° 45' 36.000" W
7	48° 22' 59.880" N	9° 45' 50.400" W
8	48° 21' 0.248" N	9° 45' 16.106" W

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9	48° 22' 7.897" N	9° 41' 34.691" W
10	48° 23' 1.383" N	9° 40' 12.031" W
11	48° 23' 5.621" N	9° 38' 25.886" W
12	48° 24' 34.808" N	9° 33' 33.569" W
13	48° 17' 54.942" N	9° 33' 37.423" W
14	48° 16' 14.270" N	9° 37' 42.090" W
15	48° 15' 26.875" N	9° 39' 56.335" W
16	48° 17' 8.846" N	9° 40' 35.804" W
17	48° 19' 45.250" N	9° 36' 17.398" W
18	48° 20' 59.409" N	9° 36' 48.201" W
19	48° 20' 38.019" N	9° 37' 51.516" W
20	48° 19' 17.906" N	9° 41' 19.583" W
21	48° 16' 57.212" N	9° 45' 16.360" W
22	48° 12' 50.582" N	9° 41' 58.405" W
23	48° 10' 23.547" N	9° 39' 59.661" W
24	48° 10' 0.437" N	9° 39' 41.006" W
25	48˚10’00.000”N	9˚48’00.200”W
26	48° 28' 15.765" N	9° 48' 0.017" W

3. Control and enforcement of the proposed fisheries management measures

Control and enforcement of the proposed fisheries management measures will be based on the risk-based systems in accordance with the model developed by the UK’s Marine Management Organisation (MMO).

Key provisions which should be included in an EC regulation to facilitate control enforcement and compliance include:

- A prohibition on any demersal gears, dredges, seines and demersal static gears being deployed in the management area of the MCZ. Demersal gear types are permitted to fish in the reporting zone outside of the management area with increased VMS reporting.
- Establishment of a 1nm (1.852km) reporting zone around The Canyons MCZ’s management area. All fishing vessels within this area shall be required to record or report vessel positions

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at a rate of 10 minute intervals. This area shall be defined by the reporting zone and coordinates displayed in Annex D.

- A requirement for all fishing vessels entering the reporting zone to have a system for recording and reporting vessel position which meets prescribed specifications (see section 8.2 of Annex B for minimal requirements) and is installed and operative. Any fishing vessel entering The Canyons MCZ management area or the reporting zone without such a system will be committing an offence.

- A requirement for all fishing vessels transiting the prohibited area carrying prohibited gears to have all gears on board lashed and stowed.

- A requirement for all fishing vessels transiting the restricted area carrying prohibited gears to ensure that the speed during transit is not less than 6 knots except in the case of force majeure or adverse conditions[3]. In such cases the master shall immediately inform the fisheries monitoring centre of the flag member state which shall then inform the UK Fisheries Monitoring Centre (FMC).

The proposal on which gear types to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011 and is explained in more detail in Section 8 of Annex B.

The ongoing management needs of this site will be assessed on an annual basis. If changes to the current management status are required, the UK will coordinate such a requirement in accordance with Articles 11 and 18 of the Basic Regulation and in collaboration with those Member States with a direct management interest in The Canyons site.

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[3] Article 50 4(b) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:343:0001:0050:EN:PDF

Joint Recommendation regarding the protection of Deep-sea bed and Cold-water coral reefs within The Canyons Marine Conservation Zone under Article 11 necessary for the purpose of complying with obligations under Article 13(4) of Directive 2008/56/EC and Article 18 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (the Basic Regulation).

Supporting Documentation

1. Introduction

1.1 General Remarks

The Canyons site was designated as a Marine Conservation Zone (MCZ) in November 2013. MCZs are designated by the UK government under the Marine and Coastal Access Act 2009 for England and Wales. These zones will contribute to the UK's commitment to have a well-managed and ecologically coherent network of MPAs and will also assist in meeting commitments relating to the EC Marine Strategy Framework Directive (MSFD). All MCZs are designated using a separate order; in this case The Canyons Marine Conservation Zone Designation Order 2013.

Commercial fishing has been identified as an activity which could adversely impact the integrity of this site's features and, as such, is required to be assessed and, if necessary, managed to reduce its impact. The General Management Approaches (GMAs) for the features of The Canyons MCZ are to recover both Deep-sea bed (habitat A6) and Cold-water coral reefs to favourable condition.

As the proposed area of The Canyons site falls beyond 12 nm of the UK coastline, all Member States have access to the site. However the UK, France and Spain are currently the only Member States with an active fishing interest in the site. It is the intention of the UK government (as the initiating Member State) to take forward measures in respect to fisheries activities exercised by all vessels including fishing vessels carrying the flag of other Member States of the EU.

This document covers the 11 information items of the Commission's guidelines from 2008[4] concerning development of proposals for fisheries management measures in marine Natura 2000 areas within the scope of the Common Fisheries Policy.

1.2 Overall aim of the present proposal

The overall aim of this joint recommendation is to ensure adequate protection of Deep-sea bed (A6) and Cold-water coral reefs from fishing activities that could adversely affect feature condition, and

[4] http://ec.europa.eu/environment/nature/natura2000/marine/docs/fish_measures.pdf

thereby contributing to the obligation of recovering all protected features to favourable condition in accordance with The Canyons Marine Conservation Zone Designation Order 2013.

The Conservation Objective for The Canyons MCZ is, subject to natural change, to ensure that Deep-sea bed (habitat type A6), and Cold-water coral reefs features are to remain in or be brought into favourable condition. To achieve the conservation objectives, general management approaches (i.e. recovery or maintenance of feature condition) have been set for each protected feature. Except where direct evidence of condition is available, feature condition is typically based on a proxy assessment of feature sensitivity and the presence of activities to which they may be sensitive. For The Canyons MCZ, the General Management Approaches (GMA) have been set to recover all features to favourable condition.

According to advice provided by JNCC, the UK Government's statutory scientific advisor for offshore habitats, where fishing using demersal gears overlaps with the features it may pose a risk to achievement of the conservation objectives for the site.

The UK is proposing to restrict fishing activity with demersal gears across a proportion of the site the site due to the risk posed to the achievement of the conservation objectives. Where there is uncertainty regarding the impacts of fishing on the features, an "adaptive management" approach is proposed, which would allow the site to move toward achieving its conservation objective while providing the opportunity to improve our understanding of the impacts and subsequently adapt management accordingly. The content of the proposed fisheries management measures is explained in more detail in section 7 of Annex B.

The proposal has been reviewed by CEFAS (see section 5).

1.3 Recommendation to be implemented

The following recommendation is proposed for adoption in The Canyons MCZ:

- the exclusion of all demersal gears (Table 4) across a proportion of the site and an increased reporting zone around the site (see Section 8 of Annex B).

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Table 1: Gear types that are prohibited in the areas proposed for closure within the site

Gear types to be prohibited within the site's management areas	**Gear code Annex XI in EU Regulation No 404/2011**	**International Standard Classification of Fishing Gears**
Beam Trawl	TBB	TBB
Bottom Trawl/Otter Trawl	OTB, OTT, PTB,TBN,TBS,TB	OTB,OTT,OT,PTB,TB
Seines	SDN, SSC, SX, SV	SB, SPR, SDN, SSC, SX, SV
Dredges	DRB	DRB, DRH
Demersal Static gears		
Driftnets	GND	GND
Gillnets	GEN, GN, GNS, GTN	GEN, GN, GNS, GTN
Longlines	LL, LLD, LLS,	LL, LLD, LLS,
Trammel nets	GTR	GTR

The coordinates of management boundary are as follows:

Table 2: The Canyons MCZ coordinates for the proposed closures to all demersal gears

Point	Latitude	Longitude
1	48° 28' 15.765" N	9° 48' 0.017" W
2	48° 29' 59.992" N	9° 45' 28.435" W
3	48° 29' 59.062" N	9° 35' 29.345" W
4	48° 28' 3.488" N	9° 38' 1.788" W
5	48° 26' 37.739" N	9° 41' 21.751" W
6	48° 24' 33.480" N	9° 45' 36.000" W
7	48° 22' 59.880" N	9° 45' 50.400" W
8	48° 21' 0.248" N	9° 45' 16.106" W
9	48° 22' 7.897" N	9° 41' 34.691" W
10	48° 23' 1.383" N	9° 40' 12.031" W
11	48° 23' 5.621" N	9° 38' 25.886" W
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13	48° 17' 54.942" N	9° 33' 37.423" W
14	48° 16' 14.270" N	9° 37' 42.090" W
15	48° 15' 26.875" N	9° 39' 56.335" W
16	48° 17' 8.846" N	9° 40' 35.804" W
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18	48° 20' 59.409" N	9° 36' 48.201" W
19	48° 20' 38.019" N	9° 37' 51.516" W
20	48° 19' 17.906" N	9° 41' 19.583" W
21	48° 16' 57.212" N	9° 45' 16.360" W
22	48° 12' 50.582" N	9° 41' 58.405" W
23	48° 10' 23.547" N	9° 39' 59.661" W
24	48° 10' 0.437" N	9° 39' 41.006" W
25	48˚10’00.000”N	9˚48’00.200”W
26	48° 28' 15.765" N	9° 48' 0.017" W

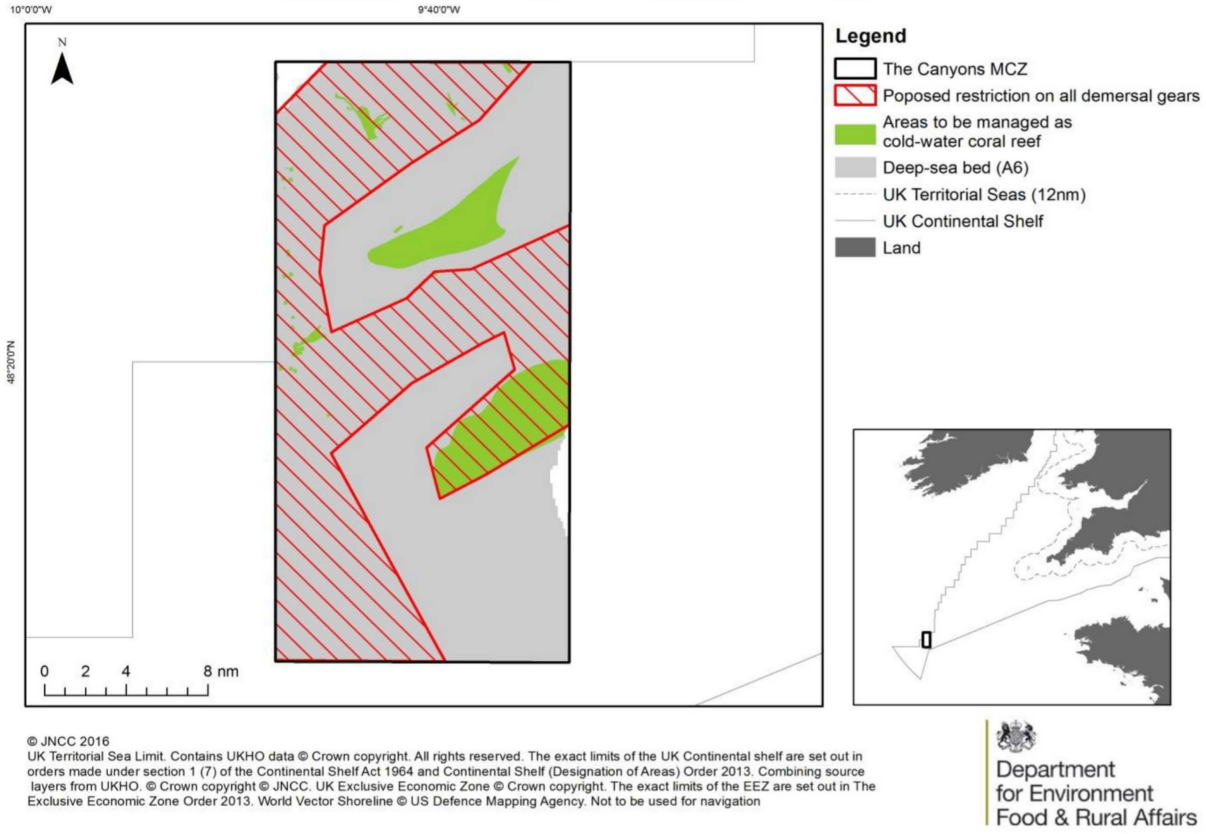


Figure 1: The Canyons MCZ site map including protected features for which management is being proposed

2. Legal framework

2.1 Common Fisheries Policy

The Common Fisheries Policy (Regulation No 1380/2013 (The Basic Regulation) Article 11) states that Member States are empowered to adopt conservation measures not affecting fishing vessels of other Member States that are applicable to waters under their sovereignty or jurisdiction. The UK has an obligation in recovering these habitat types to favourable condition in accordance with The Canyons Marine Conservation Zone Designation Order 2013.

Where a Member State ("initiating Member State") considers that measures need to be adopted for the purpose of complying with the obligations referred to above, and other Member States have a direct management interest in the fishery to be affected by such measures, the European Commission shall be empowered to adopt such measures, upon request, by means of delegated acts. For this purpose cooperation between Member States having a direct management interest is foreseen with a view to formulating a joint recommendation in agreement on draft fisheries management measures to be forwarded to the Commission.

The initiating Member State shall provide the Commission and the other Member States having a direct management interest with relevant information on the measures required, including their rationale, scientific evidence in support and details on their practical implementation and enforcement. Member States shall consult the relevant Advisory Councils.

The initiating Member State and the other Member States having a direct management interest may submit a joint recommendation within six months from the provision of sufficient information. The Commission shall adopt the measures, taking into account any available scientific advice, within three months from receipt of a complete request (Reg 1380/2013, Articles 11 and 18).

The following chapters describe how the UK, as the initiating Member State, has taken the Commission's criteria for decision making into account, as well as the requirements for regional coordination in line with the new Basic Regulation.

2.2 Fisheries Access to The Canyons MCZ

In accordance with the Basic Regulation, the following Member States operate demersal towed gears within the proposed management zone: UK, France and Spain.

Of these Member States, all have used demersal towed and static gears within the proposed management zone in the past 4 years; from 2010 to 2013 inclusive (details of activity and gear type

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can be found in table 2.1). The most significant activity was from France and Spain vessels with lower, but substantive, levels of activity from UK vessels.

2.3 Designation of The Canyons MCZ

The Canyons site was designated as a Marine Conservation Zone MCZ in November 2013 (see Figure 2 for site boundary). These zones will contribute to the UK's commitment to have a well-managed and ecologically coherent network of MPAs within two years of designation and will also assist in meeting commitments relating to the EC Marine Strategy Framework Directive (MSFD).

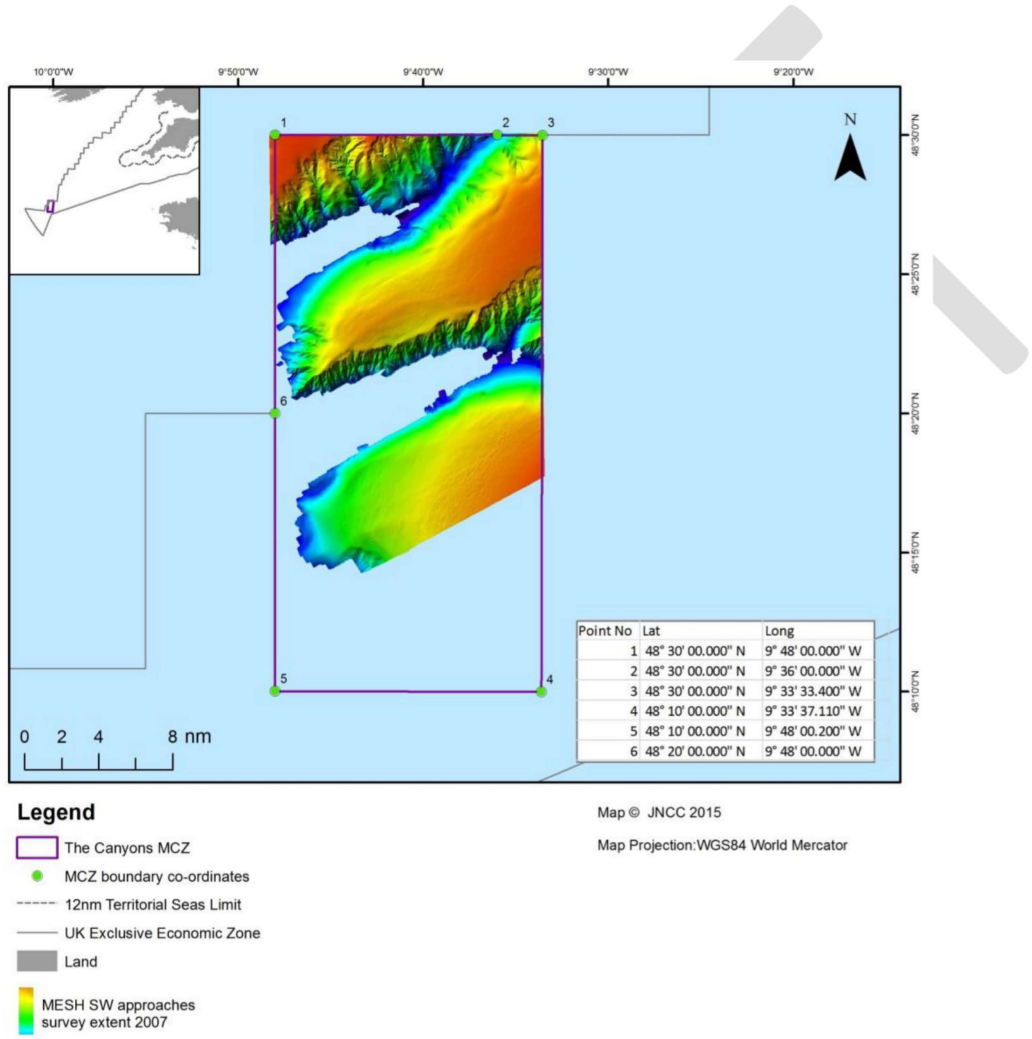


Figure 2: Site boundary for The Canyons MCZ

3. Process

This chapter describes the process from when the initiative to protect deep sea bed (habitat type A6), and cold-water coral reefs from fisheries activities at The Canyons MCZ were commenced at a fisheries management workshop held in Exeter in May 2016, hosted jointly by the Department for Environment Food and Rural Affairs (Defra) and the Joint Nature Conservation Committee (JNCC),

until submission of fisheries management measures in form of 'A Joint Recommendation' by the UK, France and Spain to the European Commission. Although all member states have access to the site others have not actively fished the site (using proposed prohibited gears) over the years analysed 2009-2013.

3.1 Stakeholder workshops

A Defra-led workshop was held in Exeter on 18 and 19 May 2016 to discuss fisheries management measures for MPAs in the Channel and the Southwest Approaches with the intention of developing management measures in conjunction with stakeholders. The workshop was attended by French, Irish and UK fisheries representatives as well as delegates from the French, Irish and Spanish governments and the Northwest Waters Advisory Council (NWWAC). There was also representation from Non-Governmental Organisations (NGOs) and conservation organisations.

Ahead of these meetings the UK prepared fisheries management options papers for the sites which discussed the risk to achievement of the conservation objectives associated with a range of management options.

During the meeting, an initial Defra management proposal for the site was tabled and discussed. The meeting considered amendments to the proposal, which would limit socio-economic impact while still ensuring inclusion of the range of protected features within the site.

The site specific discussion from the report of the meeting is at Annex A.

3.2 Consultation on management proposals

Draft proposals for fisheries management measures were developed using feedback from the stakeholder workshops as well as advice from the UK's statutory nature conservation bodies, the JNCC and Natural England, and offshore fisheries regulator, the MMO.

Fisheries management measures were developed in close coordination with other Member States with a direct management interest in the sites. Draft management proposals were subject to a six week period of consultation with Member States with a direct management interest in the sites and the Northwest Waters Advisory Council.

Finalised management proposals were then presented to other Member States with a direct management interest in the sites for agreement that sufficient information had been provided in order to commence the formal agreement of the proposals as Joint Recommendations. [Following this, ad hoc meetings of the Northwest Waters Article 11 sub-group were held to start formal agreement proceedings for the Joint Recommendations. Any outstanding issues were then

addressed before agreement was reached on the Joint Recommendations by members of the Northwest Waters High-Level Group and they were submitted to the European Commission for adoption.]

