Joint Recommendation regarding the protection of Moderate energy circalittoral rock, Subtidal coarse sediment/Subtidal mixed sediments mosaic, Subtidal sand and Subtidal mud within the East of Haig Fras Marine Conservation Zone 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, France and Ireland; being those Member States having a direct management interest affected by the joint recommendation.

The overall aim of this joint recommendation is to ensure the protection of Moderate energy circalittoral rock (Eunis[1] habitat type 4.2), Subtidal coarse sediment (A5.1) /mixed sediments mosaic (A5.4), Subtidal sand (A5.2) and Subtidal mud (habitat type A5.3) within the East of Haig Fras Marine Conservation Zone (MCZ) from fisheries, thereby contributing to recover this habitat to favourable condition in accordance with the East of Haig Fras Marine Conservation Zone Designation Order 2016 in compliance with Article 11 of the Common Fisheries Policy.

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.

2. The Recommendations to be Implemented

The following recommendations for East of Haig Fras MCZ are proposed for adoption:

- the exclusion of all demersal towed gears (Table 1) to protect the entirety of the protected features of the MCZ 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 within the site

Gear Types to be prohibited within the sites management boundary	**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.jsp

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Dredges	DRB	DRB, DRH

The coordinates of the site and management boundary are as follows (Table2):

Table 2: Coordinates of the site boundary and the proposed management boundary

Point	Latitude	Longitude
1	53° 35' 19.000" N	6°47' 43.000" W
2	50°35' 19.000" N	6°30' 47.000" W
3	50° 24' 32.000" N	6°30' 47.000" W
4	50° 24' 31.000" N	6°47' 39.000" 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 towed gears, dredges and seines being deployed within the MCZ. All gear types are permitted to fish in the reporting zone outside the management area with increased VMS reporting.
- Establishment of a 1nm (1.852km) reporting zone around East of Haig Fras MCZ. All fishing vessels within this area shall be required to record or report vessel positions at minimum 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 East of Haig Fras 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 prohibited gears on board lashed and stowed.
- A requirement for all fishing vessels transiting the restricted areas carrying prohibited gears to ensure that the speed during transit is not less than 6 knots except in the case of force

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majeure or adverse conditions[2]. In such cases, the master shall immediately inform the fisheries monitoring centre (FMC) of the flag member state which shall then inform the UK (FMC).

The proposal on which gears 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 the 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 Article 11 and Article 18 of the Basic Regulation and in collaboration with those Member States with a direct management interest in the East of Haig Fras site.

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[2] 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 Moderate energy circalittoral rock, Subtidal coarse sediment/Subtidal mixed sediments mosaic, Subtidal sand and Subtidal mud within the East of Haig Fras Marine Conservation Zone 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 East of Haig Fras site was designated as a Marine Conservation Zone (MCZ) in November 2016[3]. 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 Marine Protected Areas (MPAs) and will also assist in meeting commitments relating to the EU Marine Strategy Framework Directive (MSFD). All MCZs are designated using a separate order; in this case the East of Haig Fras Marine Conservation Zone Designation Order 2016.

The conservation objective for East of Haig Fras MCZ is to recover all protected features (Moderate energy circalittoral rock, Subtidal coarse sediment /mixed sediments mosaic, Subtidal sand and Subtidal mud). Commercial fishing has been identified as an activity which could adversely impact the integrity of the site's features and as such required to be assessed and, if necessary, managed to reduce its impact.

As the proposed area of the East of Haig Fras site falls beyond 12 nautical miles (nm) of the UK coastline, all Member States have access to the site. However, the UK, France and Ireland, are currently the Member States with an active fishing interest in the site. Over the years analysed Germany, Lithuania, Netherlands, Portugal and Spain have been witnessed in the site but at low levels not considered active. 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.

[3] http://www.legislation.gov.uk/ukmo/2016/26/pdfs/ukmo_20160026_en.pdf

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

1.2 Overall aim of the present proposal

The overall aim of the present proposal is to ensure adequate protection of Moderate energy circalittoral rock (A4.2), Subtidal coarse sediment (A5.1)/mixed sediments mosaic (A5.4), Subtidal sand (A5.2) and Subtidal mud (A5.3) from fishing activities that could adversely affect feature condition and thereby to contribute to the obligation of recovering all protected features to favourable condition in accordance with the East of Haig Fras Marine Conservation Zone Designation Order 2016.

The Conservation Objective for the East of Haig Fras MCZ is, subject to natural change, to ensure that Moderate energy circalittoral rock, Subtidal coarse sediment/mixed sediments mosaic, Subtidal sand and Subtidal mud 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 out 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 the features may be sensitive. For the East of Haig Fras MCZ, the General Management Approaches (GMAs) 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 towed 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 towed gears across the entire 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 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 A.

The proposal has been reviewed by CEFAS (see section 3.5).

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

1.3 Recommendations to be implemented

The following recommendations are proposed for adoption:

- the exclusion of demersal towed gears, dredges and seines (Table 3) within the site (Figure 1 and coordinates in Table 4) to protect the listed features and an increased reporting zone around the site (see Section 8 of Annex C).

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

Gear Types to be prohibited within the sites management boundary.	**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

Table 2: Coordinates of the site boundary and the proposed management boundary

Point	Latitude	Longitude
1	53° 35’ 19.000” N	6°47’ 43.000” W
2	50°35’ 19.000” N	6°30’ 47.000” W
3	50° 24’ 32.000” N	6°30’ 47.000” W
4	50° 24’ 31.000” N	6°47’ 39.000” W

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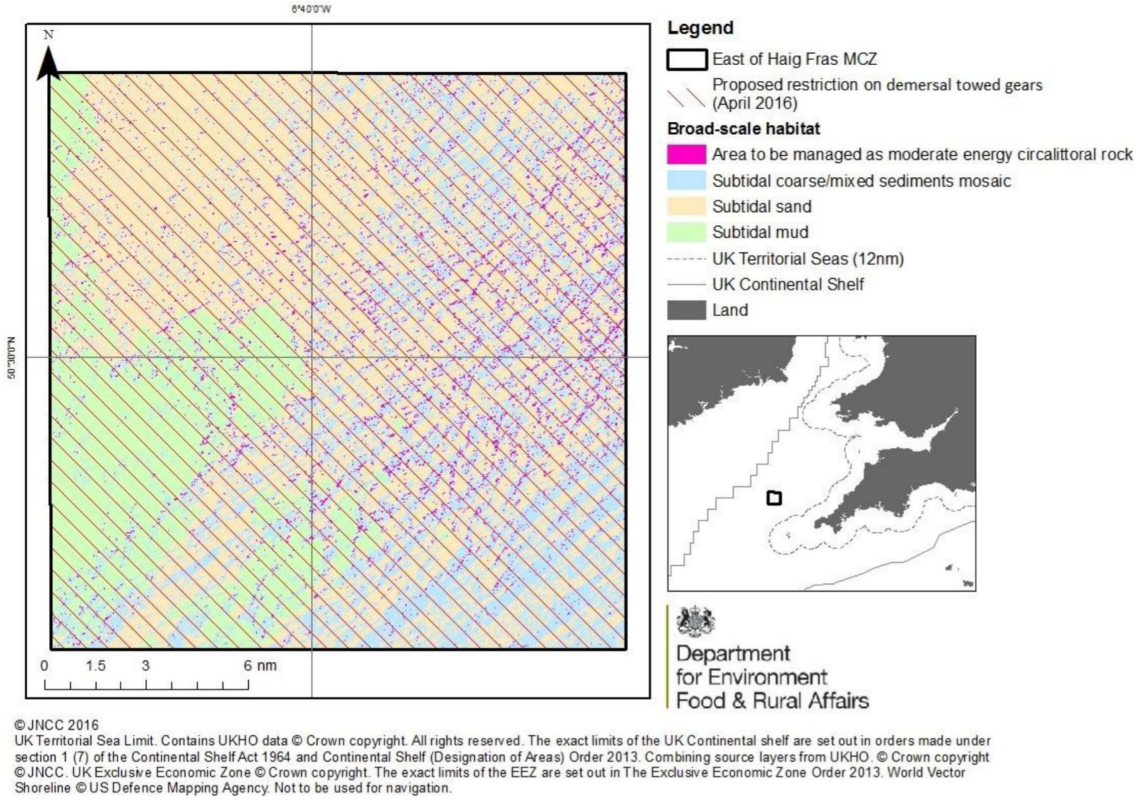


Figure 1: East of Haig Fras MCZ site map including protected features for which management is being proposed

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 East of Haig Fras Marine Conservation Zone Designation Order 2016.

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.

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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 East of Haig Fras MCZ

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

Germany, Lithuania (one report), Netherlands, Portugal (one report) and Spain (one report) have been witnessed within the site but at low levels not considered active.

Of these Member States, UK, Ireland and France have actively undertaken demersal trawling within the proposed management zone in the past 6 years; from 2010 to 2015 inclusive (details of activity and gear type can be found in table 2.1). The most significant activity was from French and UK vessels with lower levels of activity from Ireland and occasionally Dutch and Spanish vessels.

2.3 Designation of the East of Haig Fras MCZ

The East of Haig Fras site was designated as a Marine Conservation Zone MCZ in November 2013 and additional features were designated in January 2016 (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).

A significant way in which MCZs differ from Natura 2000 sites is that social and economic interests, such as commercial fishing, can be considered during their selection and designation process. Providing the ecological basis for an MCZ's designation is met, a site can be preferentially located in areas where impacts on social and economic interests are minimised. In such instances, a more

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precautionary approach to management can be taken whilst ensuring social and economic interests aren't impacted disproportionately.

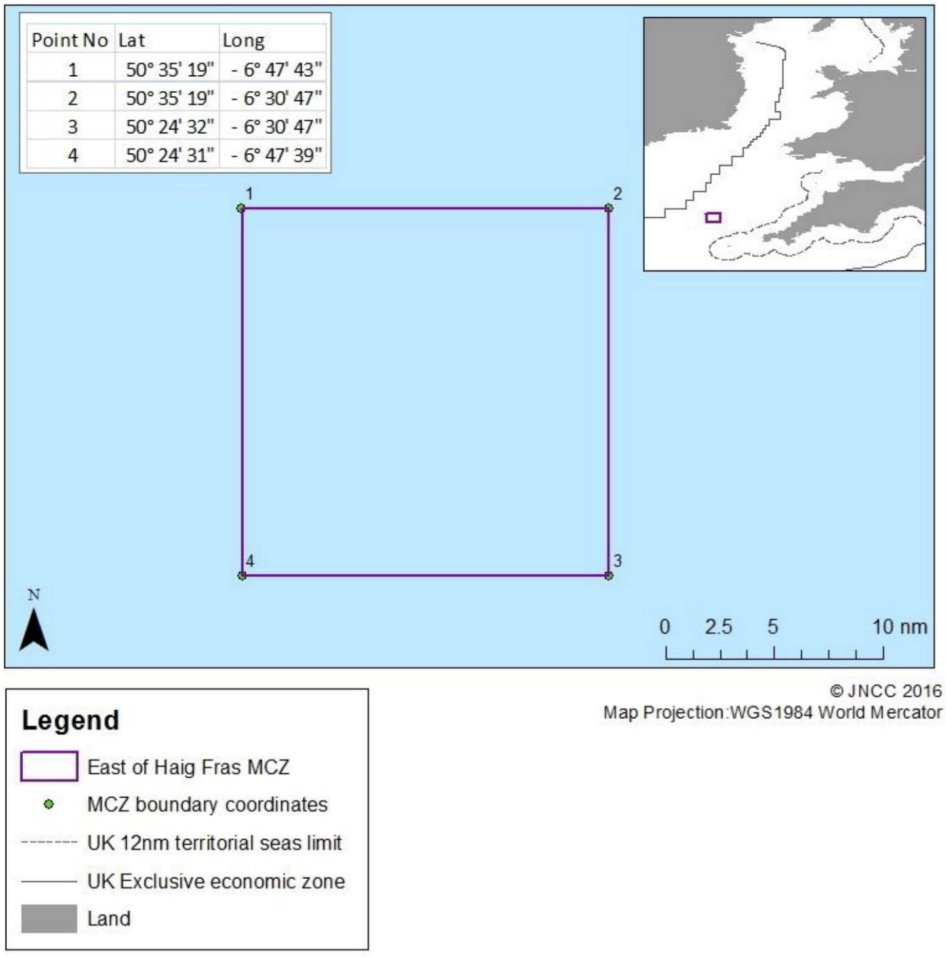


Figure 2: Site boundary for East of Haig Fras MCZ (co-ordinates rounded to nearest second)

3. Process

This chapter describes the process from when the initiative to introduce fishery management to protect Moderate energy circalittoral rock, Subtidal coarse sediment/mixed sediments mosaic, Subtidal sand and Subtidal mud from fisheries activities at East of Haig Fras commenced. A fisheries management workshop in Exeter in May 2016 was jointly hosted by the Department for Environment Food and Rural Affairs (Defra) and the Joint Nature Conservation Committee (JNCC) which will inform the development of fisheries management measures in the form of 'A Joint Recommendation' by the UK, France and Ireland, to the European Commission. All other member states have access to the site but have not actively fished the site (using proposed prohibited gears) over the years analysed 2010-2015.

3.1 Stakeholder workshop

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.

At the meeting it was clarified that the mosaic of circalittoral rock feature contained within the site led JNCC to advise that the entirety of the site should be considered as the area to be managed as Moderate energy circalittoral rock. Given that the current Defra policy is to restrict demersal towed gears in area of known rock and or/reef feature the initial proposal for management of the site was to restrict demersal towed gears contacting gears throughout the site. This is consistent with the approach taken for other sites with a similar topography.

An excerpt of the meeting report covering discussions on East of Haig Fras MCZ 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

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Northwest Waters High-Level Group and they were submitted to the European Commission for adoption.]

3.3 Formal agreement of Joint Recommendations

[TBC]

3.4 Involvement of the NWWAC

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. The UK then attended a NWWAC meeting in February 2017 to present and discuss these proposals. There were no specific comments on this site.

4. Rationale for measures

The seabed in the MCZ is heterogeneous. Ridges composed of a mosaic of coarse and mixed subtidal sediments run north east to south west through the site. Although the site is composed of a mosaic of coarse and mixed sediment ridges, these ridges are typically topped with rocky features, such as boulders and cobbles. As it is difficult to discriminate effectively between features from a management perspective, the measures proposed are based on the feature with greatest sensitivity to the prevailing pressures (Moderate energy circalittoral rock).

Demersal towed gears

Whilst it is unlikely that demersal towed gears can affect the long-term natural distribution of Moderate energy circalittoral rock features, there is evidence to indicate that their use can impact the structure and function of the habitat and the long term survival of its associated species. The use of towed fishing gears is likely to cause damage or death of fragile, erect species, such as sponges and corals (Løkkeborg 2005, Engel & Kvitek, 1998), and reduce habitat complexity as boulders and cobbles associated with the hard substrate are moved around (Freese et al. 1999). Other species such as hydroids, anemones, bryozoans, tunicates and echinoderms may also be vulnerable (McConnaughey et al. 2000, Sewell and Hiscock 2005). Where fragile, slow growing species occur, even low levels of fishing have the potential to change the structure and function of the habitats and may result in the loss of some characteristic species.

Demersal static gear

Mechanical impacts of static gear on Moderate energy circalittoral rock (e.g. weights and anchors hitting the seabed, hauling gear over seabed, rubbing/entangling effects of ropes) can damage some species (Eno et al.1996). Other species appear to be resilient to individual fishing operations but the

effects of high fishing intensity are unknown (Eno et al. 2001). Recovery will be slow (Foden *et al.,* 2010) resulting in significant reduction or even loss of characteristic species. The individual impact of a single fishing operation may be slight but cumulative damage may be significant (Eno et al. 2001; Foden et al. 2010; Roberts et al. 2010).

5. Principle

Based on scientific advice from JNCC considering the risk associated with a range of management options and the consideration of socio-economic interests, the UK has decided to protect Moderate energy circalittoral rock (4.2), Subtidal coarse sediment (A5.1)/mixed sediments mosaic (A5.4), Subtidal sand (A5.2) and Subtidal mud (A5.3) in East of Haig Fras MCZ from physical disturbances due to demersal towed gears.

When formulating the present proposal, the following principles have been the focal points:

1. Sound scientific basis

This proposal for fisheries management measures is based on available scientific evidence. JNCC has provided scientific advice in relation to 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 site to favourable condition.

2. Stakeholder involvement

An important element of the process of formulating fisheries management measures has been the involvement of stakeholders. This is 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 management boundary of East of Haig Fras MCZ encompasses the entirety of the site providing the area necessary to ensure protection of the mosaic of habitats.

List of Annexes:

Annex A – Meeting note from workshop

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

Annex C – Map of English MPA network

Annex D – Map and coordinates for East of Haig Fras MCZ reporting zone with increased reporting

Annex E – References

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Annex A – Meeting note from workshop

East of Haig Fras MCZ

It was clarified that the mosaic of circalittoral rock feature contained within the site led JNCC to advise that the entirety of the site should be considered as the area to be managed for the circalittoral rock. Based on current Defra policy to restrict mobile demersal gears in areas of known rock/reef feature, the proposal for this site was to restrict mobile bottom contacting gears throughout the site. This is consistent with the approach taken for other similar sites.

It was requested whether the UK could look to keep a small section in the southeast of the site open to some activity. Whilst this would be taken away for consideration JNCC observed that circalittoral rock appears to be distributed throughout the site and that it would be difficult to zone an area where the feature didn't occur with any confidence.

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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

East of Haig Fras MCZ is located approximately 67 km north west of Land's End, in the Celtic Sea. The site has an area of around 400 km^2 and is situated on a plateau on the UK continental shelf.

The seabed in the MCZ is heterogeneous. Ridges composed of a mosaic of coarse and mixed subtidal sediments run north east to south west through the site. These sediment ridges are topped with rocky features, such as boulders and cobbles. Various sponges, anemones and hydroids have been observed on the coarser sediments and rocky habitats. The sediment ridges are separated by mobile sand or mud, with sandy habitat being more prevalent in the north west of the site.

The MCZ currently has four designated features; Moderate energy circalittoral rock, Subtidal sand, Subtidal mud and a mosaic of Subtidal coarse sediment and Subtidal mixed sediments. East of Haig Fras MCZ was included in the Finding Sanctuary Regional MCZ Project recommendations to help meet targets for Moderate energy circalittoral rock, Subtidal coarse sediment and Subtidal sand broad-scale habitats. Subtidal mud and Subtidal mixed sediments were included for designation following surveys undertaken in 2012 and 2013.
The data used to support designation of East of Haig Fras MCZ was combined from a variety of sources and survey methods in order to build a full picture of the site.

The site was comprehensively surveyed in 2012 through the Defra-funded MB0120 East of Haig Fras MCZ survey. This was a collaboration between Cefas and JNCC to collect acoustic and groundtruth data, in order to identify the presence and extent of broad scale habitats and features of conservation importance within the MCZ. A second survey by Cefas and JNCC was undertaken in 2013 because the results of the 2012 survey highlighted the need for further groundtruthing around the potential circalittoral rock features. The results of these surveys are described in a report by Eggleton & Downie (2014).

A habitat map of the whole of East of Haig Fras MCZ was produced from the data collected during the 2012 survey, which covered the entire site (Figure 1). The survey in 2013 specifically targeted potential rock features in the east of the site. This survey found evidence of High energy circalittoral rock within the site, along with further records of Moderate energy circalittoral rock. As the extent of the two different types of rock habitat across the wider MCZ area is currently unknown, the mapped areas of rock are shown as "area to be managed as Moderate energy circalittoral rock". High energy circalittoral rock may be considered in future rounds of MCZ designation (Figure 2)

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

The MCZ was also surveyed by Cefas and JNCC in 2015, during which groundtruth samples were collected to provide a baseline for site monitoring. Results from this survey will be made available in due course.

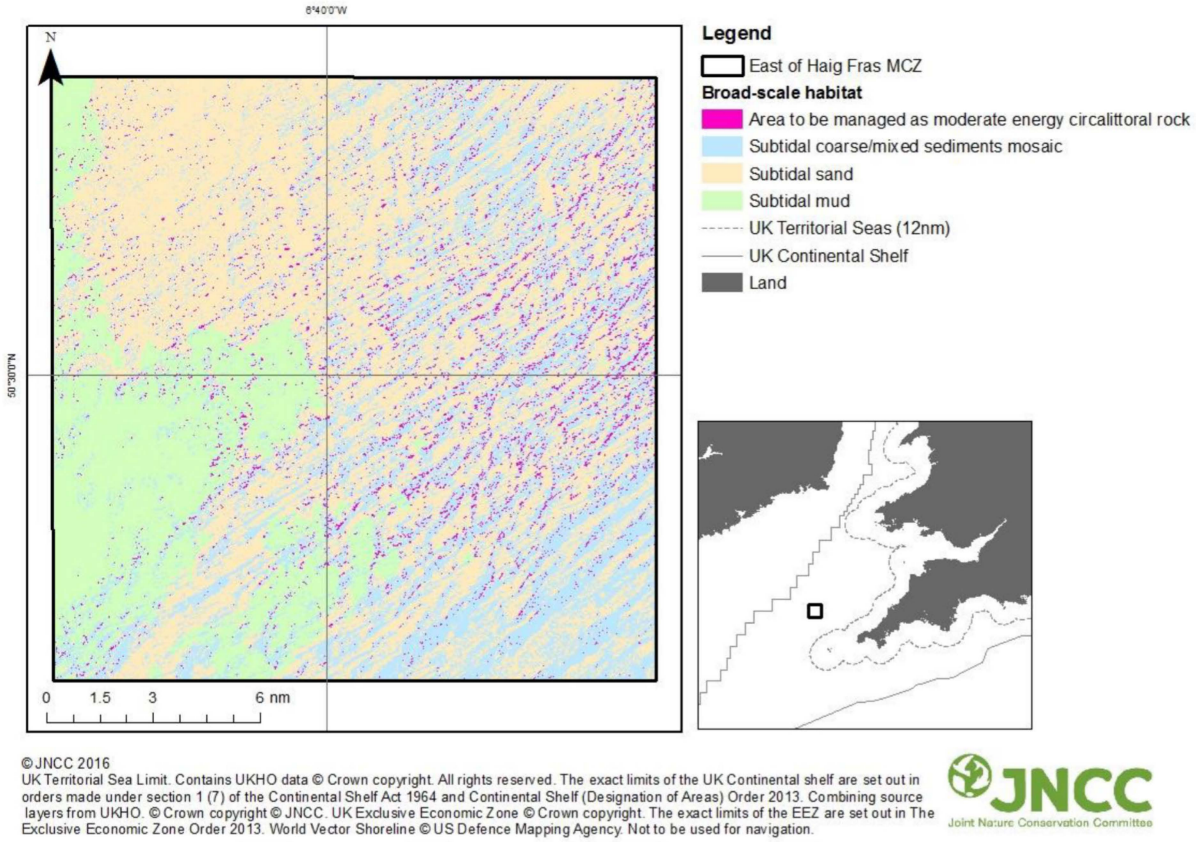
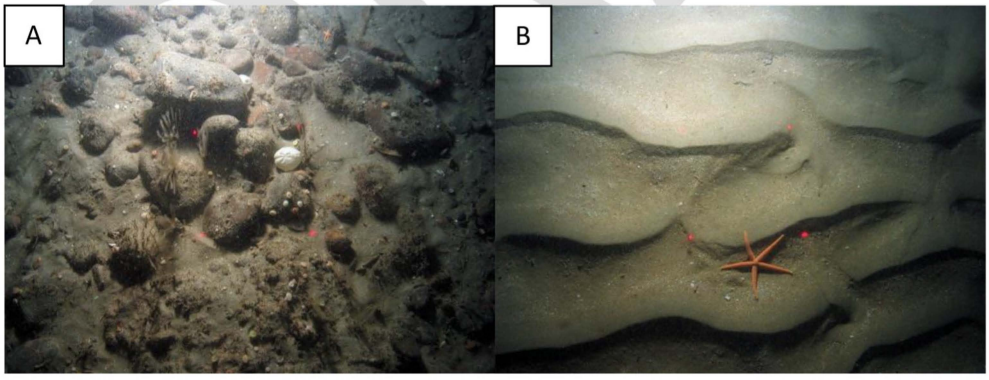


Figure 1: East of Haig Fras MCZ site map including protected features for which management is being proposed.