3.3 Formal agreement of Joint Recommendations

[To be added following completion of Art.11 procedure]

3.4 Involvement of the North West Waters Advisory Council

The NWWAC attended the workshop in Exeter in May 2016 where initial proposals for management were discussed and the UK presented its rationale behind the measures proposed.

In January 2017 the UK consulted the NWWAC on proposals for fisheries management measures in 12 MPAs, in line with the provision outlined in Article 11 of the CFP. The UK also attended a meeting of the NWWAC on 28 February 2017 where the proposed measures were presented and discussed. On 30 March 2017 the UK replied to a response from the Secretariat covering general comments on the proposals as well as some specific comments on several of the proposals for the MPAs in question.

With respect to the Canyons MCZ only the UK responded with the following comments:

> *"It was suggested the proposed measure would affect static gear fisheries and generate displacement. As such it was put forward by some members of the advisory council that to protect any vulnerable deep water marine ecosystem, fishing should be closed below 800m, but above any gear should be allowed.*
>
> *The UK would like to be clear that the proposed measures have been designed to protect the designated features (cold water coral reefs and deep sea bed) of the site rather than being based on a depth limit. Much of the cold water coral reef feature within the site (including all known live records, species records and biogenic rubble) is located in areas above 800m and therefore the restriction zone extends to these areas."*

4 Rationale

The Canyons MCZ contains the only known example of Cold-water coral reef in England's seas (other examples in the UK occur along the continental shelf break off Scotland and Ireland). Reefs of the Cold-water coral *Lophelia pertusa* typically support a range of other organisms, providing a three dimensional structure and a variety of microhabitats for other species. Cold-water corals can be long-lived but are extremely slow growing. As well as known areas of live coral reef, management measures are being proposed for areas of predicted live coral reef, for areas of coral rubble mini-mounds and also isolated patches of coral species *Lophelia pertusa* and *Madrepora oculata*. The

inclusion of coral species records and a proportion of the area of coral rubble mini-mounds may allow for potential recovery of the Cold-water coral reef feature.

Available evidence (see below) suggests that Cold-water coral reefs are sensitive to pressures associated with fishing activities and as such measures are proposed to reduce the level of risk to achieving the conservation objective for the site.

The broadscale habitat Deep-sea bed includes deep-sea mixed substrata, deep-sea sand, deep-sea mud, deep-sea bedrock and deep-sea biogenic gravel. Available evidence (see below) indicates that the features designated may be sensitive to prevailing fishing activities and as such measures are proposed to reduce the level of risk to achieving the site's conservation objectives.

Impacts of demersal towed gears (including scallop dredges, beam trawls, otter trawls and seines)

Demersal towed gears reduce the long-term natural distribution of Cold-water coral reef features, as well as impacting the structure and function of the habitat and the long term survival of its associated species. The passage of trawls may increase mortality of the coral by crushing, burying or wounding corals, increasing susceptibility to infection and epifaunal recruitment that may eventually smother corals (Fosså et al. 2002). The passing of a heavy trawl reduces the three-dimensional structure of the coral to rubble, decreasing the complexity of the habitat with impacts on the associated community composition (Koslow et al. 2001; Fosså et al. 2002). Indirect impacts on Cold-water coral reefs from trawling may arise as a result of increased levels of suspended particles in the water column causing smothering and polyp mortality (Larsson and Purser, 2011). Corals are slow growing so any damage will take many years to repair (ICES, 2010).

For the purposes of this advice, Deep-sea bed is classified as all component habitats below 200m. It is unlikely that demersal towed gears can affect the long-term natural distribution of Deep-sea bed. However, there is evidence to indicate that their use can impact the structure and function of the habitats and the long term survival of their associated species. As with stable sand, burrowed mud and gravel habitats at shallower depths, it is likely that the use of demersal towed gears on Deep-sea bed habitats will cause the abundance of fragile, long lived species to be reduced while abundance of robust scavenging species will increase. The degree of modification would depend on the recovery rate of impacted organisms and levels of prevailing fishing activity.

Impacts of demersal static gears (including gillnets, trammel nets, longlines, pots and traps)

Static demersal gears are likely to reduce the long-term natural distribution of Cold-water coral reef features, as well as impacting the structure and function of the habitat and the long term survival of its associated species. Hooks, lines, nets and ropes entangle corals and 'pluck' them during hauling

(Grehan et al. 2004; ICES, 2010). Physical damage to the seabed has been observed which may be caused by dragged anchors (Grehan et al. 2004; ICES, 2010). The individual impact of a single fishing operation may be slight but cumulative damage can be significant. Given the slow growth rate of the reefs, they may take centuries to recover from damage, if at all (ICES, 2010).

It is unlikely that demersal static gears will have a significant effect on the long-term natural distribution of Deep-sea bed, or on the structure and function of its associated biological communities.

5 Principles

Based on advice from JNCC concerning the risk associated with a range of management options and the consideration of socio-economic factors, the UK has decided to protect Deep-sea bed (A6), and Cold-water coral reefs from physical disturbances due to demersal gears.

When formulating the Joint Recommendations, the following principles were applied:

1) Sound scientific basis

This proposal for fisheries management measures is based on available scientific evidence. JNCC has provided advice in relation the risk to achieving the conservation objectives. The proposal has also been reviewed by CEFAS. The advice from Cefas was that this approach reduces the pressures from demersal towed gears sufficiently to contribute to long term progress in recovering the features towards favourable condition.

2) Stakeholder involvement

An important element of the process of formulating fisheries management measures has been the involvement of stakeholders. This has been outlined in further detail in sections 3.1 and 3.2.

3) Transparency

In this proposal the UK has been transparent on the data being used, the steps being taken and the methodology used, as well as the involvement of stakeholders.

4) Proportionality

An approach was sought that would deliver a regulatory proposal that delivers a key contribution to the achievement of the conservation objectives while minimising the effect on the fishing industry. A key safeguard in the process to deliver such an outcome was to follow the European Commission

guidance in this regard, which described a proportional approach towards balancing sustainable exploitation of resources and the need to conserve important habitats, including a precautionary approach to fisheries management.

5) Non discrimination

The proposal will need to ensure that measures are not applied in a discriminatory manner. A coordinated approach between Member States is the only way of ensuring non discrimination for fleets affected by the proposed measures. Ultimately, a proposal is presented to the European Commission for regulation in the framework of the CFP, ensuring a level playing field for the fishing sector affected.

6 Proposal scope

The proposed management boundary for a closure to demersal gears encompasses approximately 53.59% of the site. The proposed management boundary encompasses 54.63% of the Deep-sea bed (A6), and 63.85% of the Cold-water coral reefs features within the site (including all known live cold-water coral reef records, all predicted live coral reef records, all live coral species records and approximately 60% of the areas of coral rubble).

List of Annexes:

Annex A – Meeting note from the May 2016 workshop in Exeter

Annex B – Overview of the 11 information items in the Commission's guidelines from 2008

Annex C – Map of MCZ network

Annex D – Map and Coordinates for The Canyons MCZ reporting zone with increased reporting

Annex E – References

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Annex A – Meeting note from the May 2016 workshop in Exeter

The Canyons MCZ

Defra explained that initial proposals for management had to ensure known live coral is protected; and a further decision on management of areas identified as coral rubble also had to be taken. The initial management area has allowed for the possibility to identify whether long term recovery could take place in areas where coral rubble had been recognised. The initial proposal attempted to permit otter trawls to continue across the majority of site whilst protecting areas of known live coral. An amendment to the draft proposal was put forward to further minimise impact on the fleets' activity within the area, with French colleagues requesting adjustment of a proportion of the zone to enable vessels to turn at the end of a tow. These will be considered further post-workshop

It was noted that the area to be managed as reef was comparable to how reef has been managed inshore. It was agreed to adjust the wording relating to "areas to be managed as reef" as this was misleading.

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Annex B – Overview of the 11 information items in the Commission's guidelines from 2008

The Commission has issued guidance on a consistent approach to requests for fisheries management measures under the Common Fisheries Policy[5]. Accordingly, this document provides the scientific and technical information required to support a formal request to the Commission for fisheries regulation under the Common Fisheries Policy.

1 Comprehensive description of the natural features including distribution within the site

Cold water coral reef

The Canyons MCZ is located in the far south-west corner of the UK's continental shelf, more than 330km from Land's End, Cornwall. It encompasses the steep part of the shelf break where the seabed drops from a depth of 100m to the oceanic abyssal plain at 2,000m (Davies et al. 2008). This makes the site unique within the context of England's largely shallow seas. Within the site, there are two large canyons that indent the shelf break, adding to the topographic complexity of the seafloor: the Dangaard Canyon to the north and the Explorer Canyon to the south.(Figure 1)

The OSPAR threatened and/or declining habitat Cold-water coral reef (formed by the coral *Lophelia pertusa*) occurs within the site. This includes the only known example of living deep-water coral reef recorded within England's seas, which was first documented in 2007 (Davies et al. 2008), prior to site designation, and again in 2015 (Carraway, in prep). Further data, made available post site designation, has since been included to build an up-to-date picture of the areas to be managed as cold-water coral reef. These data include live coral reef occurrence, predicted cold-water coral reef occurrence (Ross *et al.* 2015) and additional areas with the potential to support the recovery of the feature (based on the presence of coral rubble and isolated patches of coral (OD Natural Environment 2014).

Reefs formed by *Lophelia pertusa* provide a three dimensional structure and a variety of microhabitats that provide shelter and an attachment surface for other species; as such they can represent biodiversity hotspots. Cold-water coral reefs can be long-lived but typically they are extremely slow growing (at about 6mm per year) and fragile. Another reef-forming cold-water coral, *Madrepora oculata*, is also present in the site.

[5] http://ec.europa.eu/environment/nature/natura2000/marine/docs/fish_measures.pdf

Deep-sea bed (A6)

Deep-sea bed is a broad-scale feature and occurs in all sections of the site beneath a depth of 200m. At a finer-scale, the feature is comprised of a variety of habitat types, evident from the range of rocky, coarse, coral rubble, sand and mud habitats found at upper- and mid-bathyal depths. Associated biological communities include cold-water coral communities (*Lophelia pertusa* and *Madrepora oculata*), feather star (*Leptometra celtica*) assemblages, burrowing anemone fields, squat lobster (*Munida* sp.) assemblages, barnacle assemblages and deepwater sea pen (*Kophobelemnon* sp.) fields. The extent of this feature was mapped using Astrium OceanWise (2011) bathymetry data, habitat maps and ground-truthing points from the 2007 MESH survey (Davies et al. 2008), UKSeaMap 2010 (McBreen et al. 2011) and EUSeaMap 2015. (Figure 2)

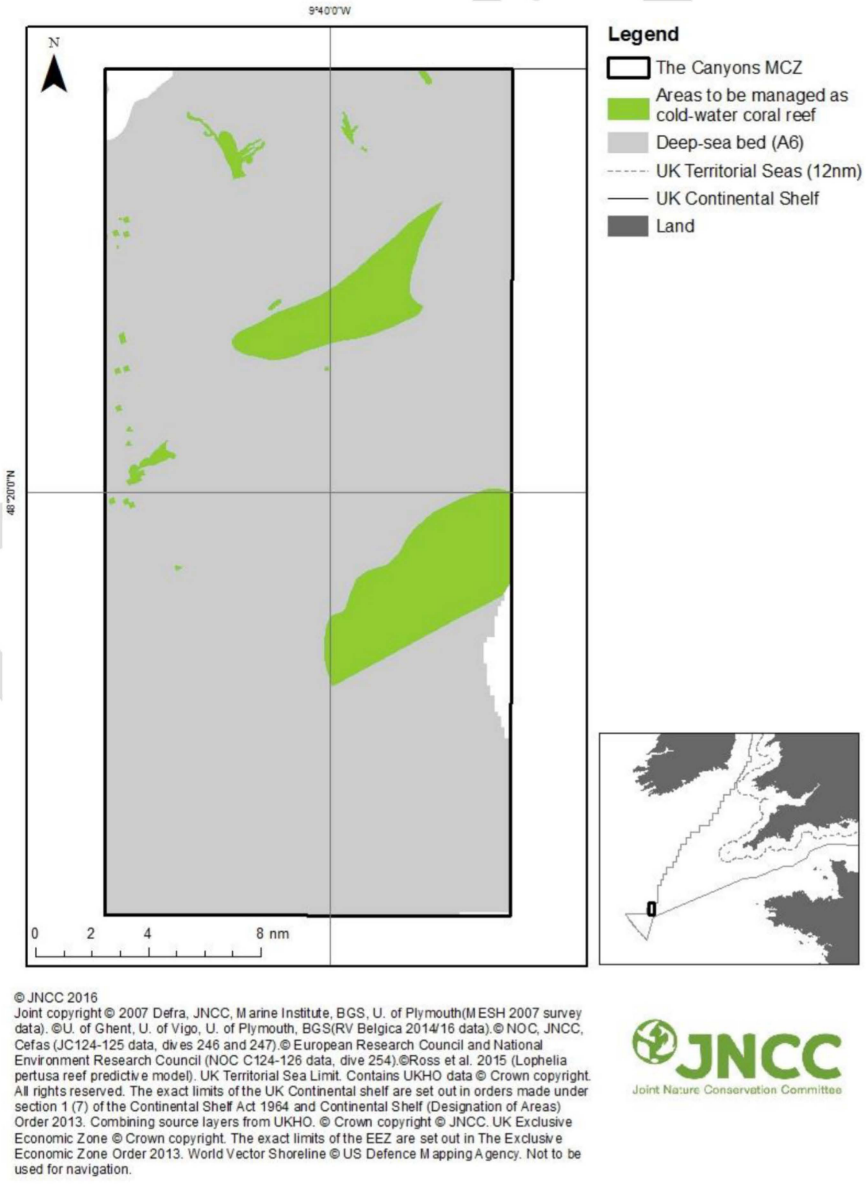


Figure 1. Site map for The Canyons MCZ, including features for which management measures are being proposed

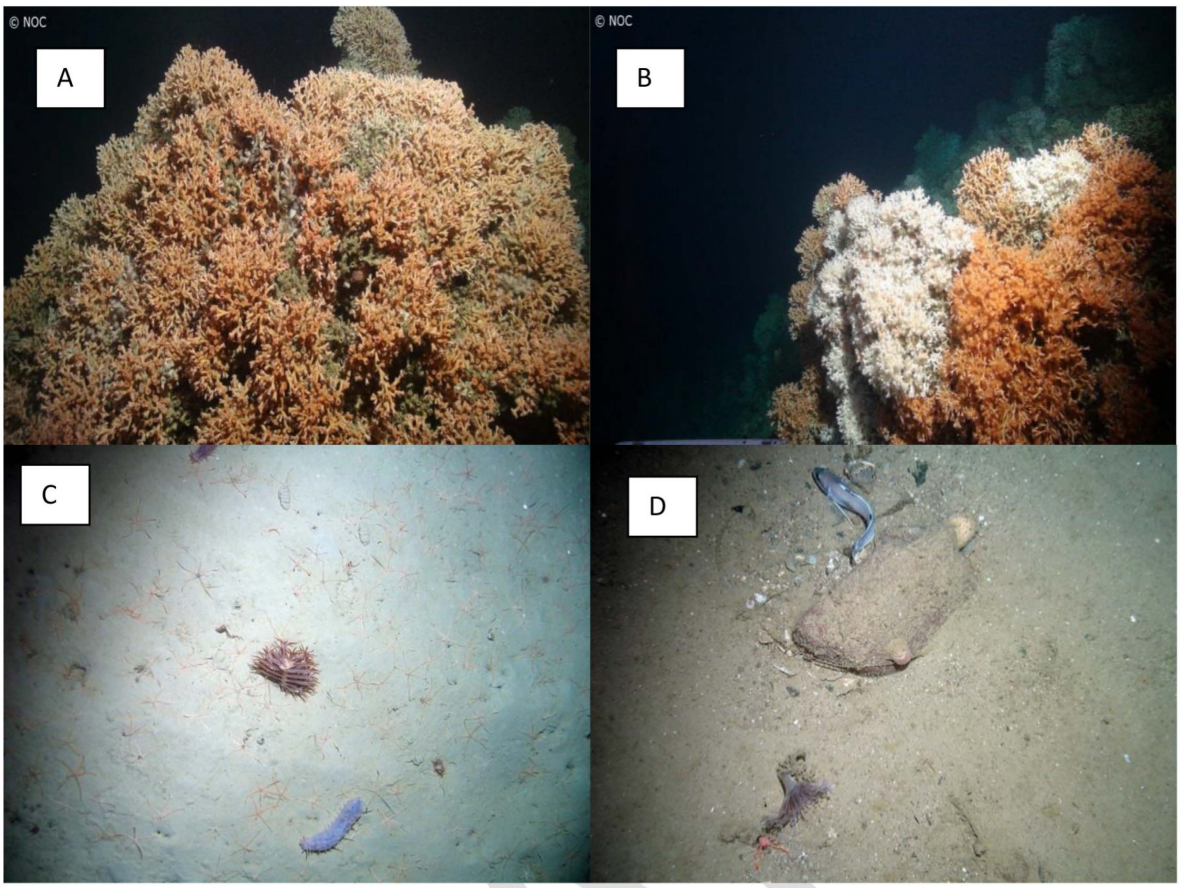


Figure 2. Photographs from Canyons MCZ taken in NOC survey 2015 and Marine Institute survey 2007

A and B: Cold-water coral reef

C: Deep Sea bed - Sea pen (*Kophobelemnon stelliferum*) and long spined sea cumber (*Holothuroidea*) and brittle stars (*Ophiuroidea*) on mud

D: Deep Sea bed - Greater forkbeard (*Phycis blennoides*) and anemone (*Arachnanthus sarsi*) on mixed sediment

2 Scientific rationale for the sites' selection in accordance with the information provided in the Marine Conservation Zone Designation Order. Intrinsic value of its features. Specific conservation objectives

The UK has committed to the development of an MPA network designed to protect a range of nationally important marine species and habitats which will be central to achieving Good Environmental Status (GES) by 2020 under the Marine Strategy Framework Directive (MSFD). Such a network is also consistent with the UK's obligations under the OSPAR Convention. Due to the large number of individual habitats and species in UK waters, features were grouped into broad-scale habitats. To ensure that the full range of biodiversity in UK seas is conserved, representative examples of broad-scale habitats and specific features of conservation importance were designated within the MCZ network.

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Selection guidelines for MCZs were laid out by Defra to support the initial identification of sites through four regional stakeholder projects. The guidance covers the aim of the network; the involvement of stakeholders; the principles for design of an MPA network; principles for the identification of sites and also the setting of conservation objectives.

Site recommendations were based around the seven design principles laid out in the Ecological Network Guidance (ENG):

- Representativity
- Replication
- Adequacy
- Viability
- Connectivity
- Protection
- Best available evidence

The Canyons MCZ is included in the MPA network for its contribution to the broad-scale habitat Deep-sea bed (A6) and the Habitat Feature of Conservation Importance Cold-water coral reef (the only example of this FOCI within the MCZ network).

2.1 Conservation Objectives

Conservation objectives set out the desired state for the protected feature(s) of an MPA. To achieve the conservation objectives a general approach to management for each designated feature has been set by JNCC based on current knowledge of condition.

The GMAs for the protected features of the MCZ are:

- **Deep sea bed (habitat type A6)** – Recover to favourable condition
- **Cold-water coral reefs** – Recover to favourable condition

3 Basis for the spatial extent of the site boundary clearly justified in terms of conservation objectives

The boundaries were designed to encompass the steep part of the shelf break to cover areas of diverse seafloor habitat including sub-marine canyons and deep-sea coral habitats. The site is rectangular in shape, in line with Ecological Network Guidance (ENG) design principles. The northern

and north-western boundary sections align with the UK Continental Shelf Limit. The western and eastern boundary sections were drawn as straight north-south lines. The southern boundary section was drawn to align with the old UK Continental Shelf Limit (pre 2014).

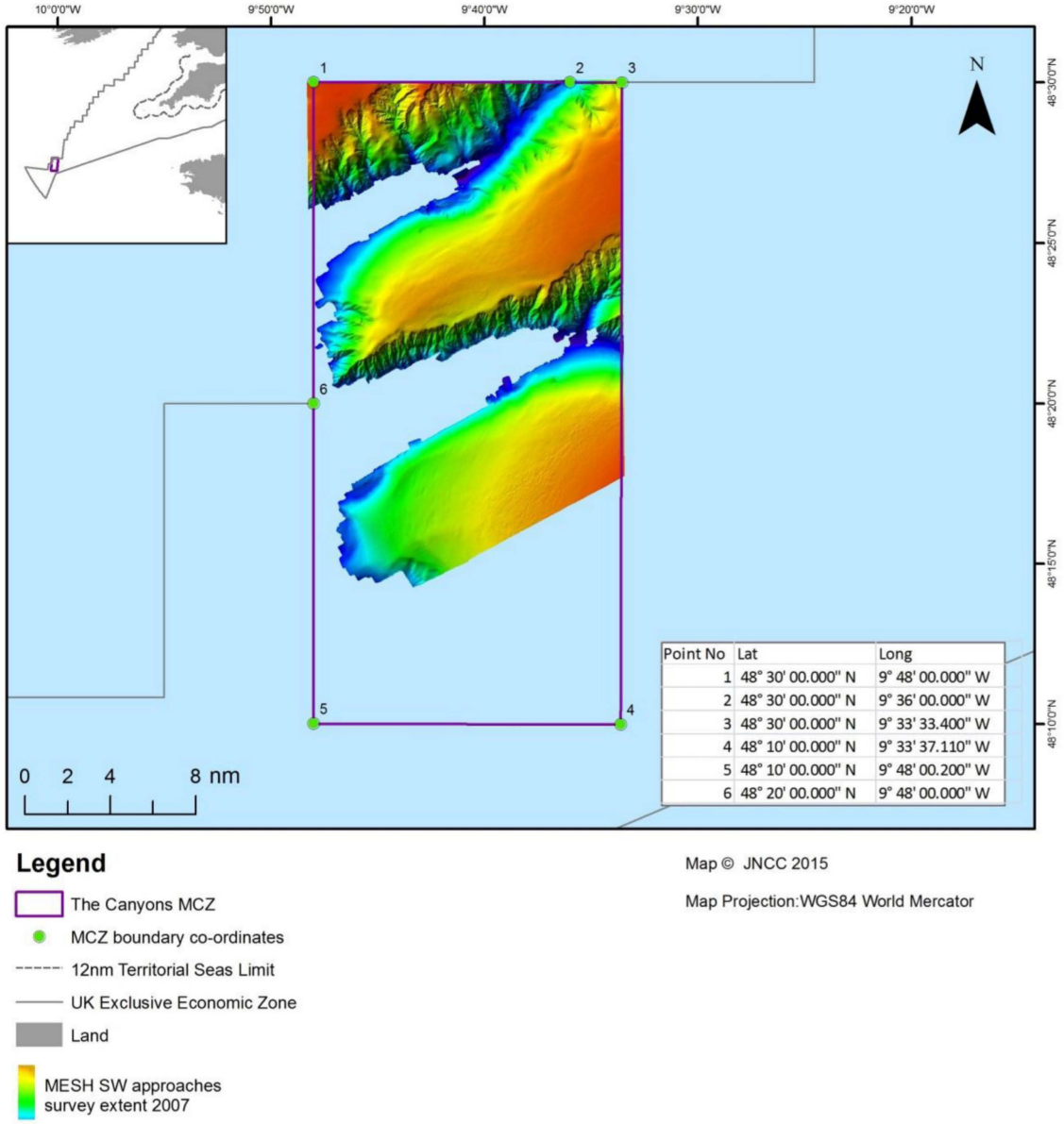


Figure 3: Site boundary for The Canyons MCZ

4 Threats to the long-term natural distribution, structure and functions of the habitats and the long-term survival of associated species from different types of fishing gear. List of other human activities in the area that could damage the habitats

4.1 All demersal towed gears (including scallop dredges, beam trawls, otter trawls and seine nets)

Demersal towed gears reduce the long-term natural distribution of Cold-water coral reef features, as well as impacting the structure and function of the habitat and the long term survival of its associated species. The passage of trawls may increase mortality of the coral by crushing, burying or wounding corals, increasing susceptibility to infection and epifaunal recruitment that may eventually

smother corals (Fosså et al. 2002). The passing of a heavy trawl reduces the three-dimensional structure of the coral to rubble, decreasing the complexity of the habitat with impacts on the associated community composition (Koslow et al. 2001; Fosså et al. 2002). Indirect impacts on cold water coral reefs from trawling are from increased levels of suspended particles in the water column causing smothering and polyp mortality (Larsson and Purser, 2011). Corals are slow growing so any damage will take many years to repair (ICES, 2010).

For the purposes of this advice, Deep-sea bed is classified as all component habitats below 200m. It is unlikely that demersal towed gears can affect the long-term natural distribution of Deep-sea bed. However, there is evidence to indicate that their use can impact the structure and function of the habitats and the long term survival of their associated species. As with stable sand, burrowed mud and gravel habitats at shallower depths, it is likely that the use of demersal towed gears on Deep-sea bed habitats will cause the abundance of fragile, long lived species to be reduced while abundance of robust scavenging species will increase. The degree of modification would depend on the recovery rate of impacted organisms and levels of prevailing fishing activity.

4.2 All demersal static gears (including gillnets, trammel nets, longlines, pots and traps)

Static demersal gears are likely to reduce the long-term natural distribution of Cold-water coral reef features, as well as impacting the structure and function of the habitat and the long term survival of their associated species. Hooks, lines, nets and ropes entangle corals and 'pluck' them during hauling (Grehan et al. 2004; ICES, 2010). Physical damage to the seabed has been observed which may be caused by dragged anchors (Grehan et al. 2004; ICES, 2010). The individual impact of a single fishing operation may be slight but cumulative damage can be significant. Given the slow growth rate of the reefs, they may take centuries to recover from damage, if at all (ICES, 2010).

It is unlikely that demersal static gears will have a significant effect on the long-term natural distribution of deep sea bed, or on the structure and function of their associated biological communities.

4.3 Other Human activities

The information within this section represents current knowledge (June 2016) of the nature and extent of activities taking place within or close to the site.

There is one telecommunications cable in the south-east corner of the site which is currently out of service. Cables are a largely unregulated activity in offshore waters depending upon the type of cable being laid (or maintained), where it is being laid and whether it is part of a larger development,

which may be regulated. Any cable not directly associated with an energy installation does not require a marine licence beyond 12 nautical miles.

There is low density international shipping in the area, including cargo vessels and tankers. Vessel anchorage is unlikely at this site given its offshore location. Under international law, shows have a right of passage at sea including in areas designated as MPAs (unless management specifies the restriction of ship transiting). The pressures associated with shipping activity within The Canyons MCZ are not considered likely to impact the protected features of the site.

The site occupies a small part of a very large Ministry of Defence training area south-west of the UK. The MoD has incorporated all designated MPAs into their Environmental Protection Guidelines (Maritime) and wider Marine Environmental and Sustainability Assessment Tool.

5 Fleet activity in the area and in the region, distribution of fleets (by nation, gear, and species), and information on target and bycatch species over 6 years from 2010 to 2015 inclusive.

5.1 Validity of data

In this section relevant fleet statistics for the years 2010-2015 are provided as requested by the European Commission guidance. The UK, as the initiating Member State, analysed fishing from Member States active in The Canyons MCZ over a six year period. This approach is consistent with other management proposal methodologies across Member States. A four year dataset is considered to be representative of the contemporary fisheries carried out in the area and thus valid for the purpose of underpinning the current proposal.

Overall, fisheries have been changing since the early 2000s as a result of changes in economic and regulatory conditions, e.g. fuel prices and engine efficiencies, the introduction of individual transferable quota (ITQ) systems[6] in various forms. Fishing fleets have been reduced in terms of the number of vessels and fishing effort has decreased. Fishing opportunities are dictated by stock status, market conditions, fuel prices and technological opportunities, as well as quota availability. In addition, policy decisions on alternative use of marine habitat, sustainable exploration and environmental policies will influence fishing opportunities.

The fisheries are dynamic and sound judgement is required when using the data. However, more recent datasets are expected to improve our understanding of the structure of fisheries.

[6] Individual transferable quotas (ITQs) are a type of catch share system, which is a tool used by some governments to manage fisheries

Vessels from three Member States have been present within the relevant area according to VMS reports or "pings". However, French vessels routinely report every hour and not every two hours like all other Member States' vessels. The data concerning the number of French vessels will be accurate but their activity through pings may appear distorted. To maintain consistency across all vessels and Member States' data, the information on French vessels has been displayed as it was received into the MMO FMC, therefore it has not been altered to reflect possible one hour vessel pings as this could alter the validity of the data further. To establish which vessels specifically report at a higher level would require additional processing and information.

To note, unknown gear classification relates to a specific VMS report which does not have valid corresponding log book information.

5.1.1 Data analysis

Data presented has been analysed by applying the standard methodology used to identify whether or not vessels have been fishing in a specified spatial area. VMS reports ("pings") were used to indicate vessel fishing activity based on the speed of the vessel as contained within the VMS report. Each ping was classified as indicative of fishing activity if the speed was greater than or equal to zero knots and less than or equal to six knots[7].

Each speed filtered VMS ping (0-6 knots) received from a vessel in ICES statistical rectangle 25E0 (the ICES rectangle location of the site) was extracted from the UK VMS system. Each ping will hold the following information: the vessel identity (CFR) number; position and speed; and the date and time of that ping. These fishing pings from the rectangles concerned are then processed in GIS software to identify whether the position was inside or outside The Canyons MCZ or the proposed management areas. This provides a proportion of pings falling within the area for the vessels of each Member State.

[7] Article 50 of Council Regulation (EC) No 1224/2009 : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:343:0001:0050:EN:PDF

5.1.2 Data limitations

The data provided in this section is subject to several limitations:

1. Data is only available from vessels that are required to carry EU VMS (i.e. vessels 12 metres and above in length). As such their pattern of activity may differ from vessels of less than 12 metres in length.

2. Vessel numbers derived from VMS can suggest increase over the years analysed, however it is important to note that during this period VMS was introduced to the 12m and above fleet, in addition to the 15m and above fleet.

3. Unless stated otherwise, all VMS data shown in this paper is over a six year period 2010-2015. Landings information is over a five year period 2010-2014, as a result of a datacall to member states for information in 2015.

4. The speed thresholds (0-6 knots) used to make assumptions as to whether a vessel is fishing or not only provide indications, not definitive proof of fishing and may not be equally valid for all gear types.

5. The proportion of activity inside an area is based on the number of pings as opposed to actual fishing time.

6. VMS reports are sent by every fishing vessel at 2 hourly intervals, with the exception of the French VMS activity. This was witnessed at an hourly rate.

7. No Spanish landings have been provided to the UK

5.2. Fleet activity by state

From 2010 to 2015 vessels from France, Spain and UK were active within and around The Canyons MCZ (see table 1). Of these, the most significant activity was from Spanish and French vessels, with lower levels of activity from the UK and rare visits from other Member State vessels (see table 1).

Table 1: **Number of vessels and pings (0-6 knots) associated with The Canyons MCZ by year and Member State.**

Nationality		2010	2011	2012	2013	2014	2015
Denmark	Vessel numbers	0	1	1	0	6	0
	VMS pings	0	1	3	0	6	0
France*	Vessel numbers	21	14	29	28	26	44
	VMS pings	2228	1222	1969	1865	1569	1316
Germany	Vessel numbers	0	1	1	3	2	0
	VMS pings	0	1	2	12	6	0
Ireland	Vessel numbers	0	0	2	1	1	1
	VMS pings	0	0	2	3	2	6
Netherlands	Vessel numbers	0	0	2	2	0	0

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	VMS pings	0	0	2	5	0	0
Spain	Vessel numbers	62	50	51	56	47	40
	VMS pings	2891	1428	882	1864	1304	835
UK	Vessel numbers	12	12	11	11	5	5
	VMS pings	30	68	207	407	308	213

* Some French VMS reporting has been witnessed at one hour intervals, all other Member States' reporting is on average two hourly.

5.3. Landings values

As shown in Tables 2 and 3 the gear groups of major importance in terms of effort (tonnage) and economic importance (value) include (1) Pelagic Trawls directed at species higher in the water column (such as Mackerel) (flatfish), (2) Otter board bottom trawls for demersal fish, (3) otter board bottom trawls for demersal and semi pelagic fish. Fishing for these species occurs in the Southern Irish Sea, Celtic Sea and North East Atlantic.

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Table 2: Landings (tonnes) from vessels operating in 25E0 (ICES rectangle surrounding The Canyons MCZ) by gear type, year and Member State

Sum of Landings quantities tonnes by gear		YEAR						
Nat	**GEAR_TYPE**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Grand Total**
DEU	Pelagic trawls	0.00	9.00	50.70	433.18	1,778.44		2,271.33
DEU Total		**0.00**	**9.00**	**50.70**	**433.18**	**1,778.44**		**2,271.33**
DNK	Pelagic trawls	697.00	3,096.00	5,260.00	925.00	520.00		10,498.00
DNK Total		**697.00**	**3,096.00**	**5,260.00**	**925.00**	**520.00**		**10,498.00**
FRA	Bottom trawls	0.00	193.67	315.07	294.45	384.15		1,187.34
	Dredge	0.00	0.00	0.00	1.96	0.00		1.96
	Lines	0.00	0.39	11.47	112.84	15.58		140.28
	Nets	0.00	352.58	608.92	612.89	839.96		2,414.35
	Pelagic trawls	0.20	499.23	2,813.05	128.44	721.39		4,162.30
FRA Total		**0.20**	**1,045.87**	**3,748.51**	**1,150.57**	**1,961.08**		**7,906.23**
IRL	Otter Trawl (unspecified)	0.00	6.33	7.74	6.01	11.32		31.40
	Pelagic Trawl (unspecified)	2,120.00	4,286.00	825.06	900.00	763.00		8,894.06
IRL Total		**2,120.00**	**4,292.33**	**832.80**	**906.01**	**774.32**		**8,925.46**
NLD	Otter Trawl midwater	720.61	875.35	387.33	871.24	318.97		3,173.51
	Pelagic Trawl midwater	0.00	415.84	0.00	0.00	0.00		415.84
NLD Total		**720.61**	**1,291.20**	**387.33**	**871.24**	**318.97**		**3,589.35**
UK	Gillnets (all)	6.89	14.01	6.33	122.53	242.57	280.98	673.31
	Longlines (not specified)	1.68	0.00	7.98	0.00	0.00	0.00	9.66
	Mid water trawls (not specified)	0.00	0.00	0.00	721.23	0.00	0.00	721.23
	Nephrops trawls	0.00	0.00	0.45	0.00	0.00	0.82	1.27
	Otter trawls (Bottom and not specified)	120.80	8.59	11.64	11.22	21.02	15.96	189.23
	Otter trawls – mid water	0.00	327.61	0.00	223.96	202.19	0.00	753.76
	Pair trawls – mid water	0.00	58.54	0.00	0.00	53.71	0.00	112.25

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Set longlines	0.00	20.43	0.00	15.26	5.56	2.37	43.62
Trolling lines	0.00	0.00	0.00	2.27	0.00	0.00	2.27
UK Total	**129.37**	**429.18**	**26.40**	**1,096.47**	**525.05**	**300.12**	**2,506.59**
Grand Total	**3,667.18**	**10,163.58**	**10,305.74**	**5,382.48**	**5,877.86**	**300.12**	**35,696.96**

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Table 3: Landings values (£) from vessels operating in 25E0 (ICES rectangle surrounding The Canyons MCZ) by gear type, year and Member State

Sum of Sterling £ gear (€1 = £0.70 DEC2015)		YEAR					
Nat	**GEAR_TYPE**	**2010**	**2011**	**2012**	**2013**	**2014**	**Grand Total**
DEU	Pelagic trawls	£0	£0	£12,422	£131,003	£494,282	£637,707
DEU Total		**£0**	**£0**	**£12,422**	**£131,003**	**£494,282**	**£637,707**
DNK	Pelagic trawls	£169,577	£618,342	£929,181	£201,078	£69,311	£1,987,489
DNK Total		**£169,577**	**£618,342**	**£929,181**	**£201,078**	**£69,311**	**£1,987,489**
FRA	Bottom trawls	£0	£523,299	£741,139	£738,360	£934,242	£2,937,040
	Dredge	£0	£0	£0	£7,710	£0	£7,710
	Lines	£0	£697	£20,205	£183,348	£24,822	£229,071
	Nets	£0	£845,470	£1,260,478	£1,018,826	£1,355,801	£4,480,574
	Pelagic trawls	£406	£224,822	£1,065,610	£22,247	£263,007	£1,576,093
FRA Total		**£406**	**£1,594,288**	**£3,087,432**	**£1,970,491**	**£2,577,872**	**£9,230,488**
IRL	Pelagic Trawl (unspecified)	£292,483	£738,547	£257,640	£155,344	£516,747	£1,960,761
	Otter Trawl (unspecified)	£0	£11,618	£14,999	£11,269	£18,345	£56,230
IRL Total		**£292,483**	**£750,165**	**£272,639**	**£166,613**	**£535,092**	**£2,016,991**
NLD	Otter Trawl midwater	£455,311	£1,105,612	£472,903	£293,815	£111,703	£2,439,344
	Pelagic Trawl midwater	£0	£496,712	£0	£0	£0	£496,712
NLD Total		**£455,311**	**£1,602,324**	**£472,903**	**£293,815**	**£111,703**	**£2,936,056**
UK	Gillnets (all)	£24,006	£43,276	£23,687	£319,214	£717,160	£356,063	£1,483,406
	Longlines (not specified)	£1,705	£0	£14,874	£0	£0	£0	£16,579
	Mid water trawls (not specified)	£0	£0	£0	£131,357	£0	£0	£131,357
	Nephrops trawls	£0	£0	£1,558	£0	£0	£4,505	£6,063
	Otter trawls (Bottom and not specified)	£238,738	£19,981	£29,039	£38,963	£56,383	£46,602	£429,706
	Otter trawls – mid water	£0	£380,287	£0	£93,094	£198,047	£0	£671,428
	Pair trawls – mid water	£0	£34,748	£0	£0	£57,469	£0	£92,217

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	Set longlines	£0	£33,511	£0	£38,956	£18,112	£0	£90,579
	Trolling lines	£0	£0	£0	£8,866	£0	£0	£8,866
UK Total		**£264,449**	**£511,803**	**£69,158**	**£630,450**	**£1,047,171**	**£407,170**	**£2,930,201**
Grand Total		**£1,182,227**	**£5,076,921**	**£4,843,734**	**£3,393,450**	**£4,835,430**	**£407,170**	**£19,738,932**

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5.4. Annual variation in fishing activity

Fishing effort is indicated by the number of VMS reports at speeds indicative of fishing (from 0 to 6 knots) received by the UK Fisheries Monitoring Centre. On average, reports are sent by every fishing vessel at 2 hourly intervals, with the exception of some French VMS activity analysed. This was witnessed at an hourly rate.

VMS Activity

Over the years analysed (2010-2015), the total volume of vessels fishing in the Canyons MCZ from other Member States is 492 and 56 from the UK, making a total of 548. However vessels have been counted more than once if they enter the MCZ in separate years. See Table 1.

French VMS activity has fluctuated in vessels numbers over recent years, from 21 vessels recorded in 2010, dropping to 14 vessels in 2011 before levelling out at around 28 vessels during the next three years in 2012, 2013 and 2014. Though in 2015 there was a significant increase of 44 vessels recorded in the MCZ. However the number of VMS pings suggests a gradual decrease of activity between 2010 and 2015, in 2010 there were 2228 pings decreasing to 1316 pings in 2015. The activity from the French vessels seems to focus in two main areas, one to the top half of the site (approx. 48°23'00"N and 09°40'00"W) south to an area of coral reef by a netting fleet, and two to the bottom half of the site with long demersal trawl lines. Neither area is subject to the proposed closures.

Spanish VMS activity has decreased in vessel numbers over recent years, from 62 vessels recorded in 2010, dropping to 40 vessels in 2015. The number of pings has fluctuated over the years, from 2891 in 2010, dropping to 882 pings in 2012, before rising again to 1864 in 2013 the following year. The numbers then drop again to a low of 835 in 2015. The activities from the Spanish fleets heavily favour the top half of the site with three distinct netting tow lines. The activity is not subject to the proposed closures.