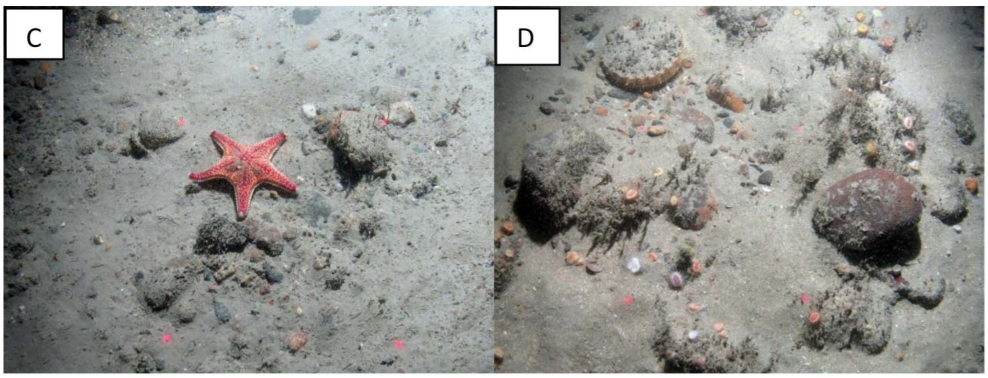


Figure 2: Photographs taken from the MB0120 surveys 2012 and 2013 to East of Haig Fras

A: Moderate energy circalittoral rock with Devonshire cup corals (*Caryophyllia smithii*) and antenna hydroids (*Nemertesia antenna*)

B: Subtidal sand with the starfish (*Stichastrella rosea*)

C: Subtidal coarse sediment with cushion star (*Porania pulvillus*)

D: Subtidal mixed sediment Devonshire cup corals (*Caryophyllia smithii*)

2 Scientific rationale for the site's selection in accordance with the information provided in the Marine Conservation Designation Zone 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.

The 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; 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

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- Viability
- Connectivity
- Protection
- Best available evidence

The East of Haig Fras MCZ is included in the MPA network for its contribution to the conservation of the broad-scale habitats of Moderate energy circalittoral rock (habitat type 4.2), Subtidal coarse sediment (habitat type A5.1) /mixed sediments mosaic (habitat type A5.4), Subtidal sand (habitat type A5.2) and Subtidal mud (habitat type A5.3) .

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:

- Moderate energy circalittoral rock - Recover to favourable condition
- Subtidal coarse sediments/Subtidal mixed sediments mosaic - Recover to favourable condition
- Subtidal sand – Recover to favourable condition.
- Subtidal mud – Recover to favourable condition.

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

The site is a simple polygon with boundary lines running north to south and east to west in line with the guidance provided by the MCZ project Ecological Network Guidance (ENG). The boundary of the East of Haig Fras MCZ has not changed since it was recommended by the Finding Sanctuary Regional MCZ Project in 2011.

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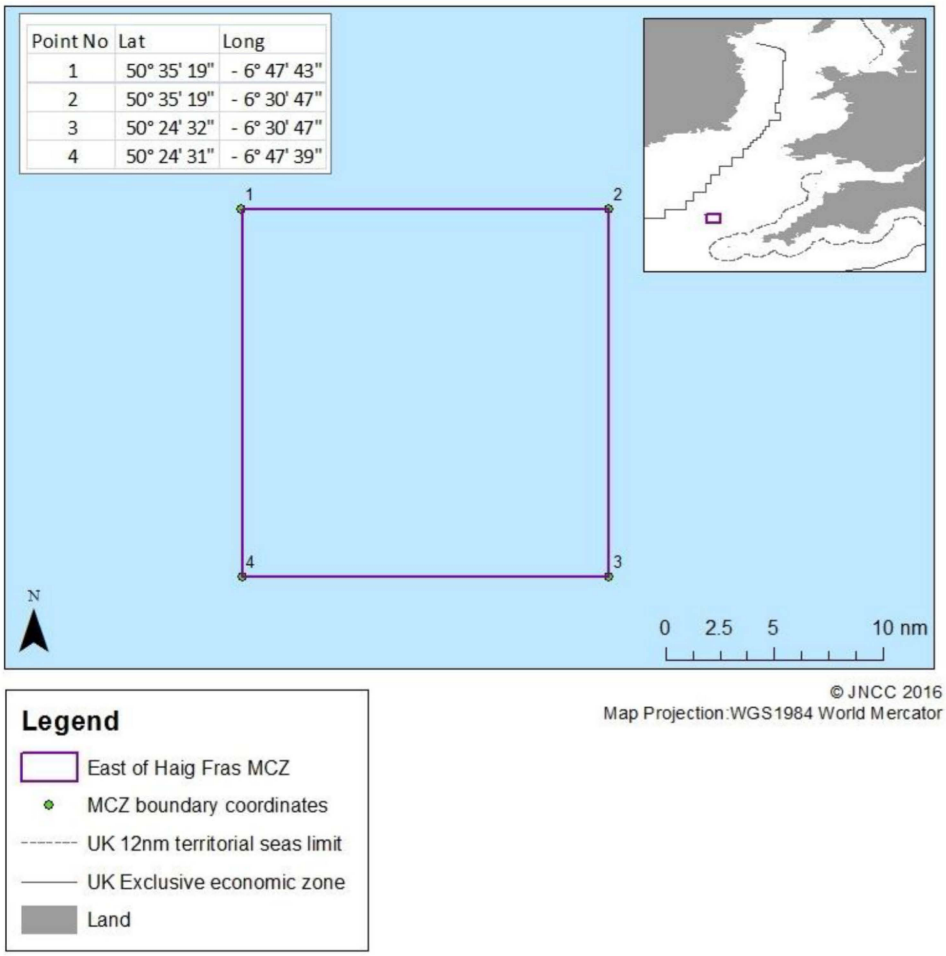


Figure 3: Site boundary for East of Haig Fras MCZ (co-ordinates rounded to nearest second)

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 trawl and seines)

Whilst it is unlikely that demersal towed gears can affect the long-term natural distribution of Moderate energy circalittoral rock features, there is evidence to indicate that their use can impact the structure and function of the habitat and the long term survival of its associated species. The use of towed fishing gears is likely to cause damage or death of fragile, erect species, such as sponges and corals (Løkkeborg 2005, Engel & Kvitek, 1998), and reduce habitat complexity as boulders and cobbles associated with the hard substrate are moved around (Freese et al. 1999). Other species such as hydroids, anemones, bryozoans, tunicates and echinoderms may also be vulnerable (McConnaughey et al. 2000, Sewell and Hiscock 2005). Where fragile, slow growing species occur, even low levels of fishing have the potential to change the structure and function of the habitats and may result in the loss of some characteristic species.

The extent to which mobile gear impacts on Subtidal sand communities can vary considerably, according to the type of gear, the intensity of fishing and the sediment composition. Trawling and dredging tend to cause increased mortality of fragile and long lived species and favour opportunistic, disturbance-tolerant species (Bergman & Van Santbrink, 2000; Eleftheriou & Robertson, 1992). Some particularly sensitive species may disappear entirely (Bergman & Van Santbrink, 2000). The net result is benthic communities modified to varying degrees relative to the un-impacted state (Bergman & Van Santbrink, 2000; Kaiser et al. 2006). In higher energy locations, for example the sandy bank tops or wave and/or tide exposed areas the associated fauna tend to be well adapted to disturbance and as a result are more tolerant of fishing-related disturbance (Dernie et al. 2003; Hiddink et al. 2006). The habitat may be maintained in a modified state; however modification is likely to be low relative to natural variation. In lower energy locations, such as muddy sands and sand in deep water, or on the flanks and towards troughs between banks, sediments tend to be more stable and their associated fauna less tolerant of disturbance (Kaiser et al. 2006; Hiddink et al. 2006). The habitat may be maintained in a modified state with reduced abundance of fragile, long lived species.

The broad scale habitat Subtidal mud covers a range of habitats and biological communities on muds and sandy muds. While some variability in sensitivity is to be expected at this broad scale, many instances of this habitat occur in sheltered areas characterised by undisturbed muddy sediments with a rich and diverse fauna. The stable nature of the sediments makes them generally susceptible to disturbance from mobile demersal gears**.** Fishing with mobile demersal gears over this feature can reduce habitat complexity and species diversity can decrease (Greathead et al. 2007; Hinz et al. 2009). There is evidence that severity of impact is cumulative (Hinz et al. 2009) so may be less severe where fishing pressure is low (Ball et al. 2000; OSPAR, 2010).

Within the site there are areas composed of a mosaic of Subtidal coarse sediment and Subtidal mixed sediments. The broad scale habitat Subtidal coarse sediment includes sub-habitats with a wide range of sensitivities to trawling. Communities on unstable coarse sediments are considered to contain relatively robust fauna which are not believed to be greatly impacted by surface abrasion (Hall et al 2008). More stable gravels may support a 'turf' of fragile species which are easily damaged by trawling and recover slowly (Collie et al 2005, Foden et al 2010). Trawling may result in a modified benthic community with reduced abundance of fragile long lived species. Recovery time from dredging is longer than from trawling (Foden et al 2010). On the other hand, Subtidal mixed sediments covers a wide range of different types of sediment from muddy, gravely sands to mosaics of cobbles and pebbles in or on a sand, gravel or mud seabed. Areas of mixed sediments may also include instances where waves or ribbons of sand form on the surface of a gravel bed (Anon, 2010). These different habitats can be expected to vary greatly in their sensitivity to fishing impacts (Roberts et al. 2010). However, as there are very few studies that directly evaluate fishing impacts on Subtidal mixed sediments it is not possible to give general advice for this broad scale habitat. In the absence of specific advice, a reasonable proxy may be to consider the advice for Subtidal coarse sediment.

As with demersal trawls and dredges, demersal seines may impact the structure and function of sedimentary habitats and the long term survival of their associated species. However, demersal seines (Danish and Scottish seines) lack the heavy penetrating gear components of other mobile demersal gears, such as otter doors and trawl shoes (Suuronen et al. 2012; Donaldson et al. 2010), so the risk of impact to sedimentary features may be lower. The risk to achievement of the

conservation objectives posed by demersal seining would need to be considered on a site by site basis.

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

Mechanical impacts of static gear on Moderate energy circalittoral rock (e.g. weights and anchors hitting the seabed, hauling gear over seabed, rubbing/entangling effects of ropes) can damage some species (Eno et al.1996). Other species appear to be resilient to individual fishing operations but the effects of high fishing intensity are unknown (Eno et al. 2001). Recovery will be slow (Foden *et al.,* 2010) resulting in significant reduction or even loss of characteristic species. The individual impact of a single fishing operation may be slight but cumulative damage may be significant (Eno et al. 2001; Foden et al. 2010; Roberts et al. 2010).

It is unlikely that demersal static gears will have a significant effect on the long-term natural distribution of Subtidal sand, Subtidal coarse sediment/subtidal mixed sediments and Subtidal mud, or on the structure and function of their associated biological communities.

4.3 Other Human activities

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

A number of telecommunications cables run through the site. Cables are largely an unregulated activity in offshore waters depending upon the type of cable being laid (or maintained), where it is being laid between and whether the cable 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. JNCC encourages early discussion from operators regarding any plans related to new or existing cables, and encourages the undertaking of non-statutory Environmental Impact Assessments for new or existing cable projects to assess their effect on the protected features of the MPA.

One Royal Yachting Association cruise route crosses the site and parts of the site maybe traversed by other ships. Under international law, ships have a right of passage at sea including in areas designated as MPAs (unless management specifies the restriction of ship transiting as outlined through an International Maritime Organisation measure). The pressures associated with shipping activity within East of Haig Fras MCZ are not considered likely to impact the protected features of the site

The MCZ is located in an area used by the Ministry of Defence (MoD) for military exercises. The MoD has incorporated all designated MPAs into their Environmental Protection Guidelines (Maritime) and wider Marine Environmental and Sustainability Assessment tool.

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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 the section below 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 area of East of Haig Fras MCZ over a six year period. This approach is consistent with other management proposals methodology 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 purposed 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 the fisheries.

Vessels from three Member States including the UK 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 Fisheries Monitoring Centre (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.

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

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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 taking place 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 rectangles 30E3 and 29E3 (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 East of Haig Fras MCZ. This provides a proportion of pings falling within the area for the vessels of each Member State.

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 systems (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 data shown is over a six year period 2010- 2015. Landings information is over a five year period 2010-2014, as a result of 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. Two UK vessels had significant faults with their VMS which generated a higher rate of VMS reporting, this occurred between May and July 2015.

[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

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5.2 Fleet activity by state

From 2010 to 2015 vessels from three Member States were active within and around the East of Haig Fras MCZ (see table 1). Of these, the most significant activity was from French and UK vessels with lower levels of activity from Ireland. (see table 1).

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Table 1: Number of vessels and pings (0-6knots) associated with East of Haig Fras MCZ by year and Member State.

Nationality		2010	2011	2012	2013	2014	2015
		Total	Total	Total	Total	Total	Total
France*	Number of vessels	44	27	38	43	37	31
	Number of pings	2844	527	618	959	507	580
Germany	Number of vessels	0	0	3	0	0	0
	Number of pings	0	0	8	0	0	0
Ireland	Number of vessels	5	8	3	5	4	4
	Number of pings	25	178	67	66	159	25
Lithuania	Number of vessels	0	0	1	0	0	0
	Number of pings	0	0	1	0	0	0
Netherlands	Number of vessels	0	0	3	1	0	1
	Number of pings	0	0	9	22	0	1
Portugal	Number of vessels	1	0	0	0	0	0
	Number of pings	1	0	0	0	0	0
Spain	Number of vessels	0	0	1	0	0	0
	Number of pings	0	0	1	0	0	0
UK	Number of vessels	21	20	22	17	14	17
	Number of pings	163	146	383	247	61	451**

* A proportion of the French VMS data showed vessels reporting at a higher rate than the usual 2 hourly reporting period. This was not consistent across all vessels or all reports.

** Two UK vessels had faults with their VMS which generated a higher rate of VMS reporting. This occurred between May and July 2015.

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5.3 Landings values

As shown in Tables 2.1 and 2.2 the gear groups of major importance in terms of effort (tonnage) and economic importance (value) include (1) Beam Trawls directed at demersal fish (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.

The fisheries data for 2010 – 2015 inclusive in East of Haig Fras MCZ involve similar gear types but only two groups are of major importance regarding effort and value (Trawling and Gill netting) as can be seen in Tables 2.1 and 2.2.

Please note:

1. A datacall to member states for this site was requested in 2015. Therefore member states landing information/fisheries data is from 2010 to 2014.

2. Over the year analysed, no Belgian VMS activity at fishing speeds was witnessed within the site (please see figure 3 onwards). However as the landing information has been recorded from ICES 29E3 and 30E3.

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Table 2.1: Vessel size and gear type for vessels operating in East of Haig Fras MCZ by year and Member State showing effort (tonnage caught)

Sum of Quantity Tonnes (29E3, 30E3)		Year						
Nationality	**Gear**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Grand Total**
BEL	Otter trawls (Bottom)	8.53	13.88	13.11	7.02	4.54		47.08
	Beam trawls	102.52	238.47	252.14	409.03	27.60		1029.76
BEL Total		**111.05**	**252.36**	**265.25**	**416.05**	**32.14**		**1076.84**
FRA	Anchored seine	0.00	2.66	1.14	1.53	8.85		14.18
	Beam trawls	0.39	0.00	0.00	0.00	0.00		0.39
	Bottom trawls	88.82	1767.65	3539.56	3229.75	2464.11		11089.88
	Dredge	0.00	0.22	0.00	0.00	0.00		0.22
	Nets	3.98	25.81	1.59	38.17	14.45		84.01
	Pelagic trawls	0.00	239.47	0.00	0.05	3.46		242.98
	Purse seine	0.00	0.00	11.30	27.91	16.04		55.25
	Traps	0.00	0.42	0.35	0.06	0.00		0.83
FRA Total		**93.19**	**2036.23**	**3553.94**	**3297.47**	**2506.90**		**11487.73**
IRL	Beam	343.12	482.36	363.14	445.75	235.36		1869.73
	Demersal Seine	0.00	26.76	7.23	0.00	3.46		37.45
	Dredge	14.14	0.00	0.00	0.00	0.20		14.34
	Nets	13.21	10.95	0.00	0.00	1.81		25.97
	Otter	49.61	43.20	18.77	7.26	12.86		131.70
	Pelagic trawl	0.00	56.00	0.00	0.00	0.00		56.00
IRL Total		**420.08**	**619.27**	**389.14**	**453.01**	**253.69**		**2135.19**
UK	Beam trawls	136.70	29.80	292.85	257.39	128.95	91.25	936.94
	Boat dredges	1.40	0.00	1.13	0.00	0.00	2.25	4.78
	Gillnets (all)	169.28	409.93	404.43	334.86	292.33	203.80	1814.63
	Hand lines and pole-lines (hand-operated)	3.90	4.54	0.00	1.67	0.00	0.95	11.06

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	Longlines (not specified)	0.00	0.42	0.00	0.00	0.00	0.00	0.42
	Otter trawls (Bottom and not specified)	15.22	11.04	40.41	8.57	3.05	27.93	106.22
	Otter twin trawls	0.00	0.00	0.00	0.00	0.00	2.68	2.68
	Pair trawls - bottom	9.35	0.00	0.00	0.00	0.00	0.00	9.35
	Pots	87.06	193.13	91.06	13.39	11.09	32.13	427.86
	Trammel nets	3.91	9.75	37.28	23.50	11.14	41.14	126.72
UK Total		**426.82**	**658.61**	**867.16**	**639.38**	**446.56**	**402.13**	**3440.66**
Grand Total		**1051.14**	**3566.46**	**5075.49**	**4805.91**	**3239.29**	**402.13**	**18140.41**

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Table 2.2: Vessel size and gear type for vessels operating in East of Haig Fras MCZ by year and Member State showing landing values

Sum of Value £ (Dec2015) 29E3, 30E3		Year						
Nationality	**Gear**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Grand Total**
BEL	Otter trawls (Bottom)	£28,859	£51,276	£43,319	£17,307	£10,301		£151,060
	Beam trawls	£385,645	£972,061	£949,379	£1,598,074	£85,163		£3,990,321
BEL Total		**£414,503**	**£1,023,337**	**£992,698**	**£1,615,380**	**£95,463**		**£4,141,382**
FRA	Anchored seine	£0	£3,531	£2,149	£1,824	£8,965		£16,470
	Beam trawl	£1,884	£0	£0	£0	£0		£1,884
	Bottom trawls	£85,220	£3,133,506	£5,579,190	£5,488,120	£3,854,414		£18,140,450
	Dredge	£0	£922	£0	£0	£0		£922
	Nets	£15,535	£112,304	£6,342	£155,629	£36,487		£326,296
	Pelagic trawls	£14	£313,555	£0	£139	£3,079		£316,787
	Purse seine	£0	£0	£22,614	£51,545	£31,446		£105,606
	Traps	£0	£669	£773	£71	£0		£1,513
FRA Total		**£102,653**	**£3,564,486**	**£5,611,068**	**£5,697,328**	**£3,934,392**		**£18,909,927**
IRL	Beam	£609,088	£918,013	£653,587	£799,010	£424,712		£3,404,410
	Demersal Seine	£0	£21,216	£9,712	£0	£2,960		£33,888
	Dredge	£70,355	£0	£0	£0	£608		£70,963
	Nets	£15,569	£13,322	£0	£0	£2,028		£30,919
	Otter	£81,812	£78,188	£42,317	£16,568	£25,003		£243,888
	Pelagic trawl	£0	£18,816	£0	£0	£0		£18,816
IRL Total		**£776,824**	**£1,049,555**	**£705,615**	**£815,578**	**£455,312**		**£3,802,884**
UK	Beam trawls	£397,237	£92,967	£715,686	£717,348	£363,195	£214,189	£2,500,622
	Boat dredges	£1,757	£0	£1,833	£0	£0	£3,337	£6,928
	Gillnets (all)	£480,808	£1,012,876	£840,577	£792,473	£610,484	£431,660	£4,168,878
	Hand lines and pole-lines	£8,776	£11,054	£0	£4,347	£0	£1,972	£26,148

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	(hand-operated)							
	Longlines (not specified)	£0	£220	£0	£0	£0	£0	£220
	Otter trawls (Bottom and not specified)	£37,811	£34,681	£66,437	£19,743	£11,105	£79,220	£248,995
	Otter twin trawls	£0	£0	£0	£0	£0	£8,875	£8,875
	Pair trawls – bottom	£22,854	£0	£0	£0	£0	£0	£22,854
	Pots	£130,556	£310,124	£168,315	£20,912	£16,061	£48,434	£694,401
	Trammel nets	£23,811	£46,502	£200,893	£102,960	£47,496	£161,126	£582,790
UK Total		**£1,103,609**	**£1,508,424**	**£1,993,741**	**£1,657,782**	**£1,048,341**	**£948,813**	**£8,260,711**
Grand Total		**£2,397,589**	**£7,145,802**	**£9,303,123**	**£9,786,068**	**£5,533,508**	**£948,813**	**£35,114,903**

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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 Greater Haig Fras MCZ from other Member States is 260 and 111 from the UK, making a total of 371. 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 44 vessels in 2010, coming down to 27 in 2011 before increasing to 43 in 2013 and then decreasing to 31 vessels in 2015. This is mirrored in the number of VMS pings too, starting with 2,844 pings in 2010, down to 577 in 2011 before increasing to 959 in 2013 and then decreasing to 580 in 2015. Although caution must be applied, as some of those pings occurred at greater intervals than the average two hour ping from a number of vessels in April 2010, considered faulty VMS devices over reporting. The activity has occurred across the whole site but with no concentrated areas identified, mainly comprising of bottom otter trawls (OTB) throughout the year.

Irish VMS activity in terms of vessels numbers has been fairly static in recent years with the exception of 2011, averaging around 4 vessels per year. In 2011 there were 8 vessels recorded. However the numbers of VMS pings have fluctuated in this time, from 25 pings in 2010, rising to 178 in 2011, dropping to 66 pings in 2013, before climbing to 159 pings in 2014 and dropping to 25 in 2015. The activity has occurred across the whole site but with no concentrated areas identified, mainly comprising of beam trawls (TBB) and dredges (DRB) the majority of the year.

UK VMS activity suggests a gradual decrease in vessel numbers in recent years, from 21 in 2010 to 17 in 2015. However the numbers of pings have fluctuated in this time, from 163 in 2010 climbing to 383 in 2012, before dropping to 61 pings in 2014. The number of pings in 2015 is 451 but caution must be applied, as some of those pings occurred at greater intervals than the average two hour ping from a number of vessels in the year, considered faulty VMS devices over reporting. See data limitation 7 in section 5.1.2 With the exception of 2015, the highest volume of pings occurred in 2013 with 383 from a number of Gill and Trammel netters operating in the first half of that year. The activity has occurred across the whole site but with no concentrated areas identified.

All other member states recorded in table 2. Operated in low numbers and were not active year on year.

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Landings information

The values (£) and landings (tonnes) effort taken within the MCZ vary between each member state. Please note that these values are based on the landings from the ICES rectangles 29E3 and 30E3, and not solely the landing from the site.

French Landings within ICES rectangles 29E3 and 30E3 has decreased over the recent years (in since 2012) in terms of tonnes landed and value taken. In 2010 there was 93 tonnes landed with an approximate value of £102,653, this rose to 3,553 tonnes in 2012 with an approximate value of £5.6million. This then steadily decreased to 2,506 tonnes in 2014 with an approximate value of £3.9million. The French gears types commonly used in these ICES rectangles are from Bottom Otter trawling (OTB).

Irish Landings within ICES rectangles 29E3 and 30E3 has steadily decreased over recent years in terms of tonnes landed and value taken. In 2011 there was 619 tonnes landed with an approximate value of £1.0million, decreasing to 253 tonnes and a value of £455,312 in 2014. This has predominately been generated through the Beam trawls and otter trawls.

UK Landings within ICES rectangles 29E3 and 30E3 has steadily decreased over recent years (since 2012) in terms of tonnes landed and value taken. In 2012 there was 867 tonnes landed with an approximate value of £1.9million, decreasing to 402 tonnes and a value of £948,813 in 2015. This has predominately been generated through Gill nets and Beam trawls.