UK VMS activity has decreased in vessel numbers over recent years. In 2010 there were 12 vessels recorded in the site, this decreased to 5 vessels in 2015. However the number of VMS pings show that the seasonal activity within the site increased from 30 pings in 2010 to 406 pings in 2013 before gradually decreasing to 213 in 2015.

Landings information

The values (£) and landings (tonnes) effort taken within the MCZ vary between each member state.

The French landings information in ICES 25E0 has fluctuated over the recent years in terms of tonnes landed and value taken. In 2010 there was 0.2 tonnes landed with an approximate value of £406 (however we believe that there is an error in this value). In 2011 there was 1,045 tonnes landed with an approximate value of £1.5million, this rose to a peak of 3,748 tonnes with an approximate value of £3million in 2012. The landing then dropped to 1,150 and 1,961 tonnes the following years in 2014 and 2015 with an approximate value of £1.9million and £2.5million. These totals had been generated primarily by three main gear types, Bottom trawls, Nets and Pelagic trawls.

UK Landings within ICES rectangle 25E0 has fluctuated over recent years in terms of tonnes landed and value taken. In 2010 there was 129 tonnes landed with an approximate value of £264,449, this rose to 429 tonnes in 2011 with an approximate value of £511,803. In 2012 there was a significant

drop in landings with 26 tonnes recorded and £69,158, before a dramatic increase of 1,096 tonnes and a value of £630,450 in 2013. The landing then gradually decreased to 525 and 300 tonnes in 2014 and 2015 with an approximate value of £1million and £407,170 respectively. These totals had been generated through Otter trawls and Gill netters.

No Spanish landing information has been supplied.

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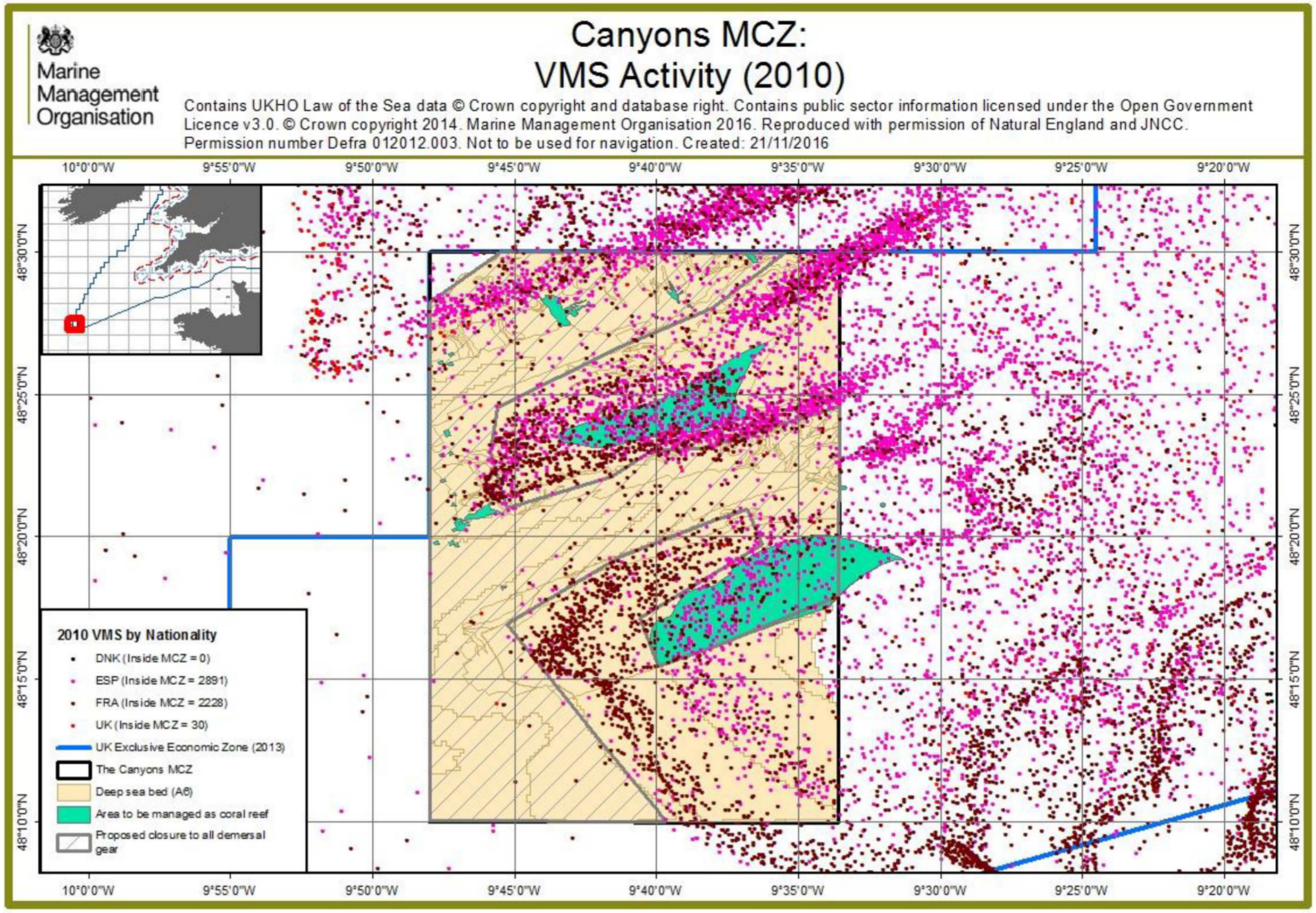


Figure 4: VMS reports indicating all fishing activity in The Canyons MCZ 2010 by Nationality

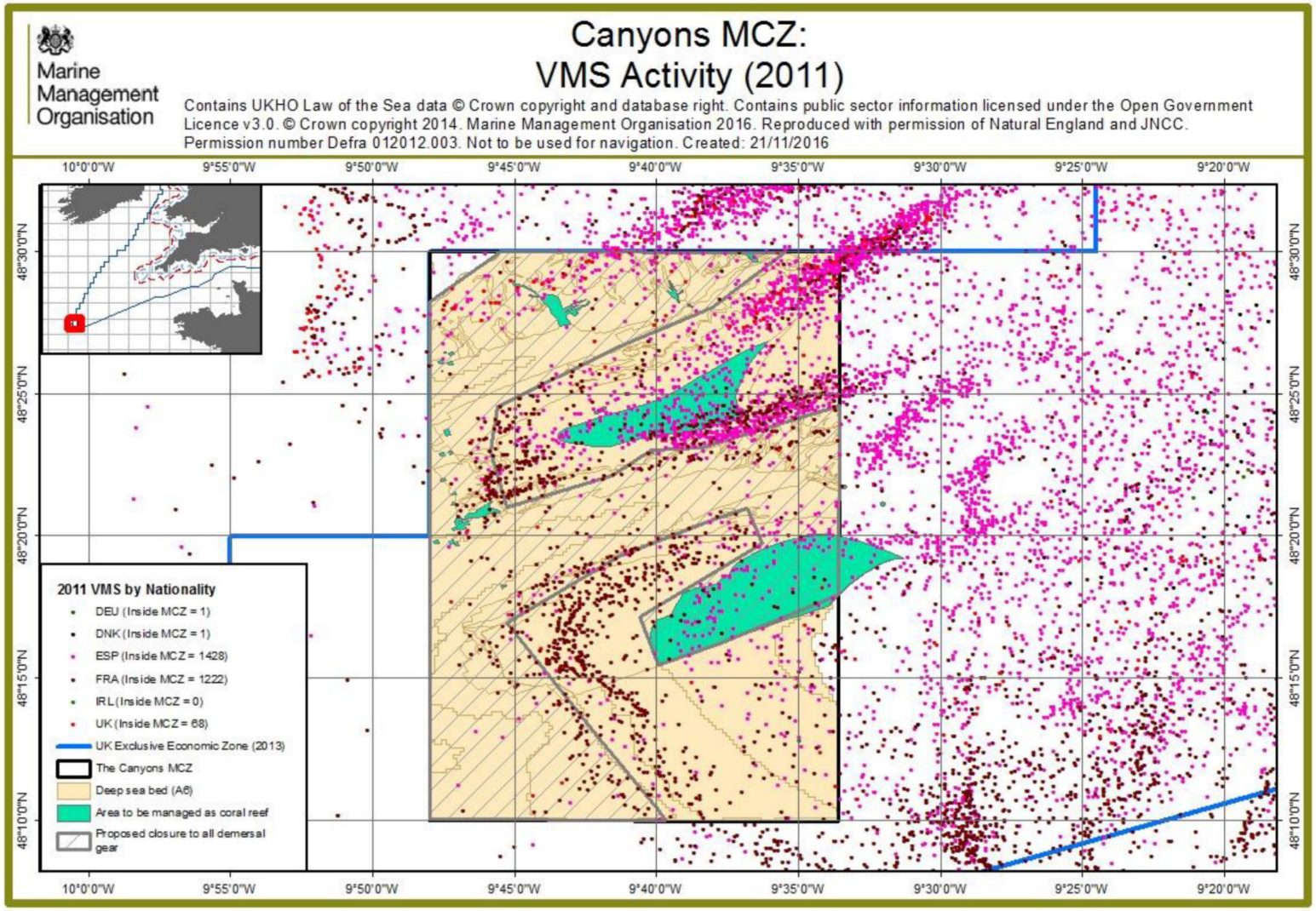


Figure 5: VMS reports indicating all fishing activity in The Canyons MCZ 2011 by Nationality

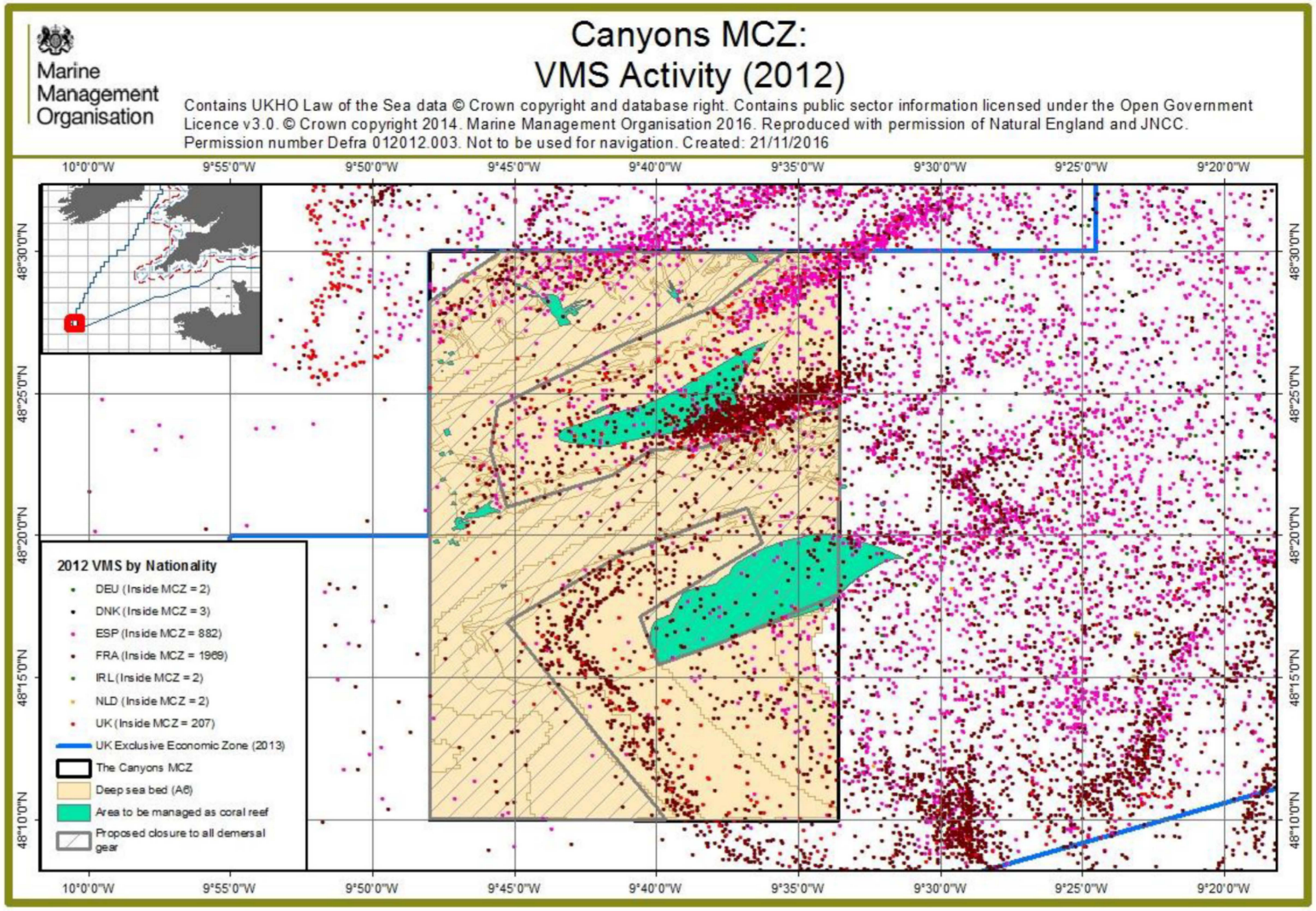


Figure 6: VMS reports indicating all fishing activity in The Canyons MCZ 2012 by Nationality

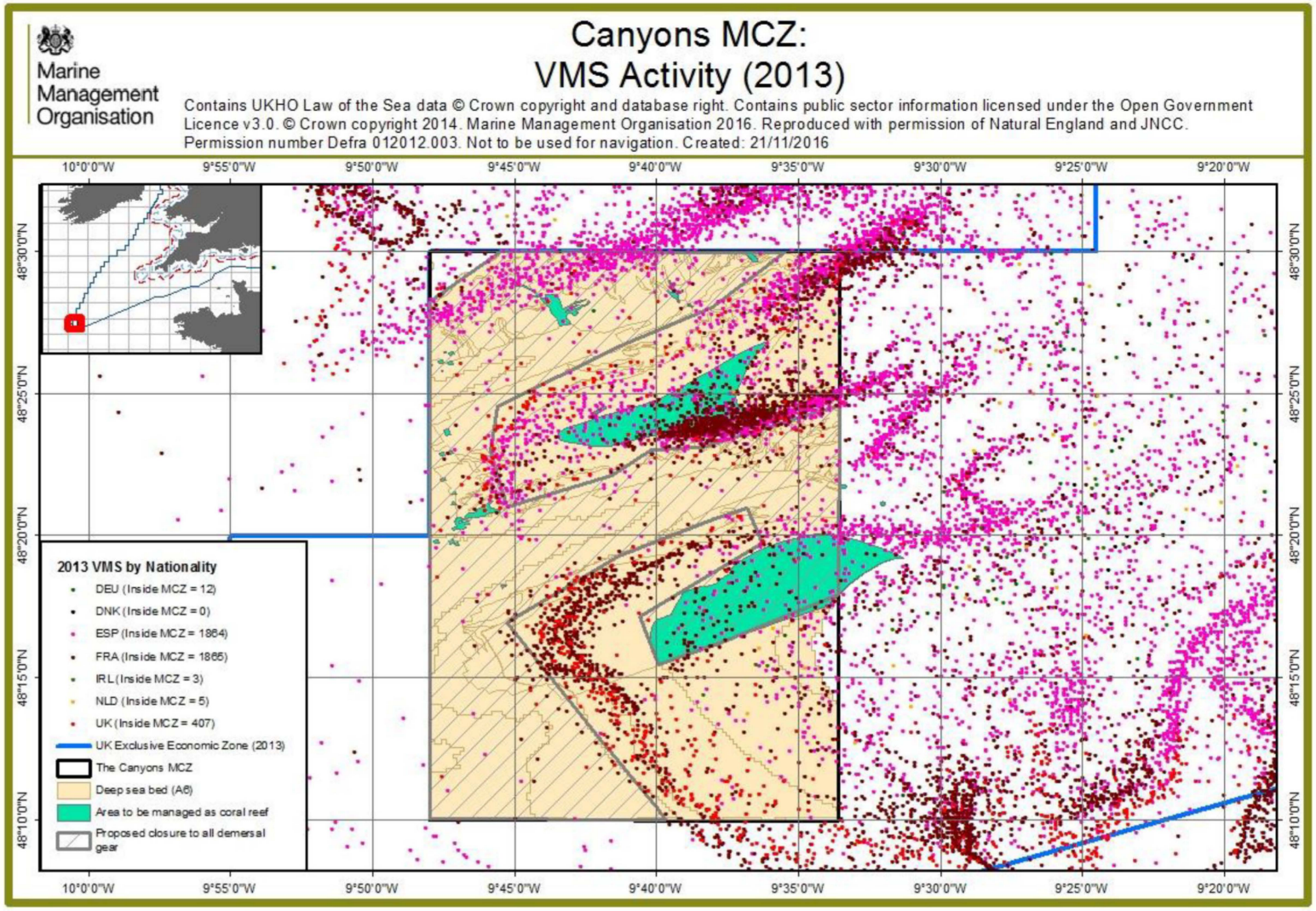


Figure 7: VMS reports indicating all fishing activity in The Canyons MCZ 2013 by Nationality

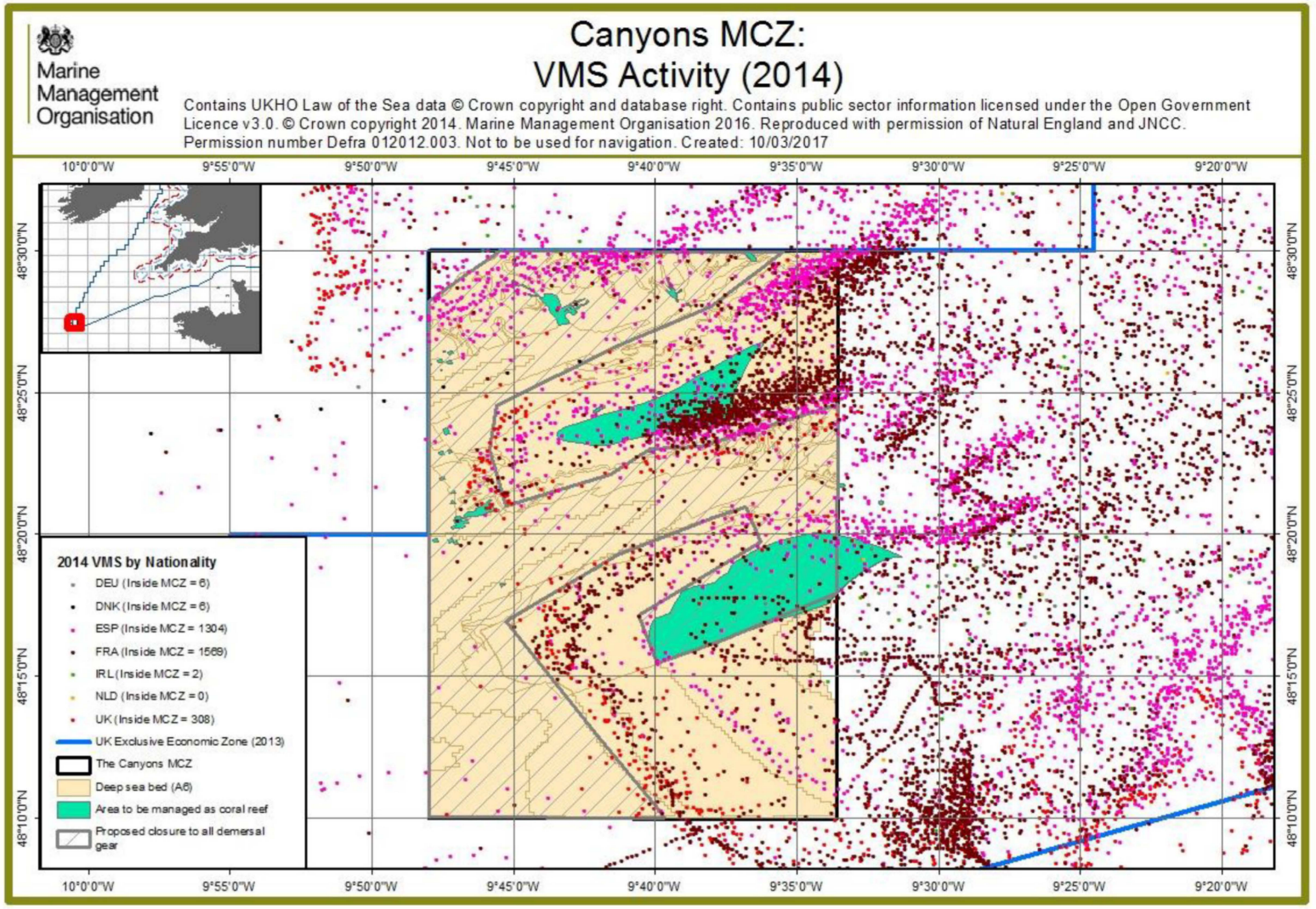


Figure 8: VMS reports indicating all fishing activity in The Canyons MCZ 2014 by Nationality

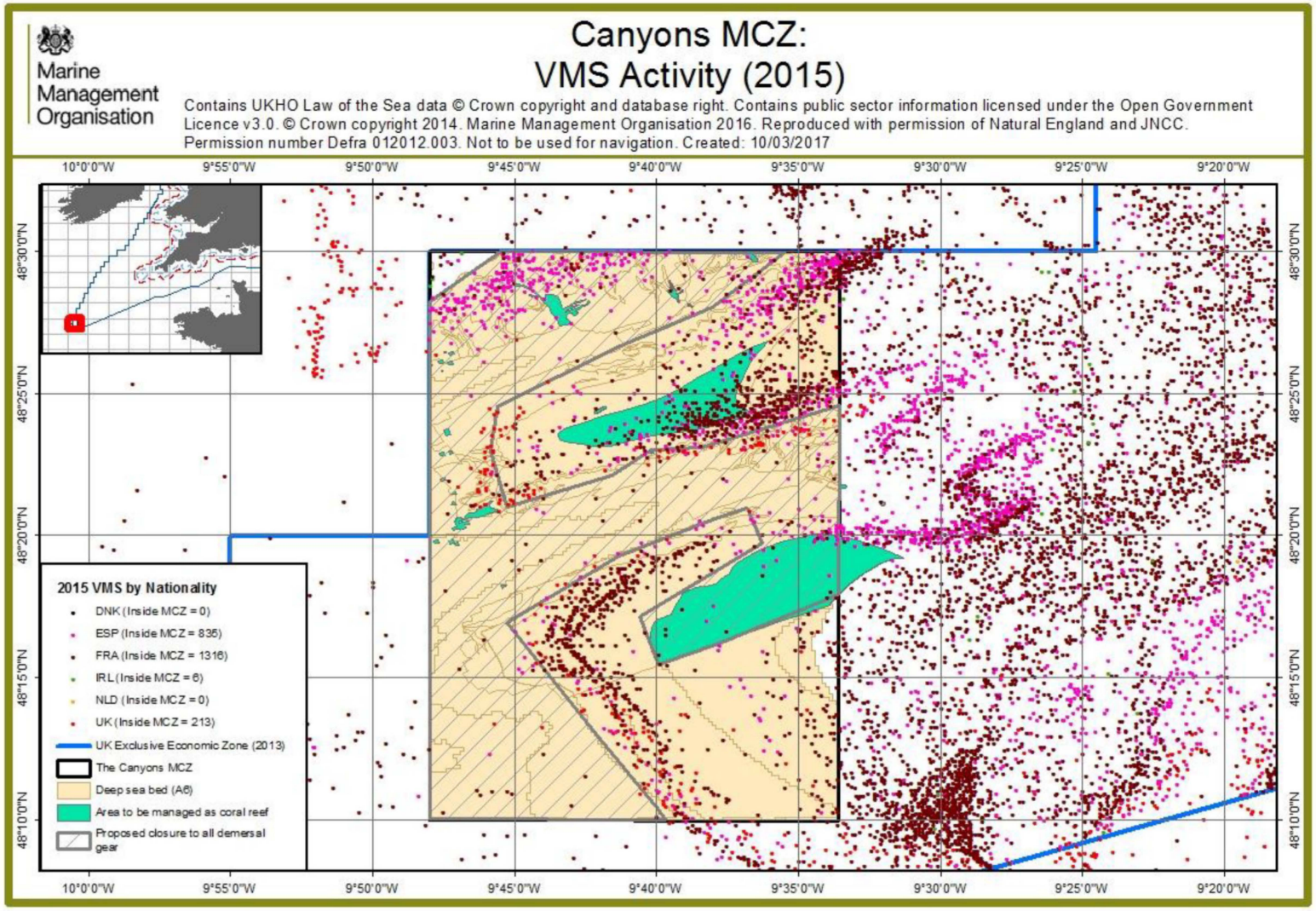


Figure 9: VMS reports indicating all fishing activity in The Canyons MCZ 2015 by Nationality

5.5. Fleet activity by gear group – Geographical distribution

In the charts depicted in this section demersal gears have been classed as all gear types which are to be excluded from the closed area as stipulated in the gear table in the Joint Recommendation. The charts show all demersal and non-demersal gear types for each year for all Member States and where possible, the specific gear type recorded has been included.

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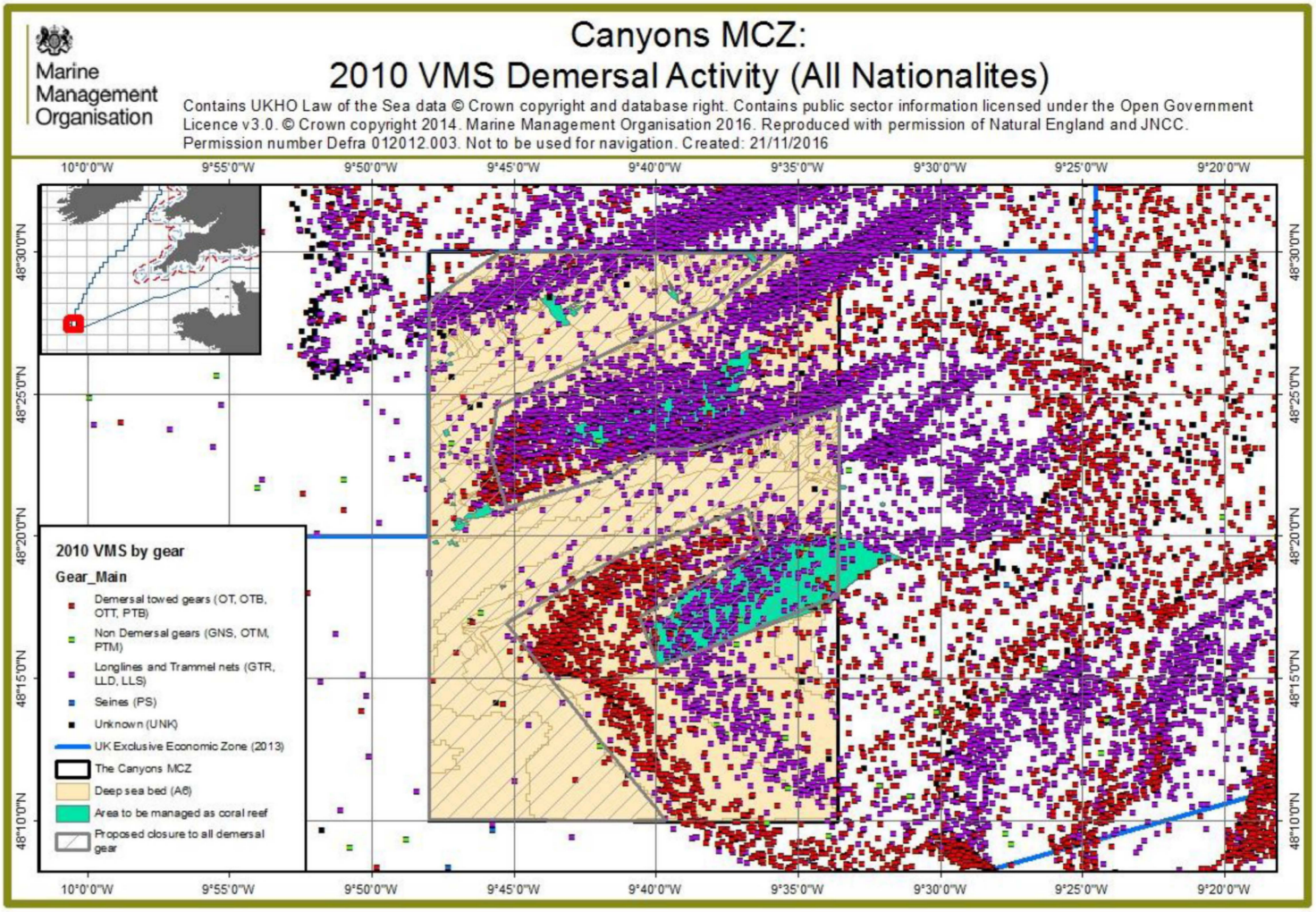