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Figure 4: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2010 by Nationality

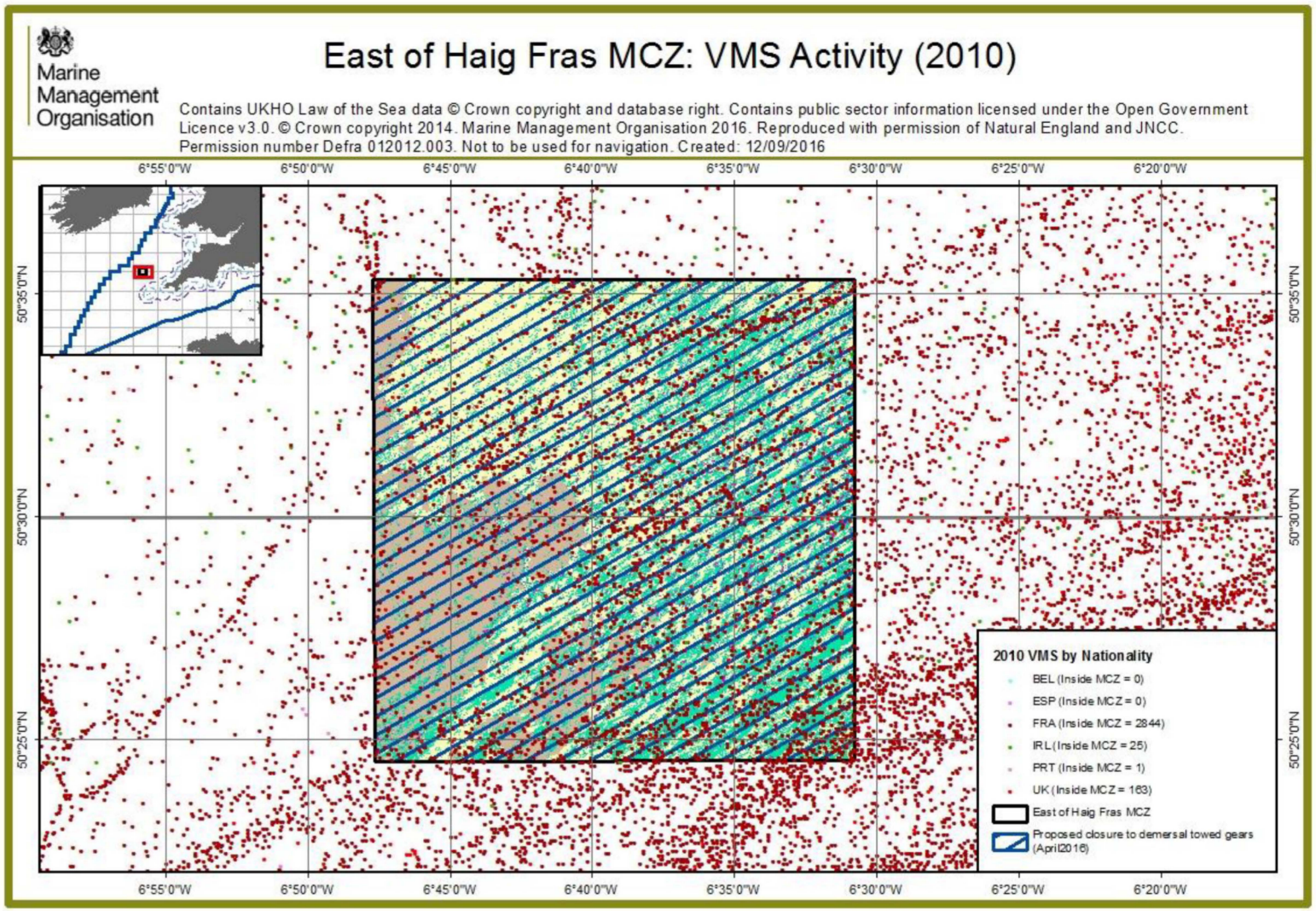


Figure 5: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2011 by Nationality

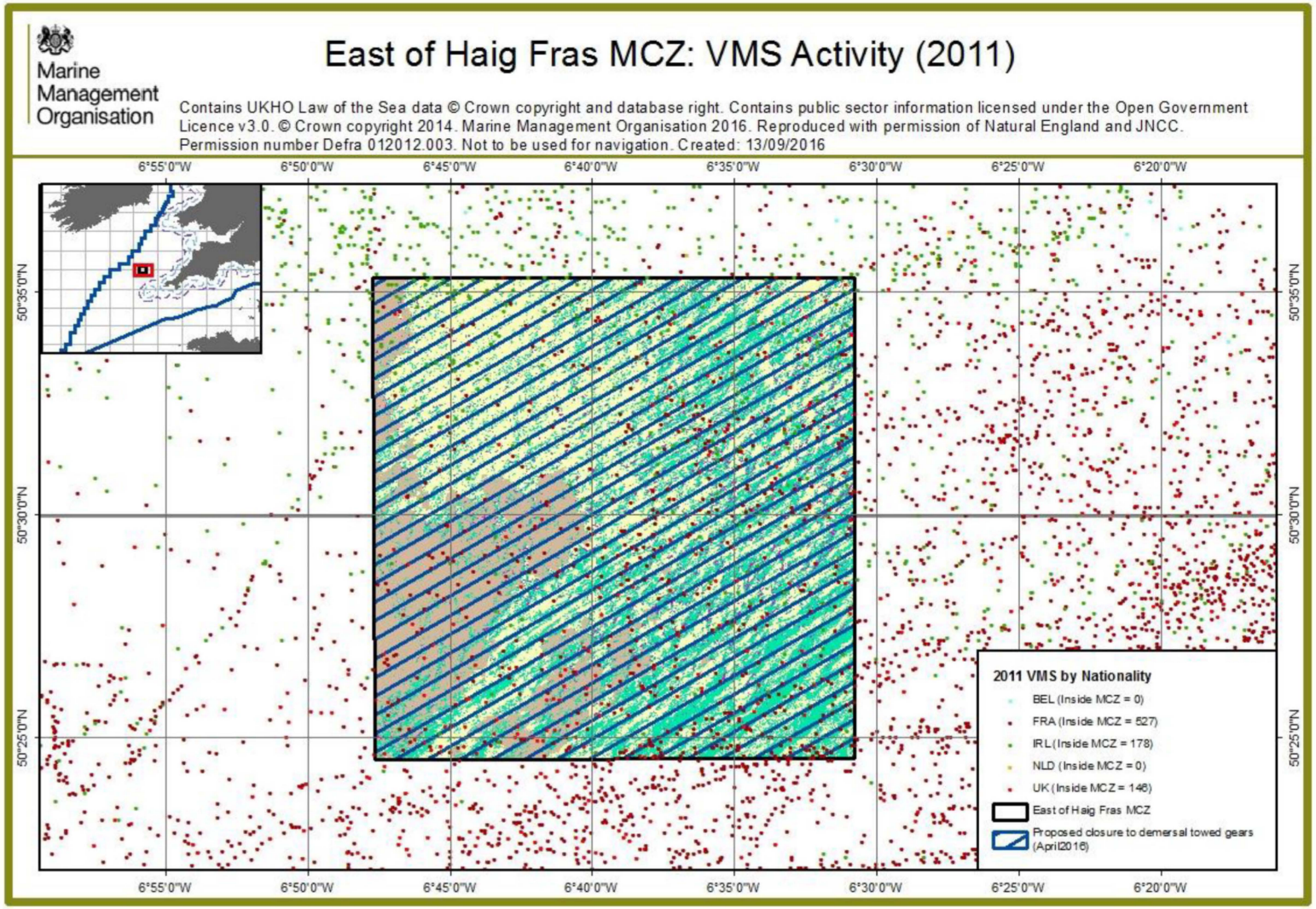


Figure 6: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2012 by Nationality

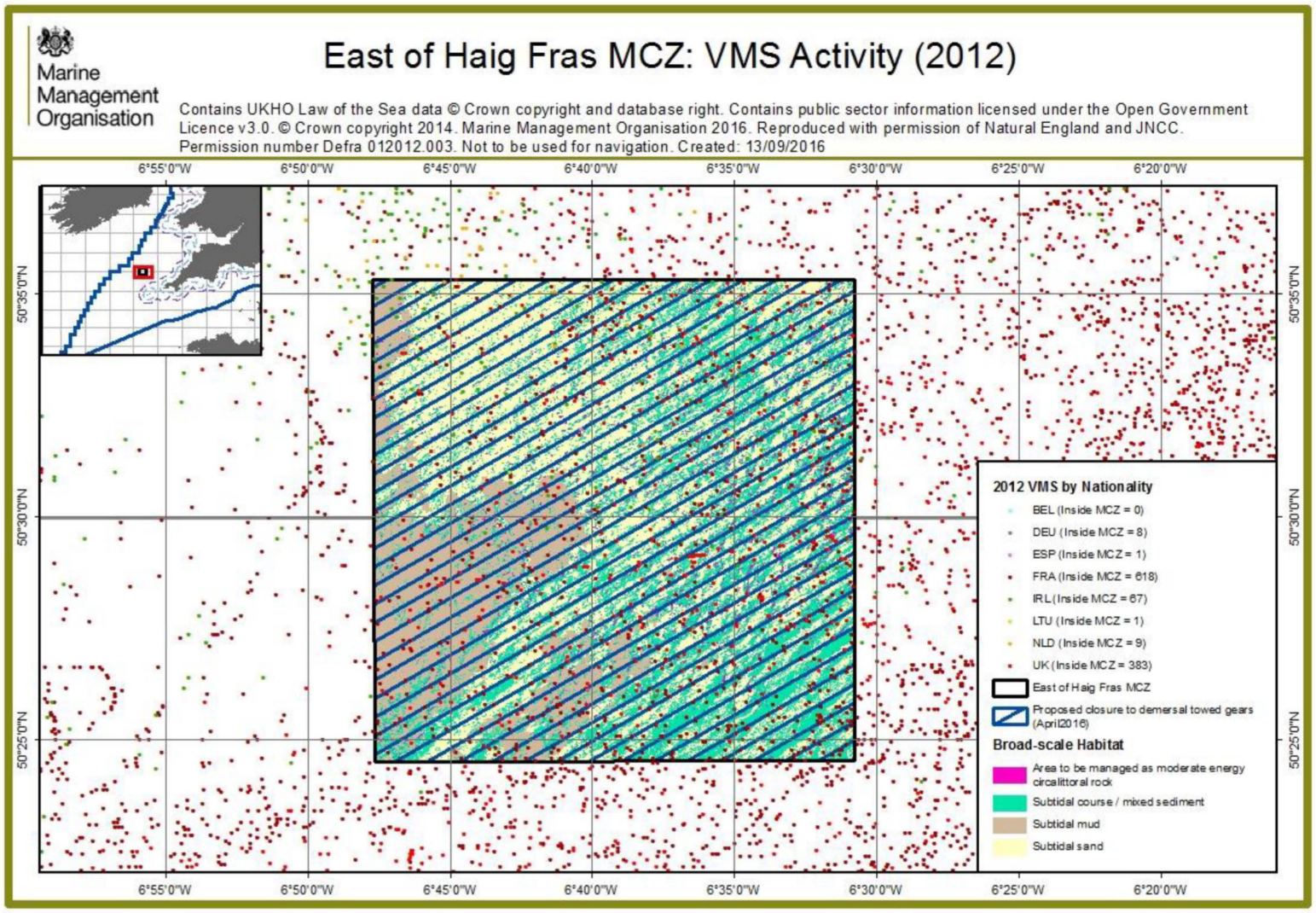


Figure 7: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2013 by Nationality