Figure 10: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2010

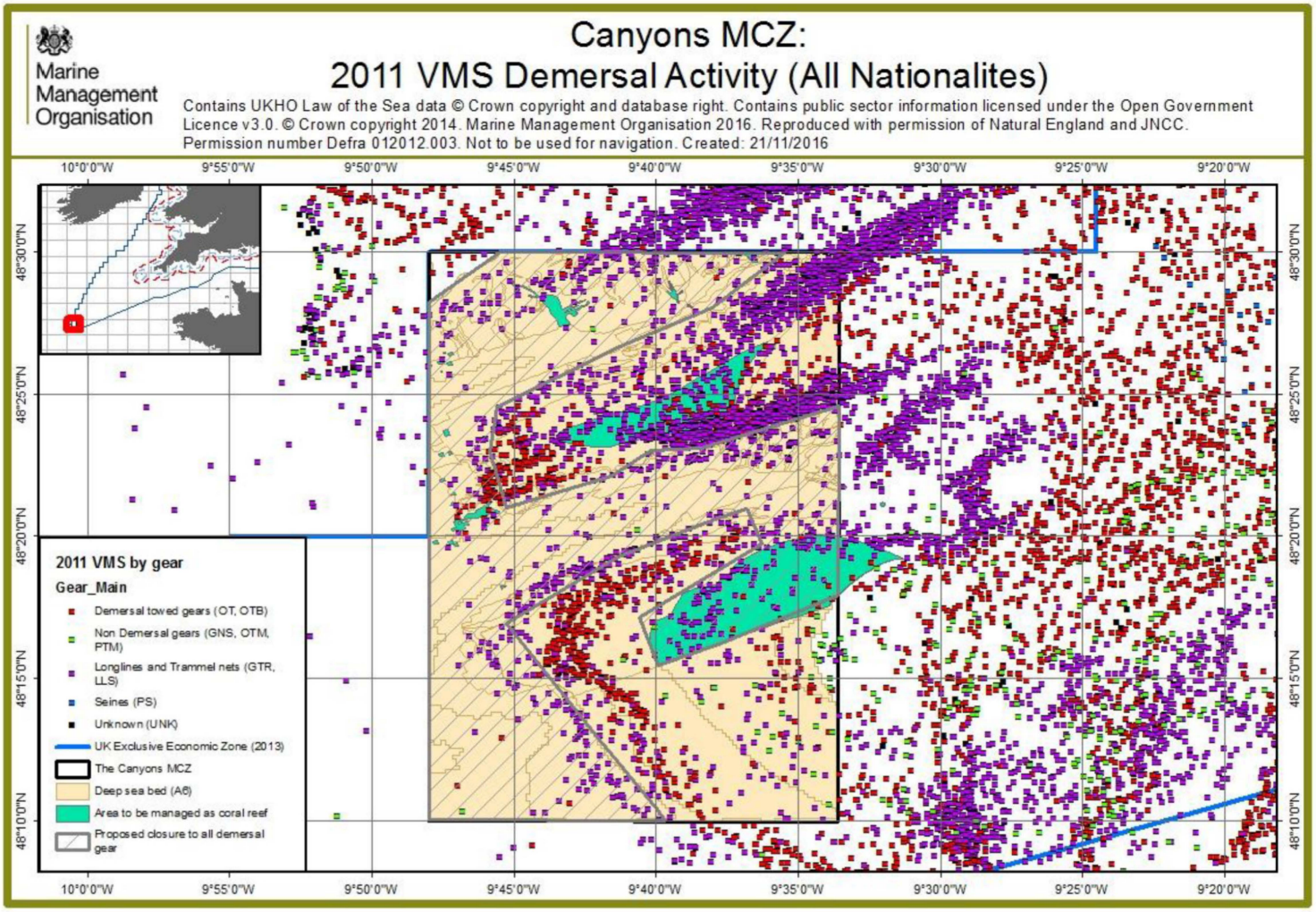


Figure 11: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2011

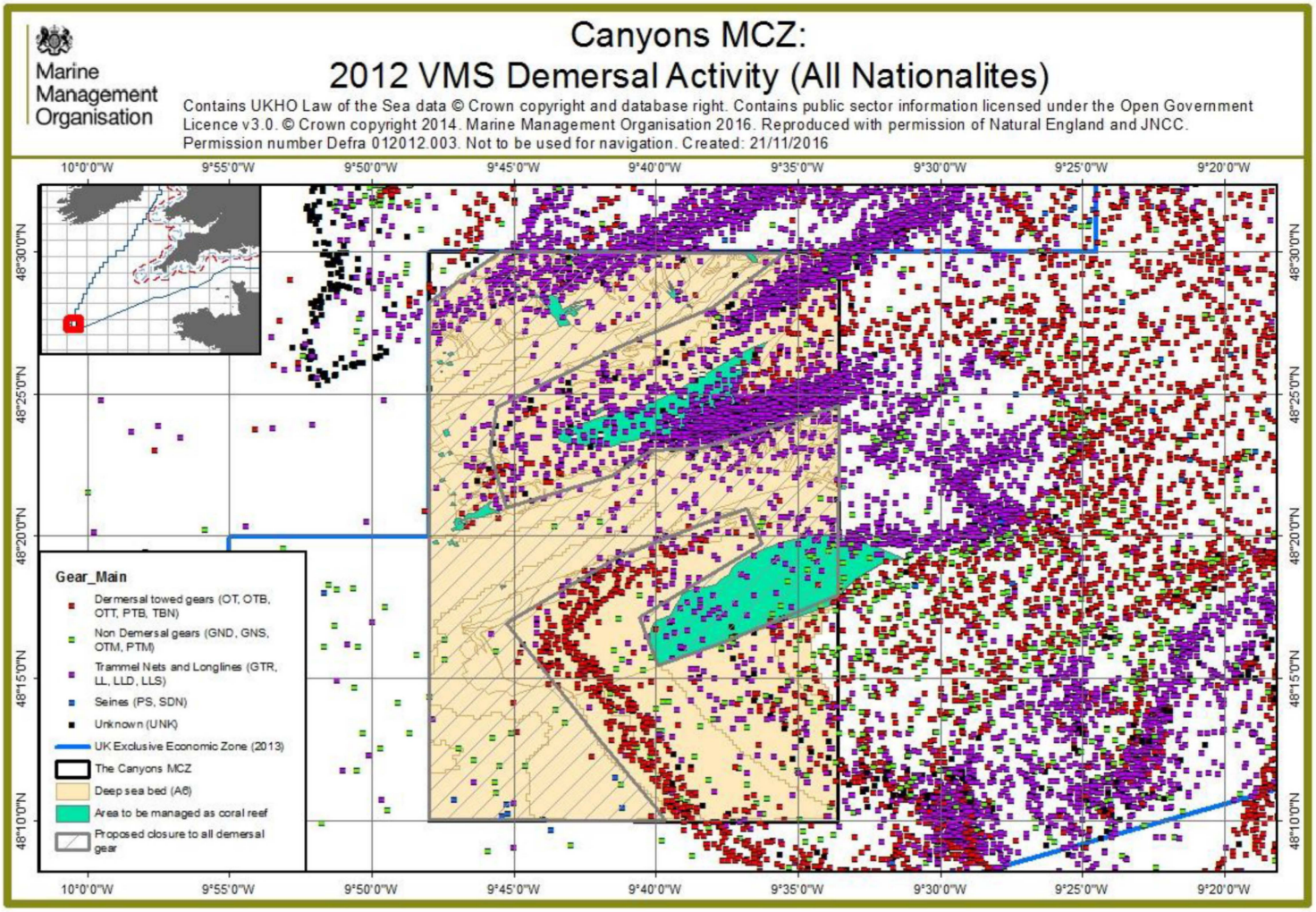


Figure 12: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2012

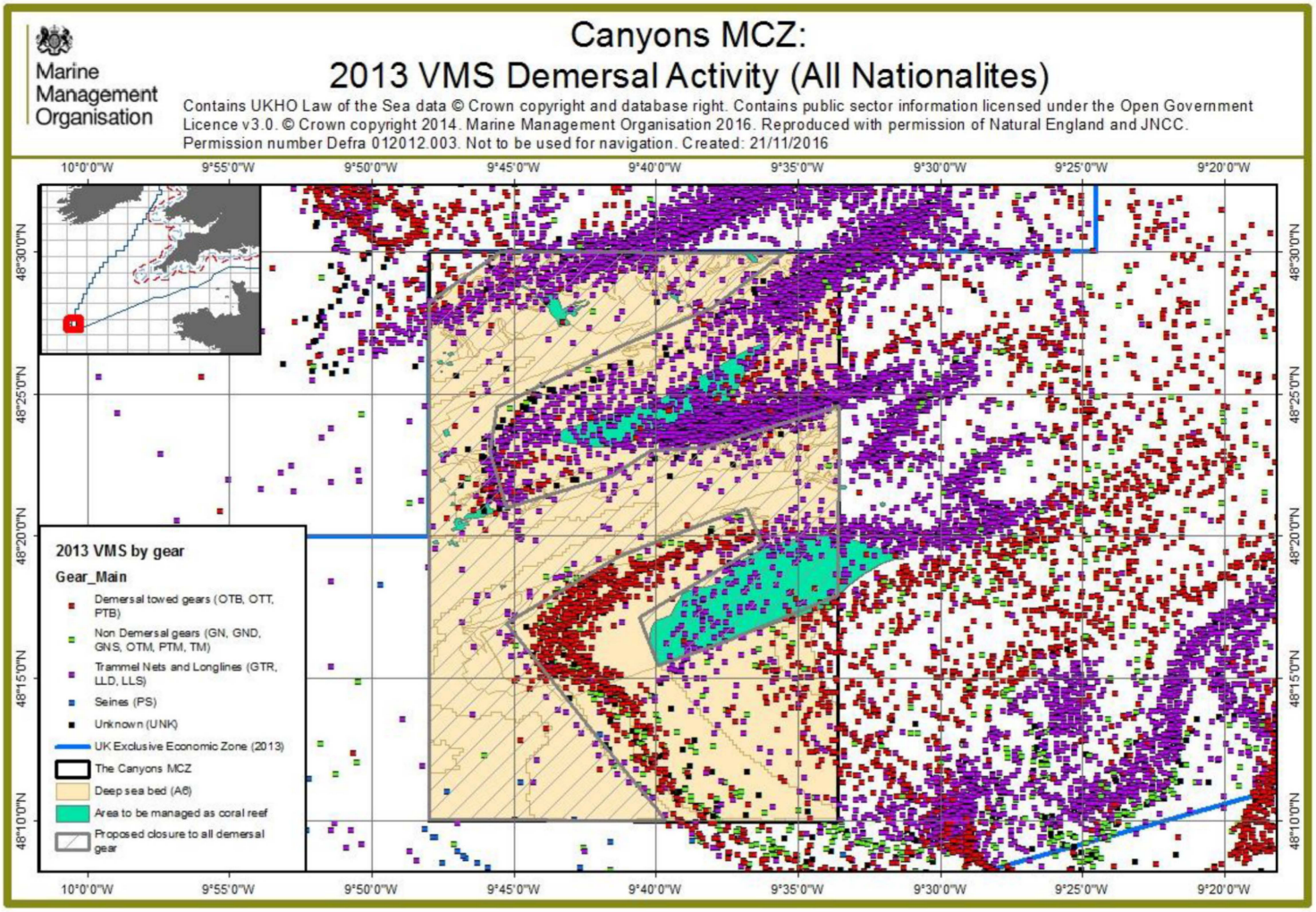


Figure 13: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2013

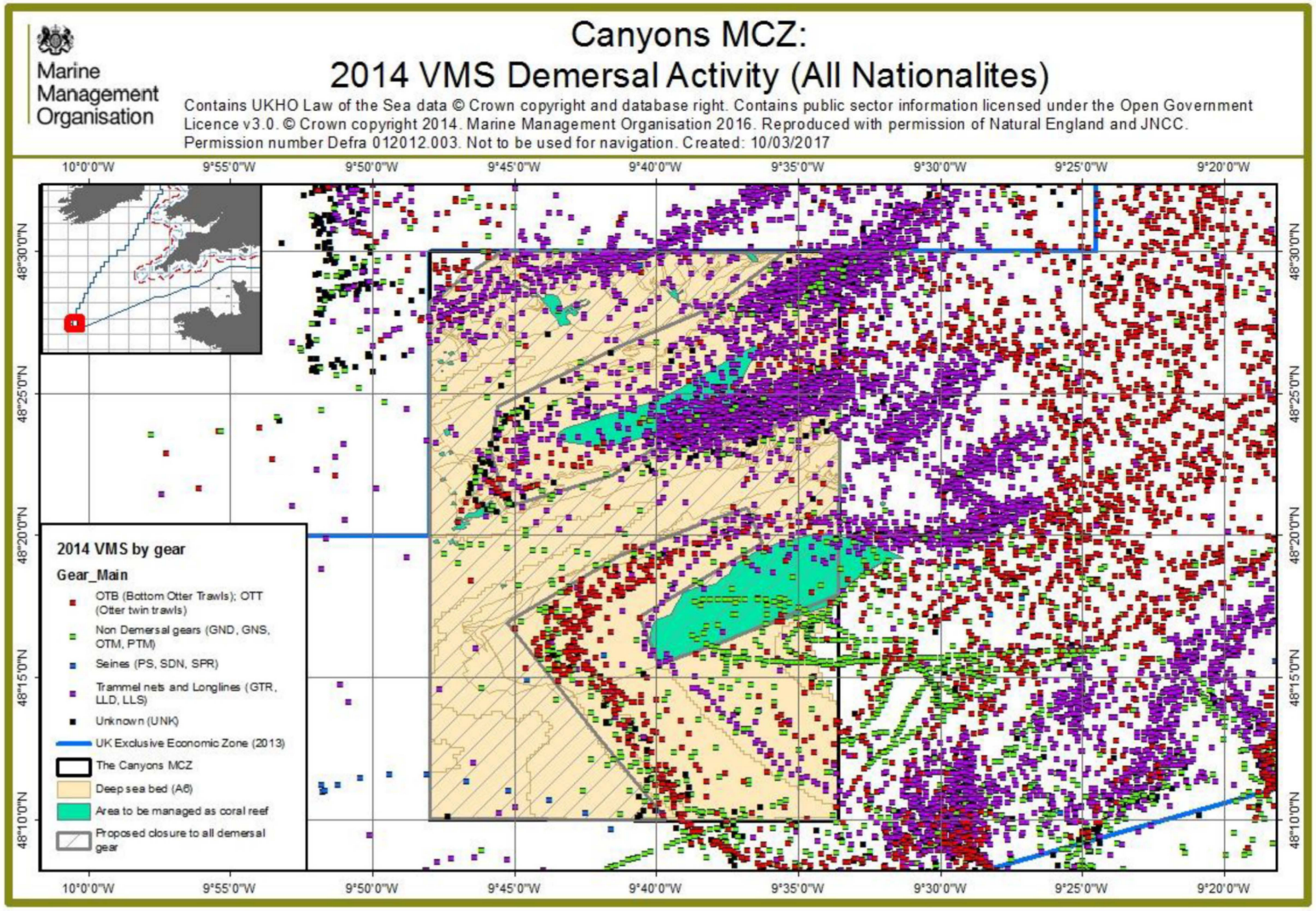


Figure 14: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2014

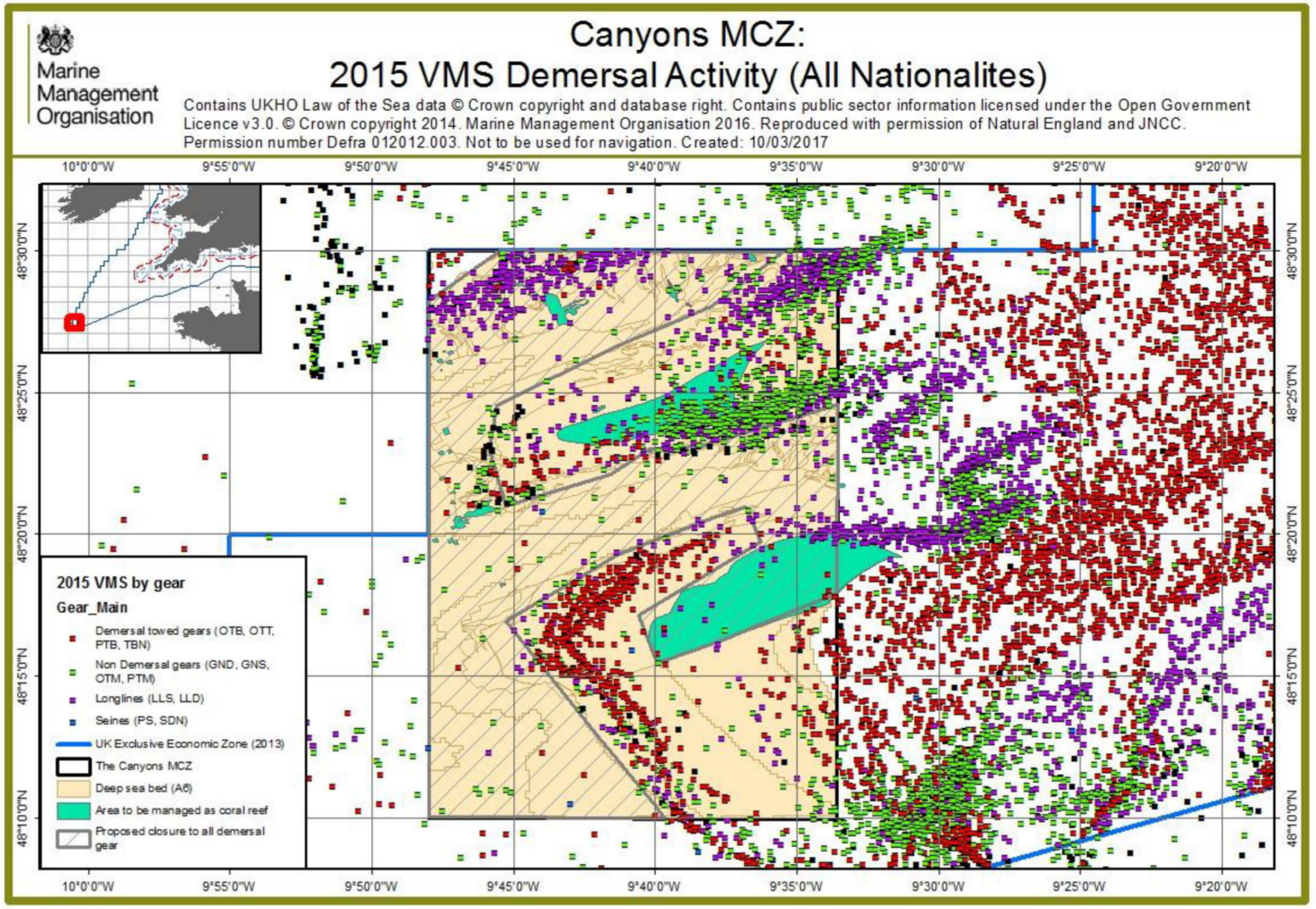


Figure 15: VMS reports indicating demersal and non-demersal activity in The Canyons MCZ 2015

5.6. By-catch

Beam and bottom otter board trawl land a number of other species as by-catch (e.g. cod, lemon sole). Where these species are landed these are included in the total gross landing value statistics. Additional species may also be caught as bycatch but are not landed and there are no current systematic statistics available for these catch components.

The fishery focuses on the following species in ICES rectangle 25E0.

- UK top species landed in terms of weight are Monkfish, Hake, Megrim, Crawfish and Crabs with the main pelagic species landed being Mackerel.
- Other member states generally land Hake, Monkfish and Megrim with the main pelagic species landed being Mackerel.

With the introduction of Common Fisheries Policy reform, which includes a landing obligation (namely a ban on the discard of certain species by certain vessels/within certain circumstances), it could become possible in the future to collate information on bycatch that could contribute to the overall catch and landings statistics in certain areas. A ban on demersal fish discards was introduced at the end of 2015, following a discard ban on pelagic fish introduced at the end of 2014, with a ban on discarding all other quota species by 2016.[8]

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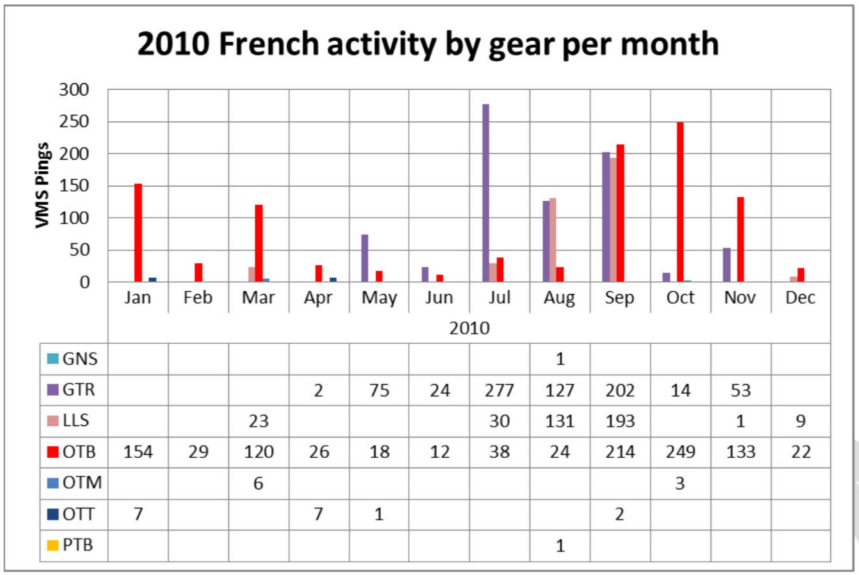
[8] http://ec.europa.eu/fisheries/cfp/fishing_rules/discards_en

6. Seasonal trends in fisheries over years 2010 to 2015 inclusive

Danish activity was rare at one VMS report of bottom otter trawls in October 2011 and three VMS reports in February 2012.
Dutch activity was rare with one VMS report of mid water otter trawls in January and one in October 2012 and five VMS reports in February 2013.
German activity was very low in The Canyons MCZ with four VMS reports of mid water otter trawls in February 2011, 2012, 2013 and March 2013 along with 9 VMS reports in March 2013 for bottom otter trawls.
Note: charts will only show the months when activity occurs in the site.

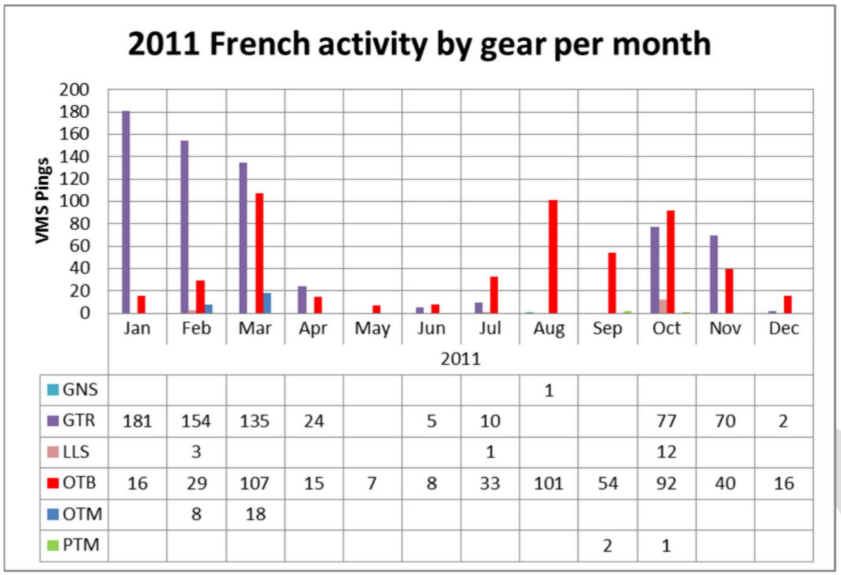
Charts 6.1: French seasonal fishing activity (all gears) in The Canyons MCZ

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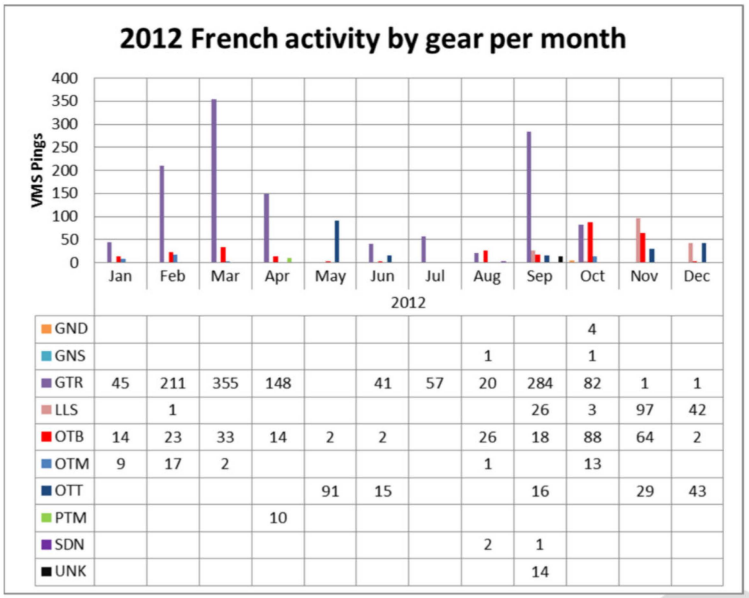
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS								1				
GTR				2	75	24	277	127	202	14	53	
LLS			23				30	131	193		1	9
OTB	154	29	120	26	18	12	38	24	214	249	133	22
OTM			6							3		
OTT	7			7	1				2			
PTB								1				

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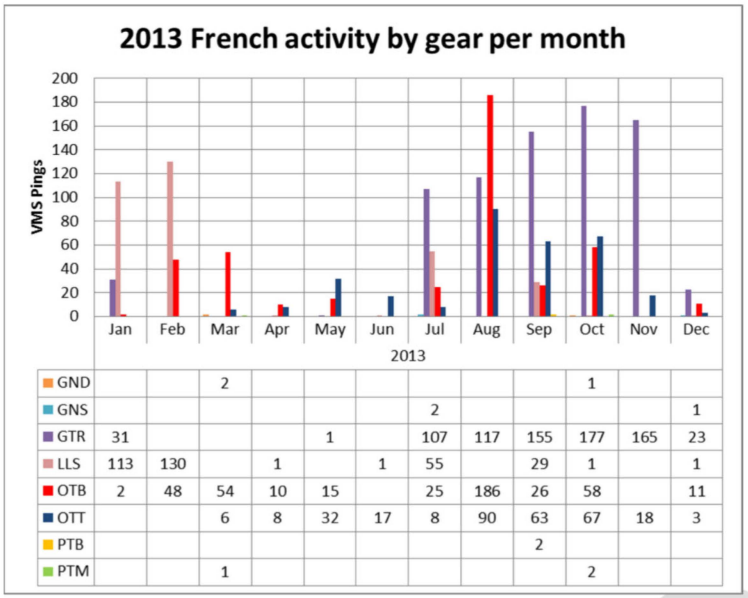
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS								1				
GTR	181	154	135	24		5	10			77	70	2
LLS		3					1			12		
OTB	16	29	107	15	7	8	33	101	54	92	40	16
OTM		8	18									
PTM									2	1		

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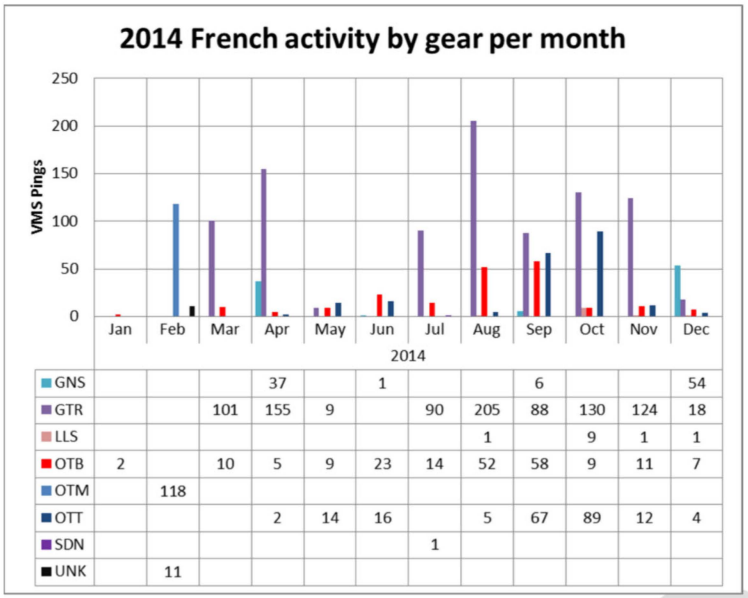
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GND										4		
GNS								1		1		
GTR	45	211	355	148		41	57	20	284	82	1	1
LLS		1							26	3	97	42
OTB	14	23	33	14	2	2		26	18	88	64	2
OTM	9	17	2					1		13		
OTT					91	15			16		29	43
PTM				10								
SDN								2	1			
UNK									14			

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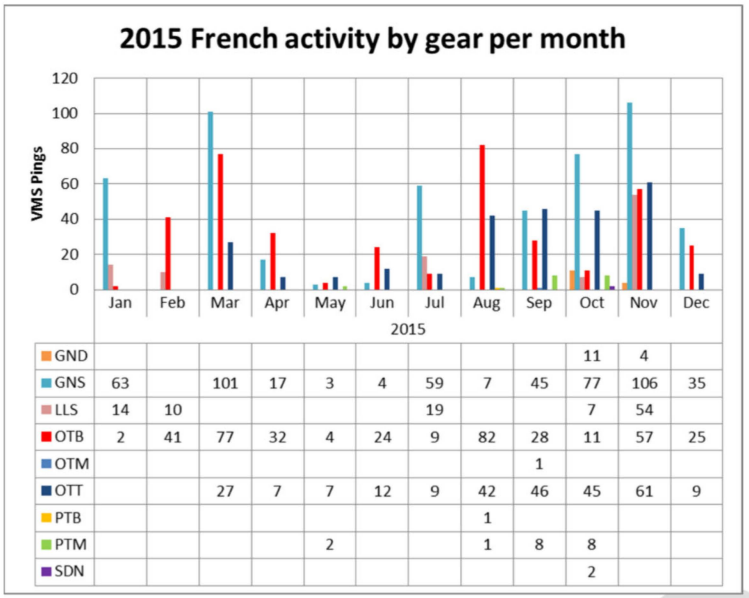
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GND			2							1		
GNS							2					1
GTR	31				1		107	117	155	177	165	23
LLS	113	130		1		1	55		29	1		1
OTB	2	48	54	10	15		25	186	26	58		11
OTT			6	8	32	17	8	90	63	67	18	3
PTB									2			
PTM			1							2		

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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS				37		1			6			54
GTR			101	155	9		90	205	88	130	124	18
LLS								1		9	1	1
OTB	2		10	5	9	23	14	52	58	9	11	7
OTM		118										
OTT				2	14	16		5	67	89	12	4
SDN							1					
UNK		11										

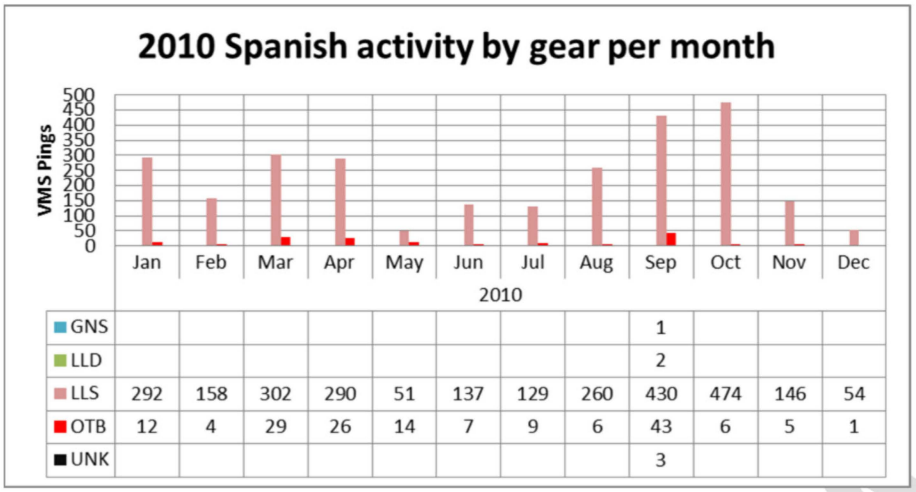
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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GND										11	4	
GNS	63		101	17	3	4	59	7	45	77	106	35
LLS	14	10					19			7	54	
OTB	2	41	77	32	4	24	9	82	28	11	57	25
OTM									1			
OTT			27	7	7	12	9	42	46	45	61	9
PTB								1				
PTM					2			1	8	8		
SDN										2		

Charts 6.2: Spanish seasonal fishing activity (all gears) in The Canyons MCZ

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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS									1			
LLD									2			
LLS	292	158	302	290	51	137	129	260	430	474	146	54
OTB	12	4	29	26	14	7	9	6	43	6	5	1
UNK									3			

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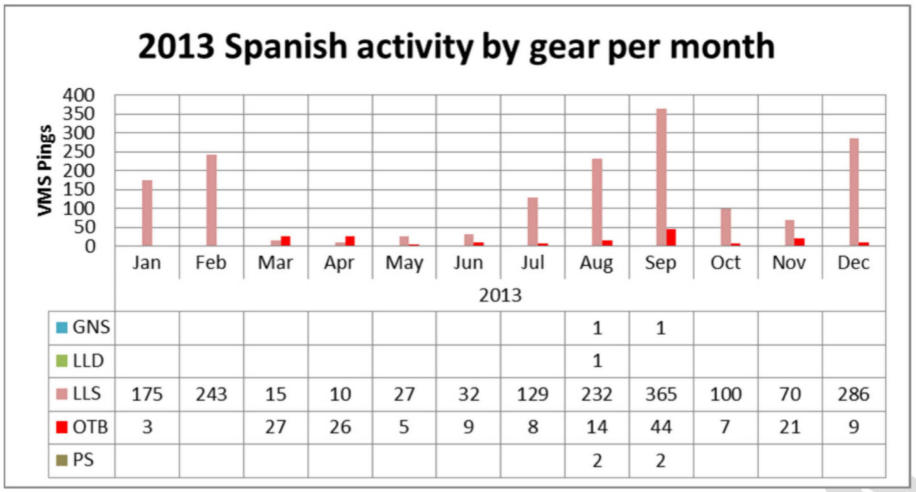


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LLS	50	31	52	10	29	8	272	241	149	80	48	221
OTB	5	1	47	47	14	4	5	4	10	38	55	7

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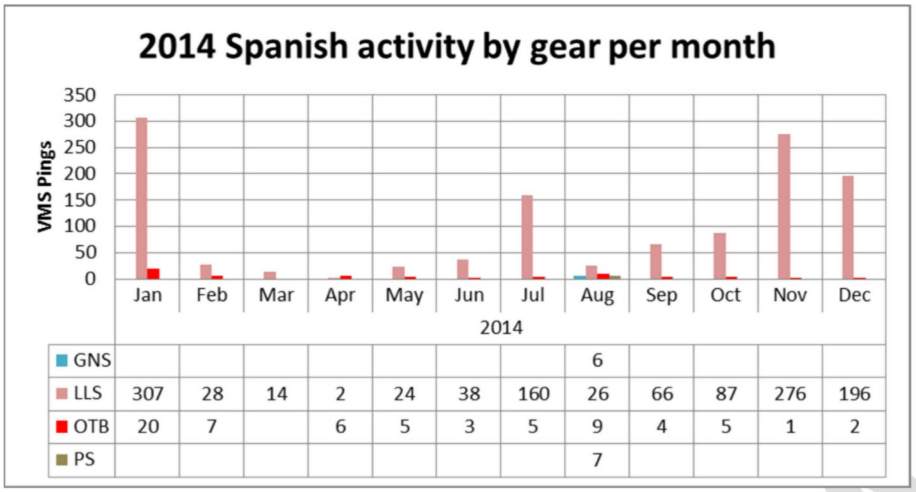

2012 Spanish activity by gear per month
VMS Pings
180
160
140
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2012
LLS 154 68 30 10 28 5 19 32 111 67 139 82
OTB 3 36 34 10 11 12 2 6 10 7 3
PS 3

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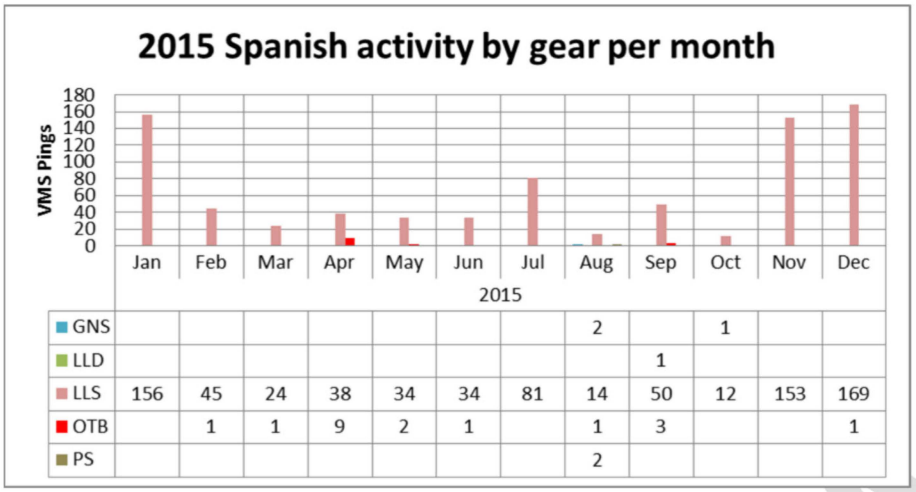
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS								1	1			
LLD								1				
LLS	175	243	15	10	27	32	129	232	365	100	70	286
OTB	3		27	26	5	9	8	14	44	7	21	9
PS								2	2			

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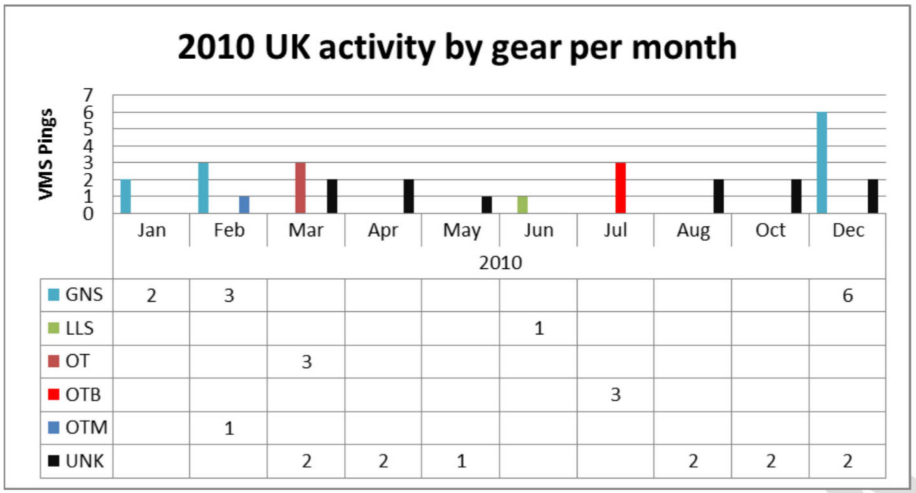
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS								6				
LLS	307	28	14	2	24	38	160	26	66	87	276	196
OTB	20	7		6	5	3	5	9	4	5	1	2
PS								7				

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Charts 6.3: UK seasonal fishing activity (all gears) in The Canyons MCZ

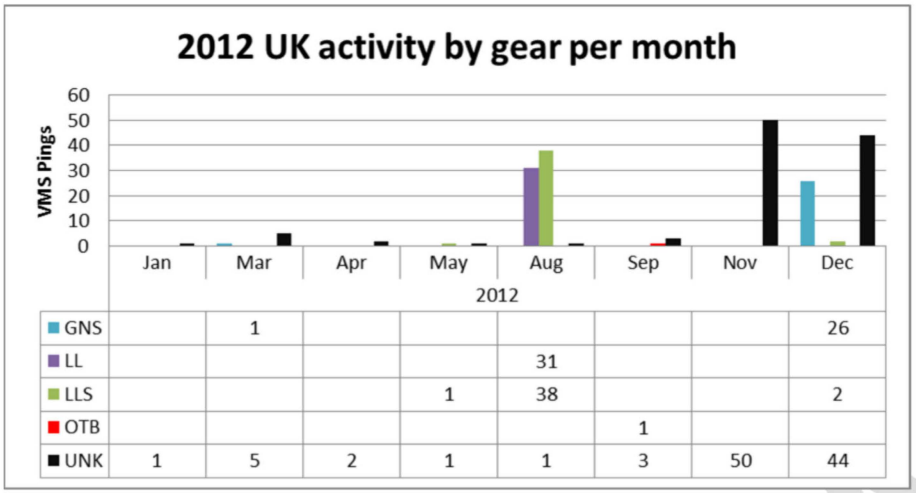
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2010 UK activity by gear per month
VMS Pings
0
1
2
3
4
5
6
7
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Oct
Dec
2010
GNS 2 3 6
LLS 1
OT 3
OTB 3
OTM 1
UNK 2 2 1 2 2 2

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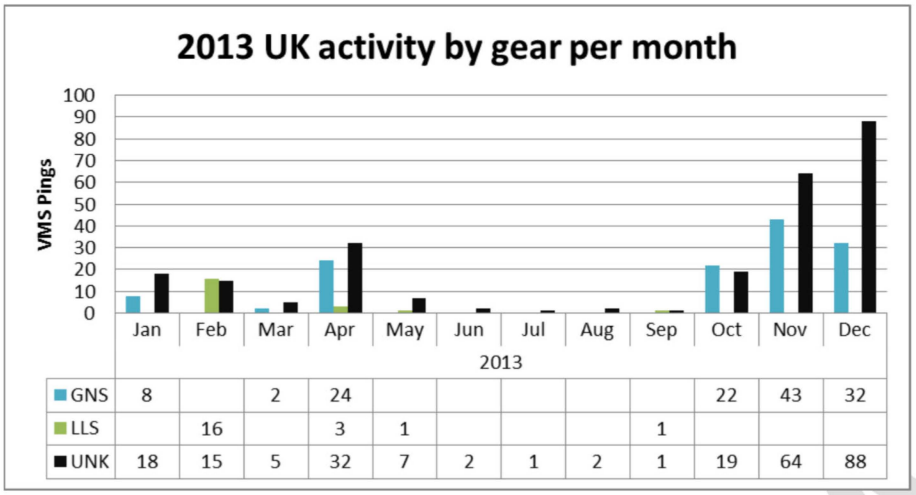

2011 UK activity by gear per month
VMS Pings
45
40
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Nov
Dec
2011
FPO 1 1
GNS 1
LLS 42 1
OTM 1 1
PTM 1 1
UNK 8 1 2 1 3 2 1

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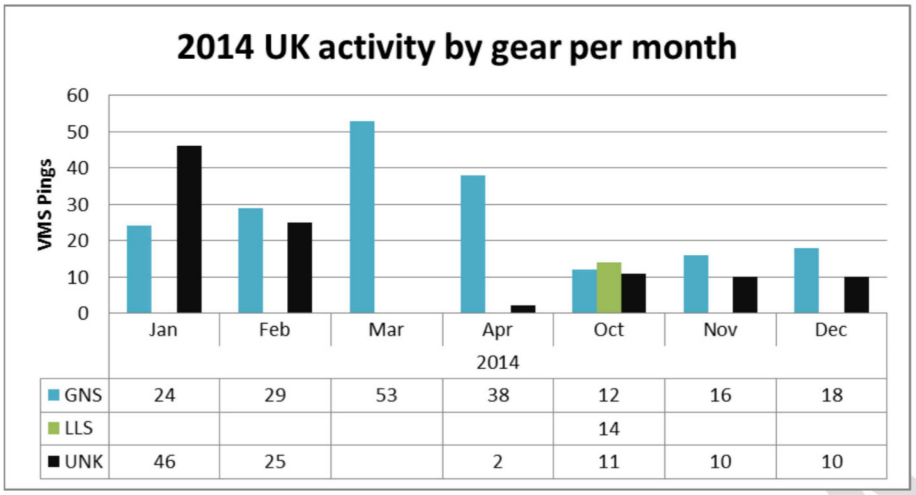
	Jan	Mar	Apr	May	Aug	Sep	Nov	Dec
GNS		1						26
LL					31			
LLS				1	38			2
OTB						1		
UNK	1	5	2	1	1	3	50	44

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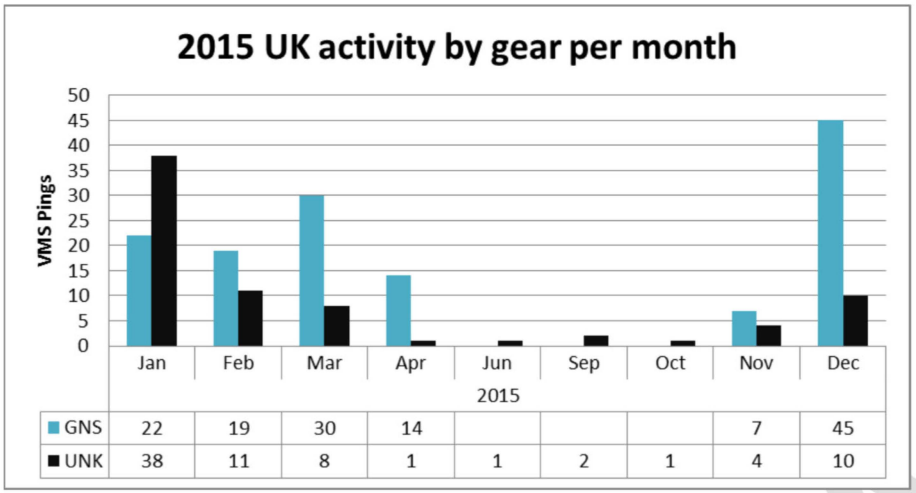
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS	8		2	24						22	43	32
LLS		16		3	1				1			
UNK	18	15	5	32	7	2	1	2	1	19	64	88

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	Jan	Feb	Mar	Apr	Oct	Nov	Dec
GNS	24	29	53	38	12	16	18
LLS					14		
UNK	46	25		2	11	10	10

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2015 UK activity by gear per month
VMS Pings
50
45
40
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
Jun
Sep
Oct
Nov
Dec
2015
GNS 22 19 30 14 7 45
UNK 38 11 8 1 1 2 1 4 10

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7 Proposed fisheries management measures to maintain the habitat features in favourable condition. Are they proportionate and enforceable? Other conservation measures that apply to the areas

7.1 Options for fisheries management

A range of MPA fisheries management options are available to managers, differing in the degree of restriction they would play on fishing operations, and the risk they would pose to achieving the conservation objectives. These have been grouped into three broad categories of possible management: No additional management, additional management to reduce/limit pressures and additional management to remove pressures.

Although it is not generally possible to quantify the degree of risk to achieving the conservation objectives posed by each option, it is possible to identify where risks may exist, and where this could be reduced through the introduction of management measures.

Risks have been evaluated using existing data and information on protected features and our understanding of the relationships between the feature and relevant activities.

Broad management options categories

1) **No additional management** – where fisheries managers choose to apply no additional site specific fisheries management within a site. For some gear/feature combinations, where the feature is not considered sensitive to the pressures associated with demersal fishing activity, this management option may pose little or no risk to achievement of the conservation objectives. For features which are considered sensitive to the pressures associated with certain demersal fishing activities, the risk posed to achieving the conservation objectives will increase as the sensitivity of the feature increases. As outlined in the features fisheries impacts section, this will vary between features and gear types.

2) **Additional management to reduce/limit pressures** – where fisheries managers may wish to consider a range of measures that could be used to reduce the risk posed by fishing activity to achieving the conservation objectives. These could include:

    - Area restrictions: This would involve closing some or all of a specific feature's area. Restrictions could be permanent in some cases or temporary/adaptive in others. The risk of the conservation objectives not being met will increase as the size of areas restricting pressure decrease, or if the pressure reduction across the site relative to natural change is low.

- Gear restrictions: This could involve restricting the use of gears to which a feature is more sensitive.

In situations where there is high uncertainty regarding the impacts of fishing on features, management measures to reduce/limit pressures could be "adaptive", i.e. changes in the feature's condition following the introduction of management measures will be monitored and future management may be adapted accordingly.

3) **Additional management to remove pressures** – where managers choose to exclude fishing activities known to adversely affect a feature. Such exclusions may apply to the parts of the site where the feature is present, or to an entire site. This would reduce the risk of not achieving the conservation objectives to the lowest possible level.

7.2 Proposed management option

The proposed management option is a zoned approach which restricts all demersal gears over a proportion of the Deep-sea bed and Cold-water coral reef features. The areas of Cold-water coral reef included within the proposed restriction zone include all known areas of live Cold-water coral reef occurrence, all areas of predicted reef occurrence and a proportion of the areas with the potential to support the recovery of the feature (a proportion of the coral rubble and all isolated patches of coral species). The area proposed for closure under this option is illustrated in figure 12 and coordinates listed in Annex D.

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Figure 12: The Canyons MCZ site map including protected features for which management is being proposed.

7.3 Other fisheries measures which apply to the site

European Union regulation 2016/2336 aims to ensure the sustainable exploitation of deep sea stocks while reducing the environmental impact of these fisheries[9].

Main provisions include:

- A 800 meter depth limit below which fishing with bottom trawls is prohibited;
- The setting of a geographical footprint in waters below 400m based on historical criteria by which vessels will only be able to fish in those areas where they have done so during the reference period
- Special protection measures for vulnerable marine eco-systems which apply to operations with bottom gears below a depth of 400 m.
- Boosted control measures based on the system applied by the management plans
- Additional targeted data collection obligations aimed at ensuring a better picture of deep-sea stocks. Among these, of particular importance is an observer coverage of 20% applicable

[9] EU Regulation 2016/2336

to EU vessels fishing with bottom trawls and bottom set gillnets in both EU and NEAFC waters

8 Control measures envisaged by the Member States, possible ecological and control buffer zones to ensure site protection and/or effective control and monitoring measures

8.1 Measures envisaged by Member States for Control, Enforcement and Compliance

The proposed control, enforcement and compliance regime for The Canyons MCZ consists of, a reporting zone around the prohibited area, increased reporting within zones, remote monitoring of vessel position and at-sea surveillance measures. Such a regime would be in line with future control and enforcement challenges of the Common Fisheries Policy.

8.1.1 Surface surveillance

Surface surveillance of The Canyons MCZ will be continued under the existing surveillance plans for the Channel and South West Waters. These plans will coordinate the at-sea surveillance capacity of the UK which may include Navy fisheries protection vessels, or other capable vessels and aerial response. Changes to surveillance will be in line with the MMO's risk based compliance and enforcement strategy.

8.1.2 Remote Vessel Monitoring

Increased Position reporting

Vessels entering the prohibited area will be subject to increased vessel position reporting (every 10minutes).EU fishing vessels over 12m in length are required to report, through satellite, every two hours. Reports can be viewed in real time but this reporting frequency would allow vessels to access the prohibited area of The Canyons MCZ without being identified between the two hourly reporting times. Increased reporting within the prohibited zone will reduce this risk.

Vessels will be allowed to transit the prohibited zone. Increased reporting will allow the MMO Fisheries Monitoring Centre (FMC) to identify fishing or transiting patterns and identify non-compliance.

Increased reporting zone

Vessels fishing within 1nm of the prohibited zone will be subject to 10min reporting

Fishing patterns are likely to result in vessels 'clipping' the prohibited zone, or cutting across a corner rather than transiting across the entire site. A reporting zone which surrounds the prohibited area adds additional feature protection and ensures non-compliant vessels can be identified

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Vessels will still be allowed to fish in the increased reporting zone

8.2 Vessel position monitoring system requirements

Increasing the frequency of vessel position reporting is integral to the preferred control, enforcement and compliance plan.