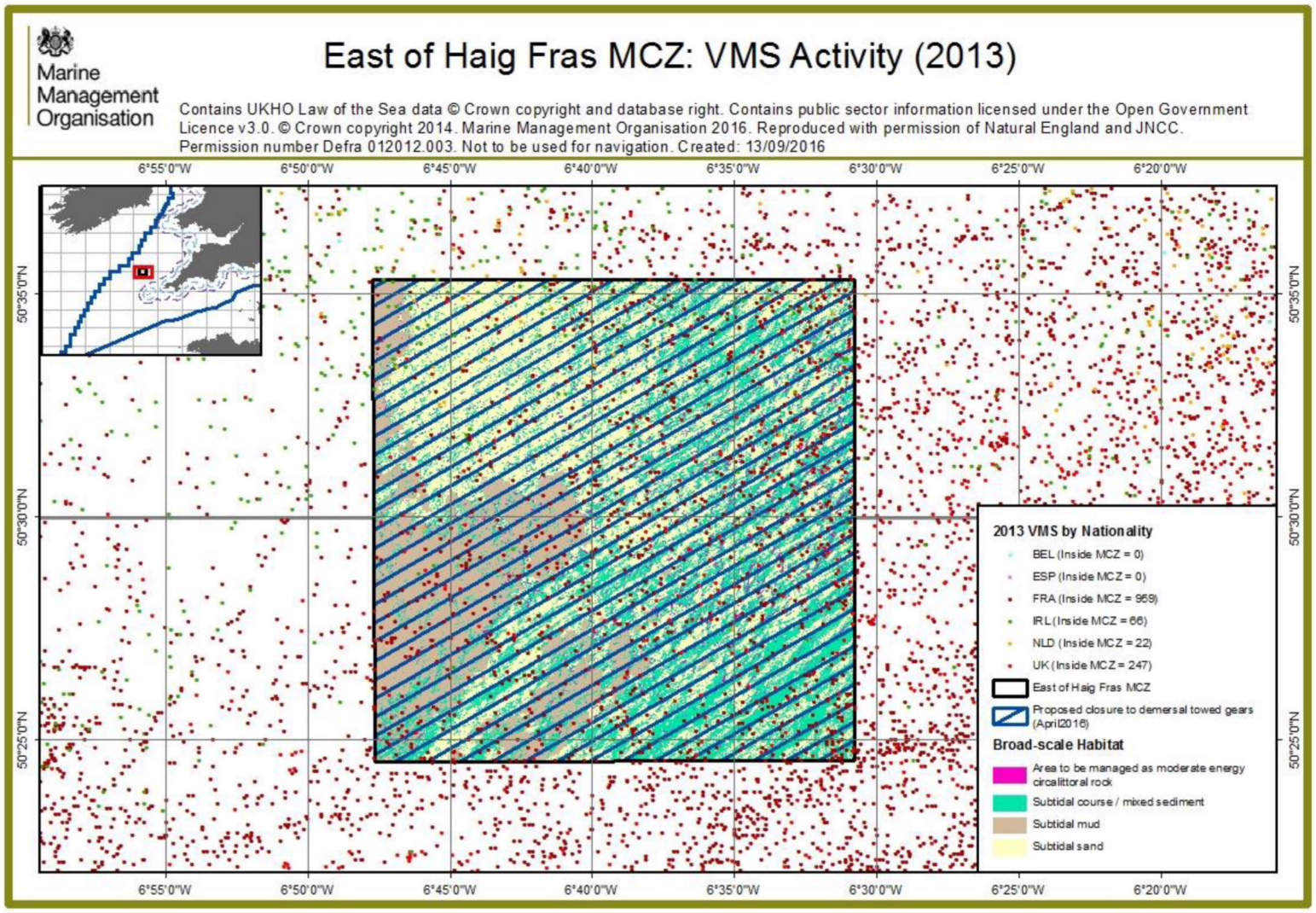


Figure 8: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2014 by Nationality

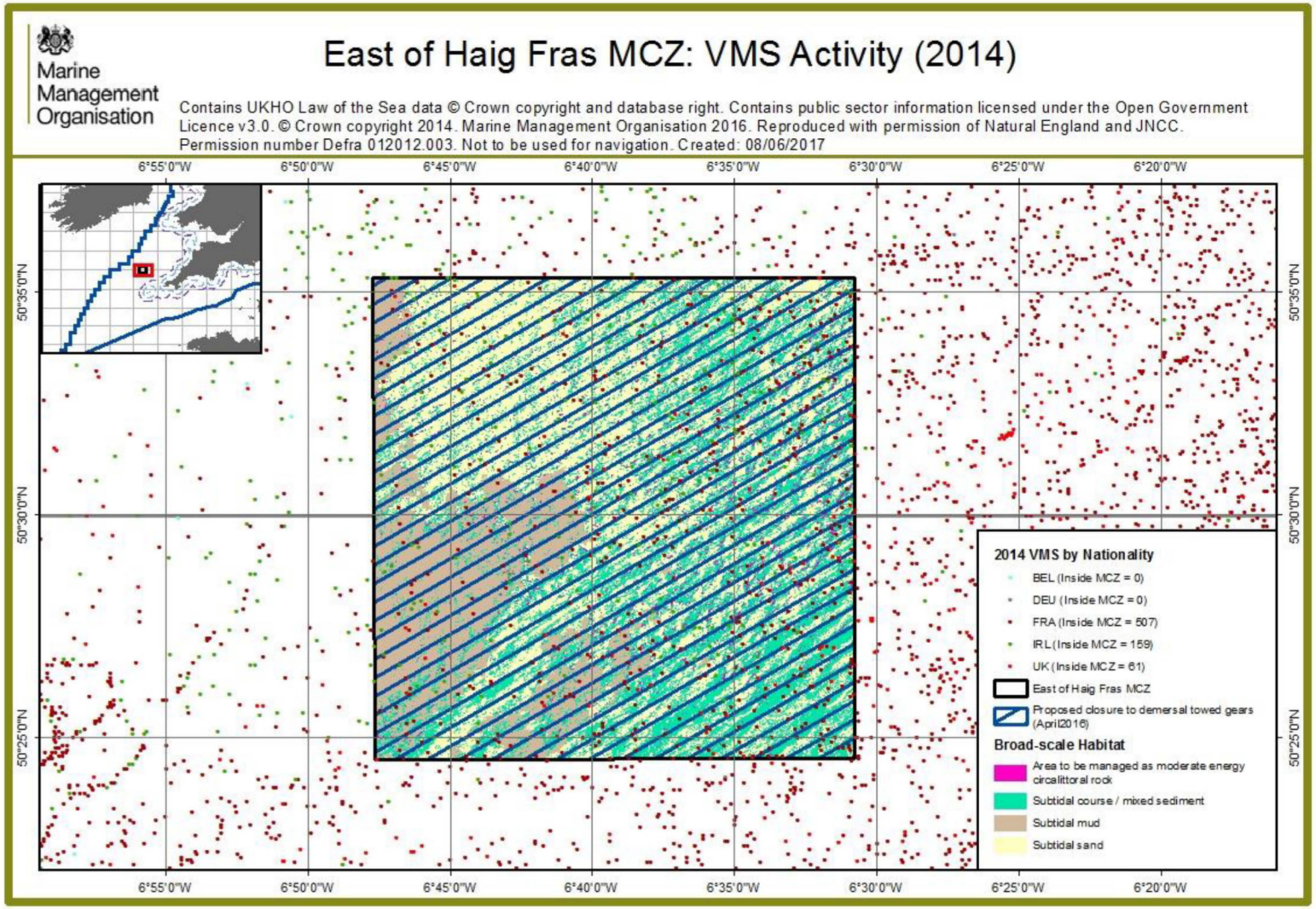
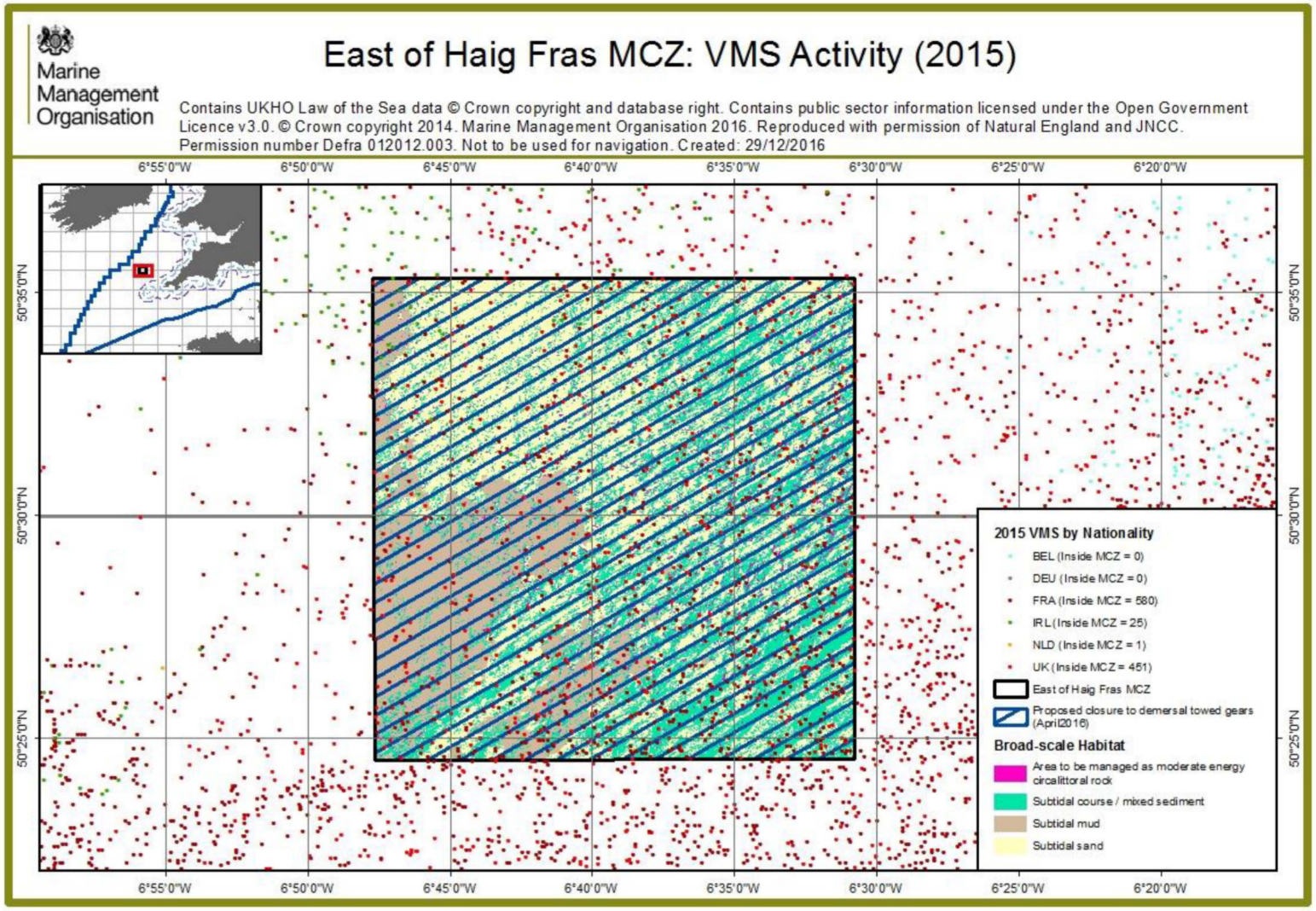


Figure 9: VMS reports indicating all fishing activity in East of Haig Fras MCZ 2015 by Nationality



5.5 Fleet activity by gear group – Geographical distribution

In the charts depicted in Section 5.6, demersal gears have been classed as all gear types which are to be excluded from the closed area(s) as stipulated in the gear table on page 7. The charts show all demersal and non-demersal gear types for each year and each Member State and where possible, the specific gear type recorded has been included.

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Figure 10: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2010 (All Nationalities)

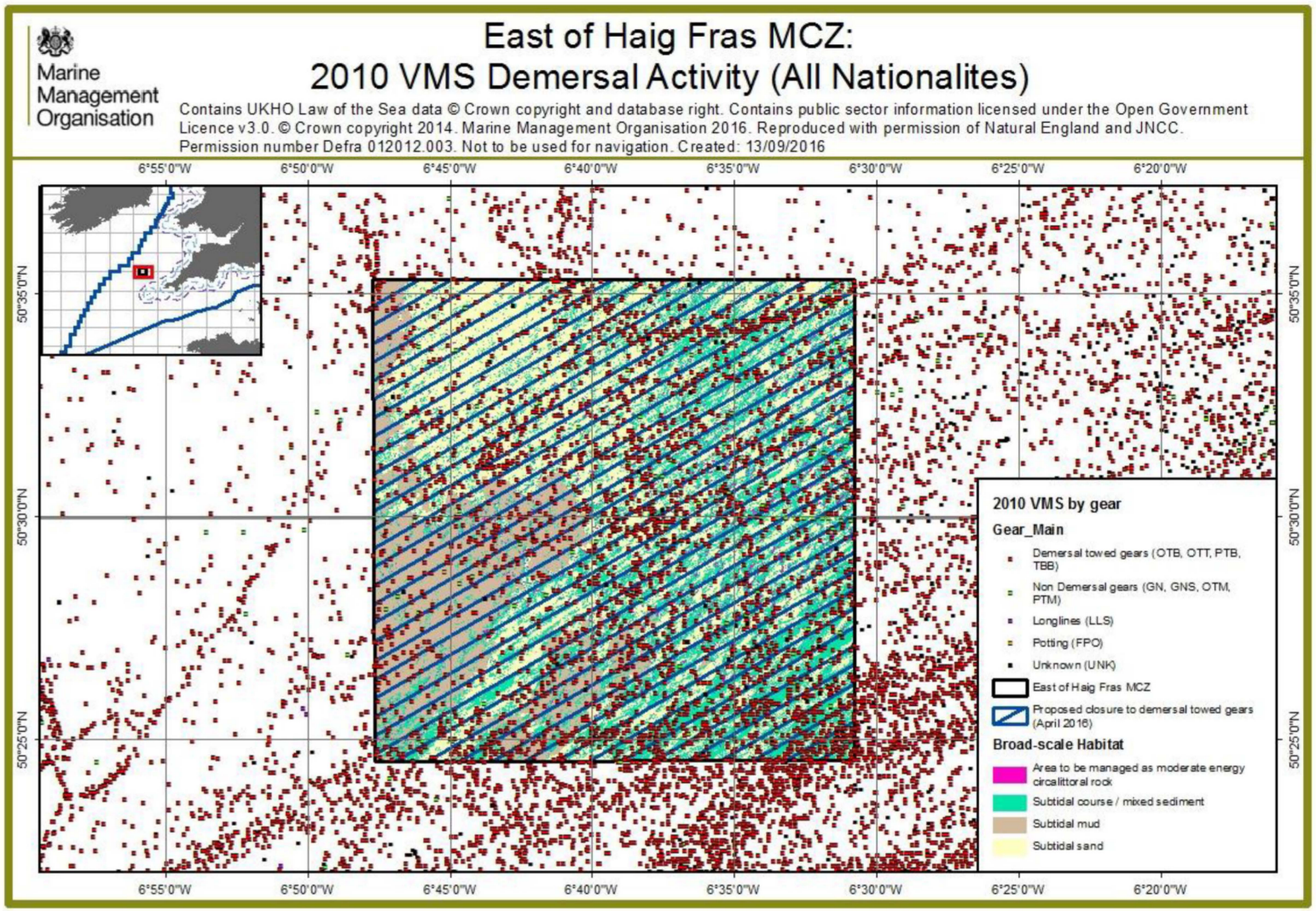


Figure 11: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2011 (All Nationalities)