Increased reporting can be set up using geofences[10] recognised by the vessel's VMS devices, which would trigger higher frequency reporting if a vessel enters the reporting zone.

In order to improve monitoring and compliance, fishing vessels within this site and the reporting zone should be required to carry a system capable of:

- Recording high frequency position reports (up to one report per ten minute interval) when within the prohibited area or reporting zone for the site.
- Transmitting position reports via GPRS/GSM[11](when available)
- When GPRS/GSM signal is not available: storing positions and forwarding stored reports when the signal is available
- Recreate prohibited area and reporting zone coordinates and associated reporting frequency rules in the form of geofences
- Transmitting an email and/or text message alert via GPRS/GSM (when signal available) to the flag state and UK FMC when a vessel enters a reporting or prohibited zone for the site.
- High frequency reporting would end when a vessel leaves the reporting area for the site.

Increased reporting via GPRS/GSM is recommended to reduce the reporting cost (which will be borne by the fishing vessels) as charges are made per report. Satellite reporting, currently used, is costly at high frequency.

Mobile network signal is not currently widely available for offshore sites; enforcement action using this system will therefore be retrospective.

[10] A geofence is a spatial virtual barrier. Programs that incorporate geofencing allow an administrator to set up triggers such as increased reporting so when a device enters (or exits) the boundaries defined by the administrator it performs the trigger and if required a text message or email alert.

[11] General Packet Radio System (GPRS) and Global System for Mobile communications (GSM): These are types of mobile phone technology which meet European telecommunications standards.

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In the UK, vessels which are fitted with a VMS+ device can meet all the above system requirements. The VMS+ device is capable of transmitting increased reporting either through satellite or GPRS/GSM. There is also development work on another device known as I-VMS (inshore vessel monitoring system), which although designed primarily for the English inshore fleet (those vessels under 12m in length), can also meet the above requirements.

Estimation of the increased reporting costings for offshore Marine Protected Areas in English waters.

This information relates to the UK estimates of the increased reporting proposals.

The cost of a VMS report through GPRS[12] is approximately **$0.06**[13] (As of April 2015). Please find below a table of the total cost of increased after a period of X minutes.

GPRS Costs	Total duration cost after X minutes					
Reporting rate (X minutes)	**60**	**120**	**180**	**240**	**300**	**360**
1 minute	$3.60	$7.20	$10.80	$14.40	$18.00	$21.60
10 minutes	**$0.36**	**$0.72**	**$1.08**	**$1.44**	**$1.80**	**$2.16**
30 minutes	$0.12	$0.24	$0.36	$0.48	$0.60	$0.72
60 minutes	$0.06	$0.12	$0.18	$0.24	$0.30	$0.36

To note: The UK proposes a reporting rate of ten minutes.

Increased reporting caveats:

- These costs are based on a 'pay as you go' (PAYG) service and correct as April 2015.
- Costs will vary depending individual member states VMS service providers.
- GRPS Network roaming may affect overall costs

It should be noted that fishing vessels affected by the proposed closures may potentially modify or change their activities, along with fishing patterns as a result of the implementation of an increased reporting zone.

[12] General Packet Radio System (GPRS) and Global System for Mobile communications (GSM): These are types of mobile phone technology which meet European telecommunications standards.

[13] GPRS values are presented in US dollars

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8.3. Key provisions to include in EC regulation to manage The Canyons MCZ

Key provisions which should be included in an EC regulation to facilitate control enforcement and compliance include:

- A prohibition on any demersal gears, dredges, seines and demersal static gears being deployed in the prohibited areas of The Canyons MCZ.
- Establishment of a 1nm **(1.852km)** increased reporting zone around the management areas of the site. All fishing vessels within these areas shall be required to record or report vessel positions at a rate of 10mins minute intervals. These areas shall be defined by the coordinates displayed in **(Annex D).**
- A requirement for all fishing vessels entering the increased reporting zone to have a system for recording and reporting vessel position which meets prescribed specifications (see Section 8.2 for minimal requirements) and is installed and operative. Any fishing vessel entering the management area of The Canyons MCZ or the reporting zone without such a system will be committing an offence.
- A requirement for all fishing vessels transiting the prohibited area carrying prohibited gears to have all gears on board lashed and stowed.
- A requirement for all fishing vessels transiting the management area carrying prohibited gears to ensure the speed is not less than six knots during transit except in the case of force majeure or adverse conditions. In such cases the master shall immediately inform the FMC of the flag Member State which shall then inform the UK FMC.

The proposal on which gears to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011. In general prohibited gear types are demersal trawls and dredges, and seines in addition over the closed reef areas. Formulation of the regulation requires clear and precise definitions which distinguish allowed gear types from prohibited gear types. This includes, for trawls which can be operated both with and without bottom contact, distinguishing between these different gear riggings (if such a distinction is not feasible, these gears should be prohibited).

Management measures for the site will be periodically reviewed in line with advancements in technology, specifically the development of improved remote vessel monitoring and gear in/out technologies.

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9 Measures to monitor and assess the maintenance and/or recovery of the features within the site

Cefas/JNCC are currently leading a research and development programme to develop an integrated system of monitoring for marine biodiversity. The ambition is to cost-effectively encompass Defra's policy and statutory obligations, such as the:

- Marine and Coastal Access Act
- OSPAR Convention;
- EC Habitats Directive; and
- EC Marine Strategy Framework Directive (MSFD)

For benthic marine habitats, the task of developing monitoring options is extremely complex. The UK has 48 offshore Marine Protected Areas designated for benthic habitats covering an area of over 126,000 km^2. This presents a challenge due to the diversity of benthic habitats occurring in UK waters and the number, size and geographic spread of offshore MPAs, the paucity of data on the range, extent and condition of many habitat types (especially in the offshore environment) and the underdeveloped nature of suitable state and pressure indicators for monitoring.

The draft offshore habitats monitoring options evaluate the risk of damage to habitats in UK offshore MPAs, assess the type of monitoring required for each MPA and estimate the indicators, equipment and number of samples required to assess change in the condition of the habitats within MPAs. Due to the number of UK offshore MPAs, the area of seabed encompassed within the offshore MPAs, the diversity of offshore habitats and the cost of offshore monitoring surveys, it may not be possible to monitor every MPA within a single reporting cycle. In certain cases, monitoring studies to assess the effectiveness of management measures in one MPA may be used as a proxy for assessing the effectiveness of management measures in MPAs with similar features and management measures in the same regional sea.

10 Coordination with neighbouring Member States as appropriate

Fisheries management measures were developed in close coordination with other Member States with a direct management interest in the sites.

Draft management proposals were subject to a six week period of consultation with Member States with a direct management interest in the sites and the Northwest Waters Advisory Council.

Finalised management proposals were then presented to other Member States with a direct management interest in the sites for agreement that sufficient information had been provided in order to commence the formal agreement of the proposals as Joint Recommendations. [Following

this, ad hoc meetings of the Northwest Waters Article 11 sub-group were held to start formal agreement proceedings for the Joint Recommendations. Any outstanding issues were then addressed before agreement was reached on the Joint Recommendations by members of the Northwest Waters High-Level Group and they were submitted to the European Commission for adoption.]

11 Evaluation of possible displacement of fishing effort and impact on new areas

As a proportion of the MCZ will be closed to all demersal gears and seines, some displacement is likely to happen, both within the MCZ and outside the MCZ.

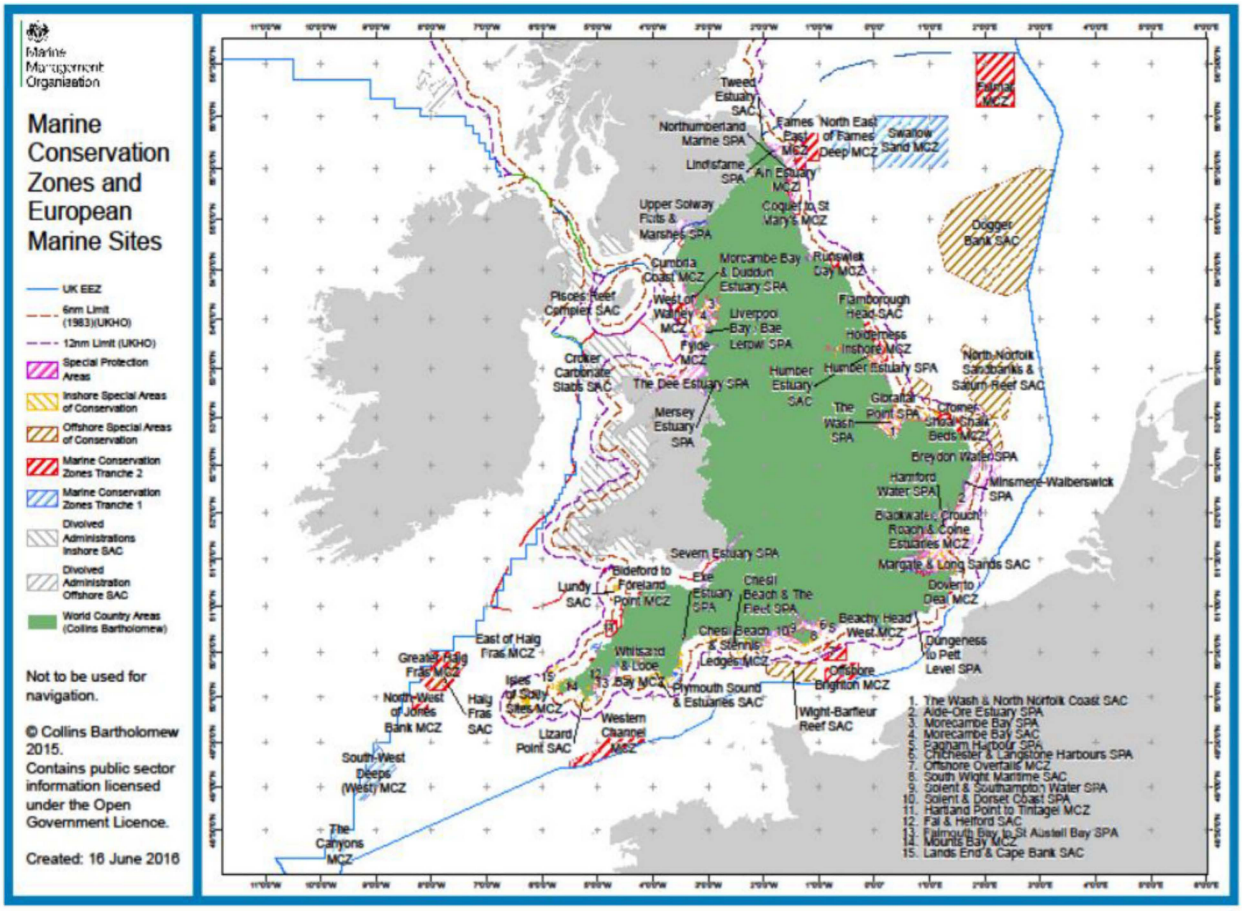
Displacement is difficult to quantify, and it is impossible to predict where exactly activities will be displaced to. As a result of stakeholder input in the management process, some of the areas currently fished within the site will remain open to fishing thus reducing the potential for displacement.

Displacement is dependent on the intensity and distribution of fishing activities within the site before the closure and on external factors (such as fish distribution, TAC/quota, fuel prices, other spatial claims).

As part of the MMOs risk-based enforcement, regular monitoring of fishing activity is collated on a Monitoring Control and Surveillance System (MCSS). MCSS does not analyse fishing trends and activity, but stores information, which can be accessed at any time. The MMOs monitoring of activity in each site could assist in any future considerations relating to displacement and could be used to indicate any changes in fishing trends and activity.

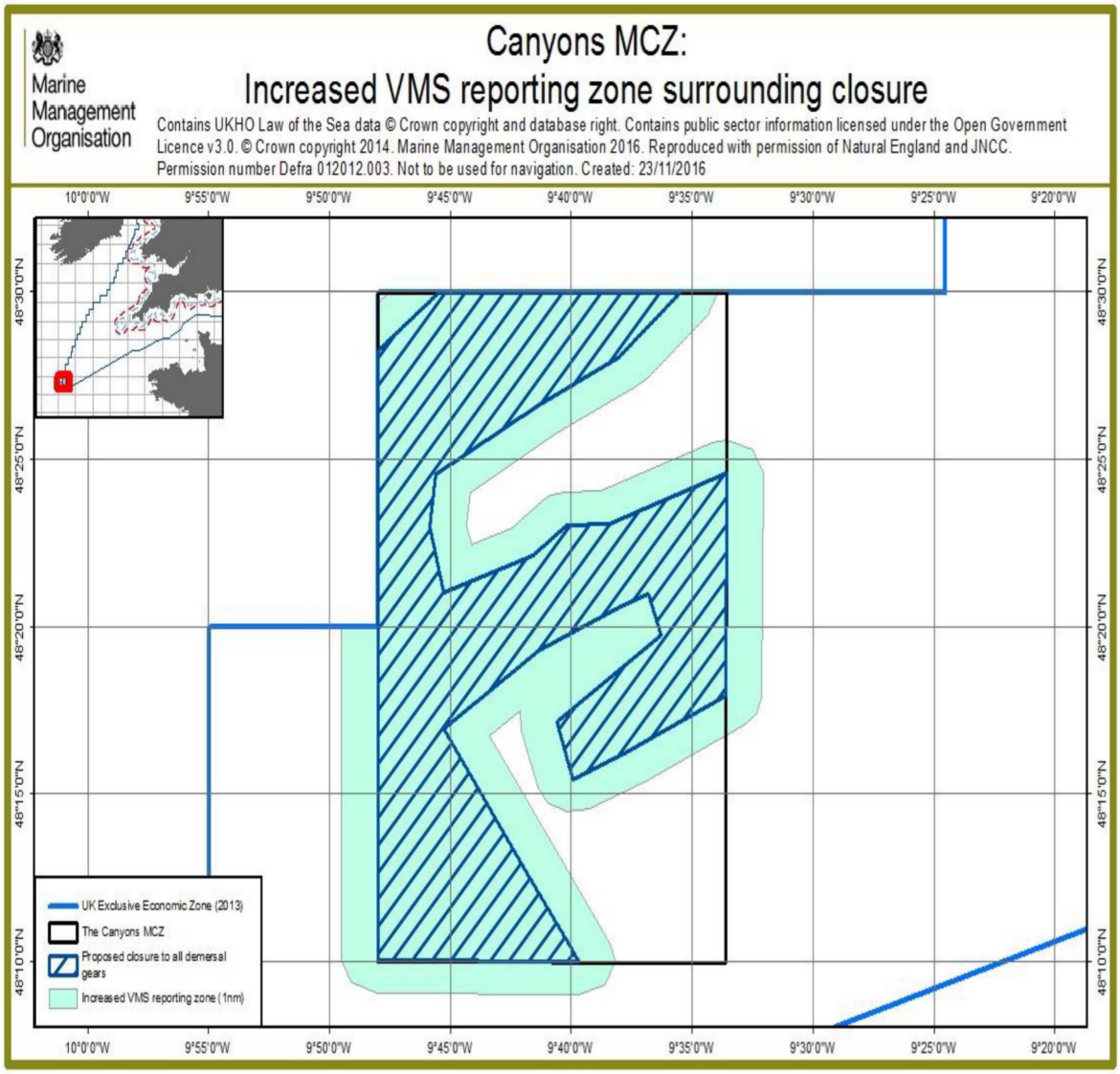
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Annex C – Map of English MPA network



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Annex D – Map and coordinates for The Canyons MCZ increased reporting zone



Increased Reporting zone coordinates

	Degrees Minutes		Degrees Minutes Seconds	
Point	**Lat**	**Lon**	**Lat**	**Lon**
1	48°23.05020'	-009°44.31720'	48°23'03.0120",	-009°44'19.032"
2	48°22.44120'	-009°44.14320'	48°22'26.4720",	-009°44'08.592"
3	48°22.96140'	-009°42.44040'	48°22'57.6840",	-009°42'26.424"
4	48°23.73060'	-009°41.25120'	48°23'43.8360",	-009°41'15.072"
5	48°23.91900'	-009°40.84560'	48°23'55.1400",	-009°40'50.736"
6	48°24.01680'	-009°40.27800'	48°24'01.0080",	-009°40'16.680"
7	48°24.07620'	-009° 38.79420'	48Â° 24' 4.572"	-009°38'47.652"
8	48°25.48320'	-009° 34.18200'	48Â° 25' 28.992"	-009°34'10.920"
9	48°25.57560'	-009° 33.57840'	48Â° 25' 34.536"	-009°33'34.704"
10	48°25.28580'	-009° 32.48580'	48Â° 25' 17.148"	-009°32'29.148"
11	48°24.58440'	-009° 32.05080'	48Â° 24' 35.064"	-009°32'3.0480"
12	48°17.91840'	-009° 32.11800'	48Â° 17' 55.104"	-009°32'7.0800"
13	48°17.89740'	-009° 32.11860'	48Â° 17' 53.844"	-009°32'7.1160"
14	48°17.38980'	-009° 32.35320'	48Â° 17' 23.388"	-009°32'21.192"
15	48°17.07120'	-009° 32.83800'	48Â° 17' 4.272"	-009°32'50.280"
16	48°15.39420'	-009° 36.91500'	48Â° 15' 23.652"	-009°36'54.900"
17	48°15.36060'	-009° 37.00320'	48Â° 15' 21.636"	-009°37'0.192"
18	48°14.57040'	-009° 39.24000'	48Â° 14' 34.224"	-009°39'14.400"
19	48°14.46360'	-009° 40.17780'	48Â° 14' 27.816"	-009°40'10.668"
20	48°14.72040'	-009° 40.97640'	48Â° 14' 43.224"	-009°40'58.584"
21	48°15.19260'	-009° 41.39640'	48Â° 15' 11.556"	-009°41'23.784"
22	48°16.89180'	-009° 42.05520'	48Â° 16' 53.508"	-009°42'3.312"
23	48°17.48820'	-009° 42.13200'	48Â° 17' 29.292"	-009°42'7.920"
24	48°16.74060'	-009° 43.39020'	48Â° 16' 44.436"	-009°43'23.412"
25	48°13.31760'	-009° 40.64520'	48Â° 13' 19.056"	-009°40'38.712"
26	48°10.86840'	-009° 38.66820'	48Â° 10' 52.104"	-009°38'40.092"
27	48°10.48320'	-009° 38.35740'	48Â° 10' 28.992"	-009°38'21.444"
28	48°09.99120'	-009° 38.18220'	48Â° 9' 59.472"	-009°38'10.932"
29	48°09.30900'	-009° 38.62320'	48Â° 9' 18.54"	-009°38'37.392"
30	48°09.01200'	-009° 39.71100'	48Â° 9' 0.72"	-009°39'42.66"
31	48°09.05520'	-009° 48.02820'	48Â° 9' 3.312"	-009°48'1.692"
32	48°09.36840'	-009° 49.10640'	48Â° 9' 22.104"	-009°49'6.384"
33	48°10.04160'	-009° 49.50540'	48Â° 10' 2.496"	-009°49'30.324"
34	48°20.00760'	-009° 49.51320'	48Â° 20' 0.456"	-009°49'30.792"
35	48°19.99980'	-009° 48.00000'	48Â° 19' 59.988"	-009°48'0"
36	48°29.69100'	-009° 48.00060'	48Â° 29' 41.46"	-009°48'0.036"
37	48°29.99760'	-009° 47.56020'	48Â° 29' 59.856"	-009°47'33.612"
38	48°30.00000'	-009° 33.94500'	48Â° 30' 0"	-009°33'56.7"
39	48°29.33520'	-009° 34.35240'	48Â° 29' 20.112"	-009°34'21.144"
40	48°27.40920'	-009° 36.89340'	48Â° 27' 24.552"	-009°36'53.604"
41	48°27.22500'	-009° 37.21440'	48Â° 27' 13.5"	-009°37'12.864"
42	48°25.81260'	-009° 40.50840'	48Â° 25' 48.756"	-009°40'30.504"
43	48°24.02520'	-009° 44.16660'	48Â° 24' 1.512"	-009°44' 9.996"

Then re-join back to Point 1.

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