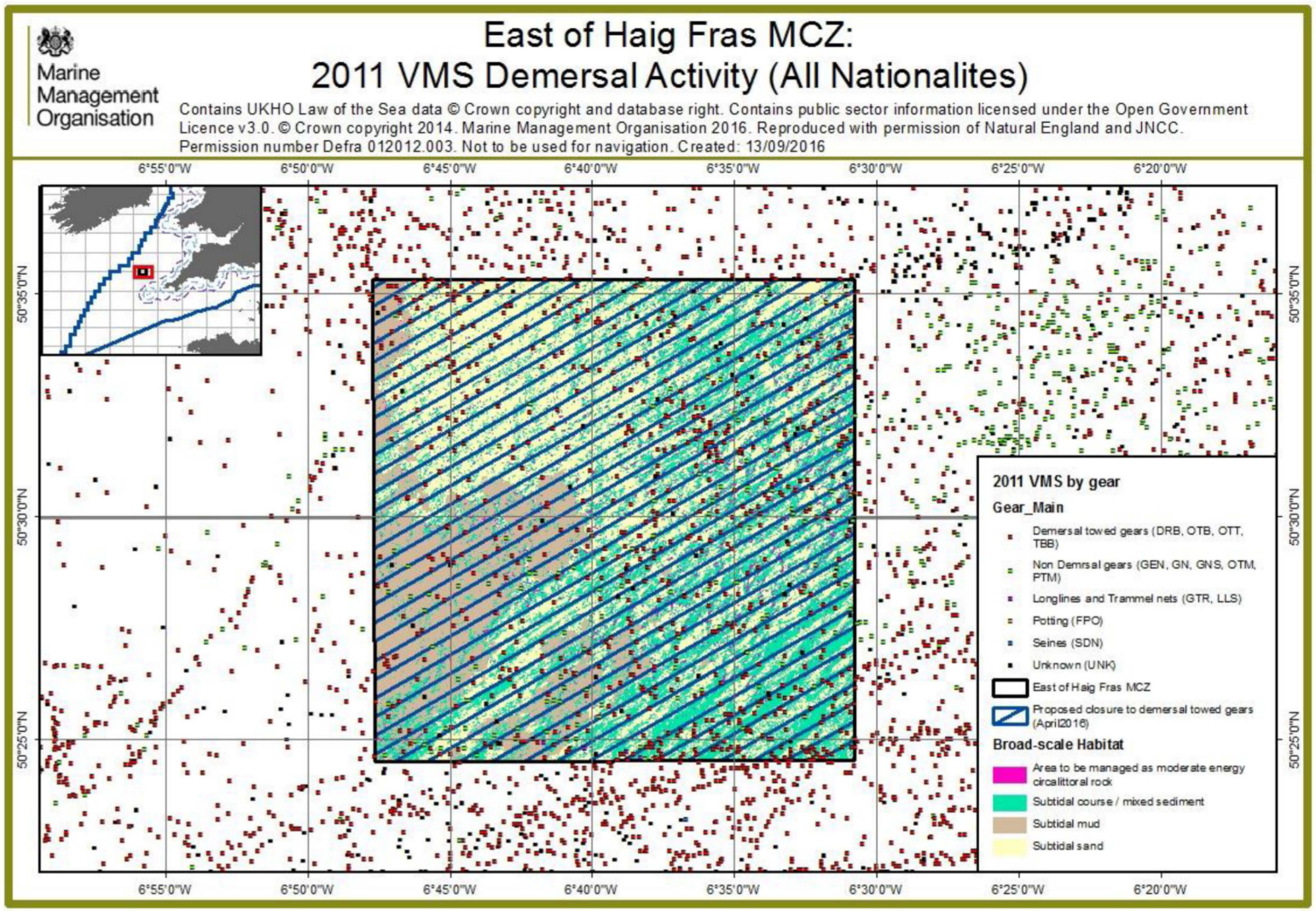


Figure 12: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2012 (All Nationalities)

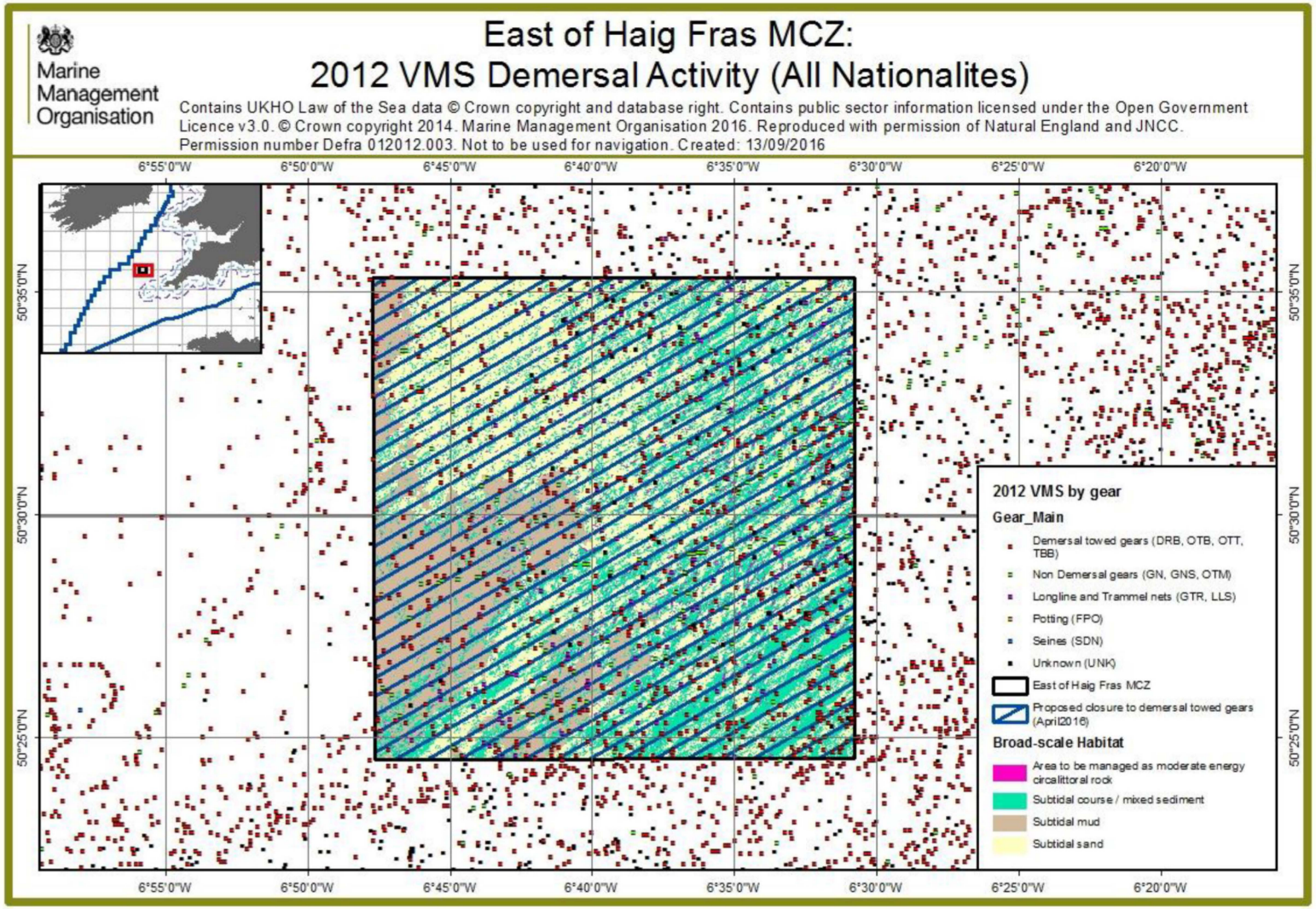


Figure 13: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2013 (All Nationalities)

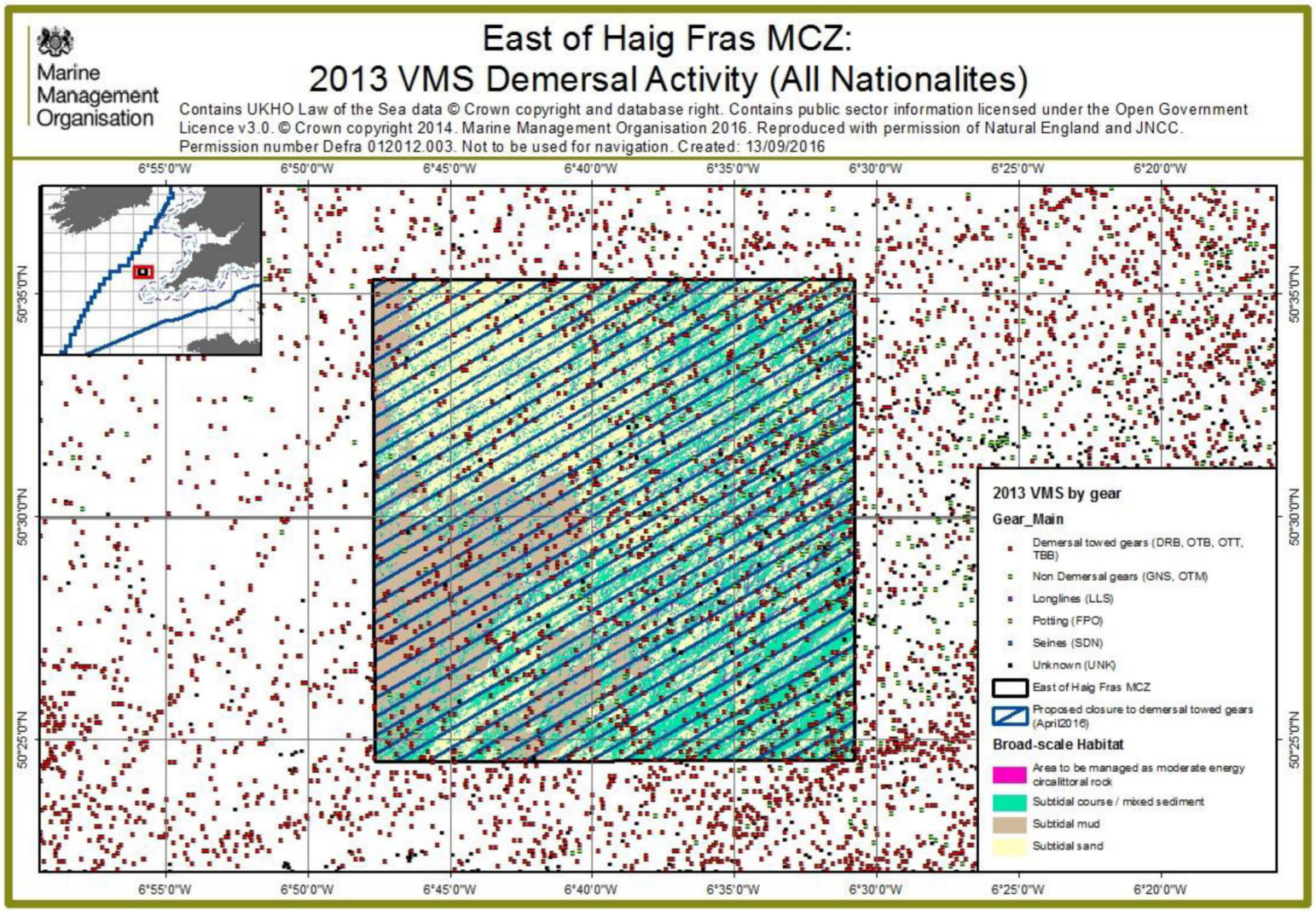


Figure 14: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2014 (All Nationalities)

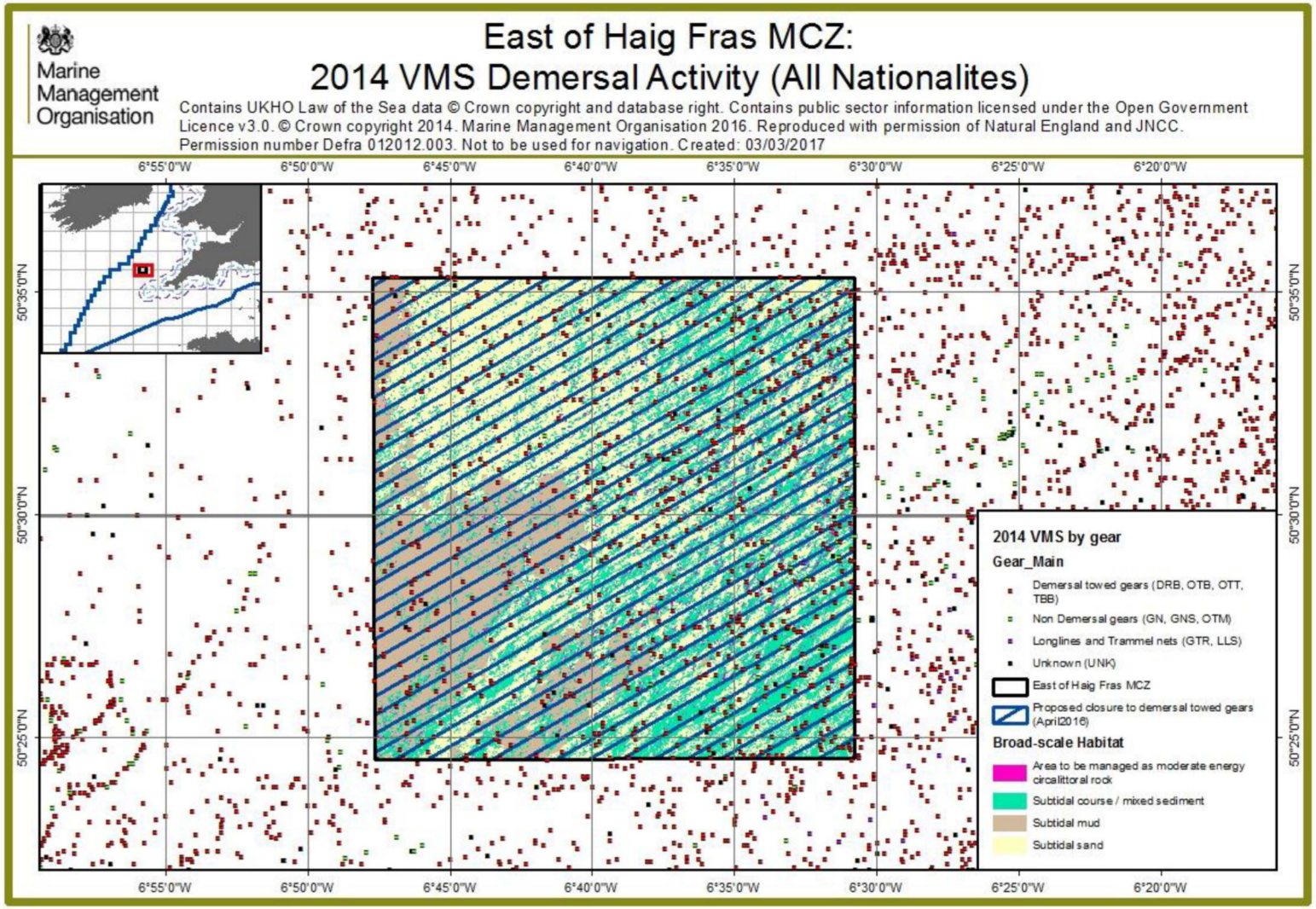
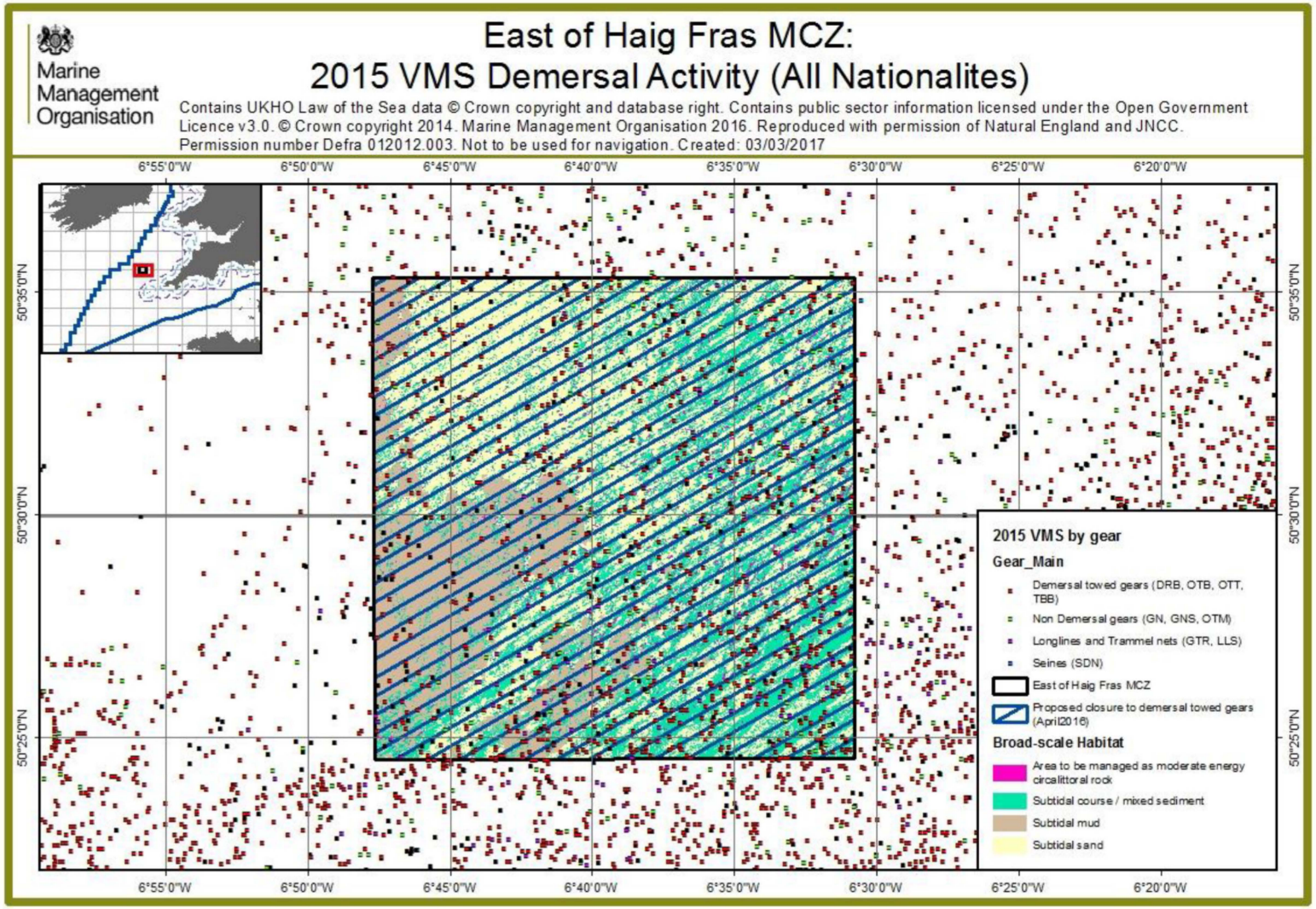


Figure 15: VMS reports indicating demersal /non demersal towed fishing activity in East of Haig Fras MCZ 2015 (All Nationalities)



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. France and Ireland have focused on otter trawling (OTB and OTT) and beam trawling (TBB) over the past years analysed (see charts 6.2 and 6.3). In recent years Ireland's otter trawling presence has decreased.

The fishery focuses demersal species.

- UK Demersal top species landed in terms of weight are Pollack, Hake, Ling, Anglerfish (Monkfish) Saithe, Haddock and Sole
- Other member states generally land Haddock, Whiting, Cod, Anglerfish (Monkfish), Ling and Sole.

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]

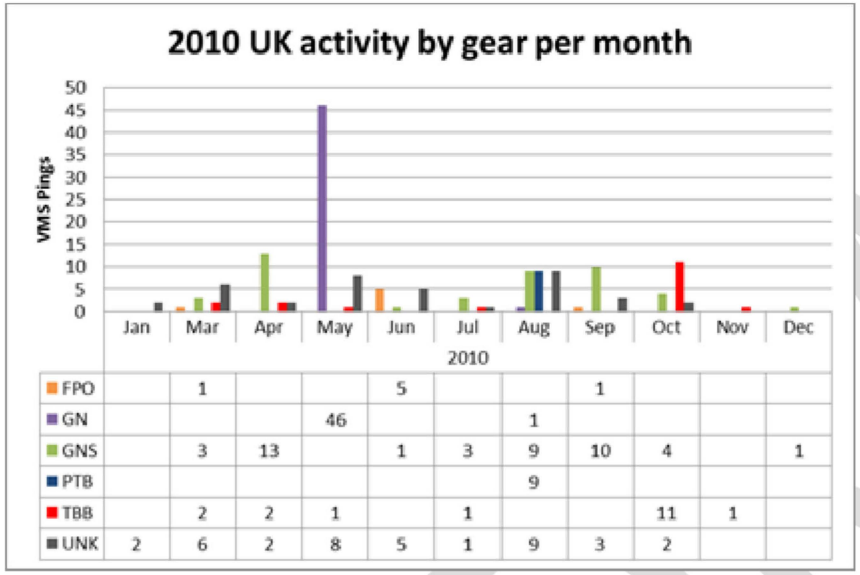
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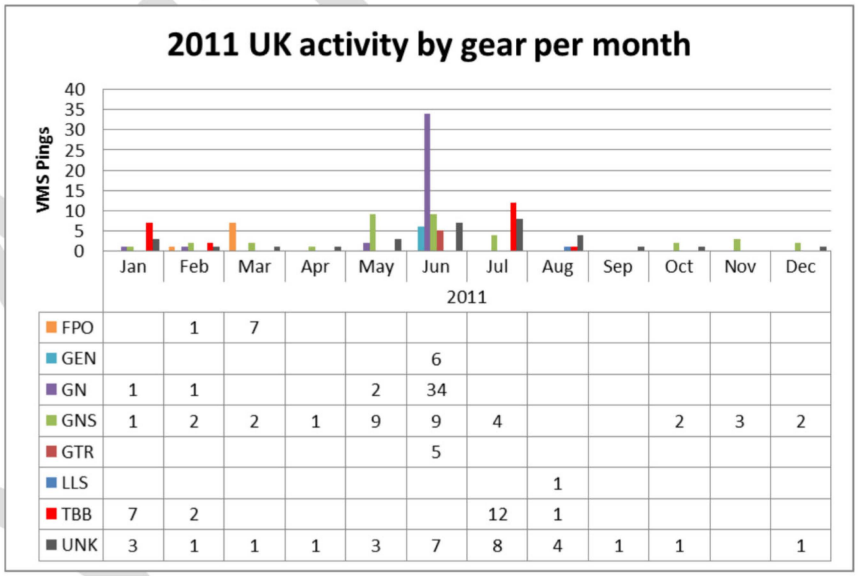
[8] http://ec.europa.eu/fisheries/cfp/fishing_rules/discards_en

6 Seasonal trends in fisheries over years 2010 to 2015 inclusive

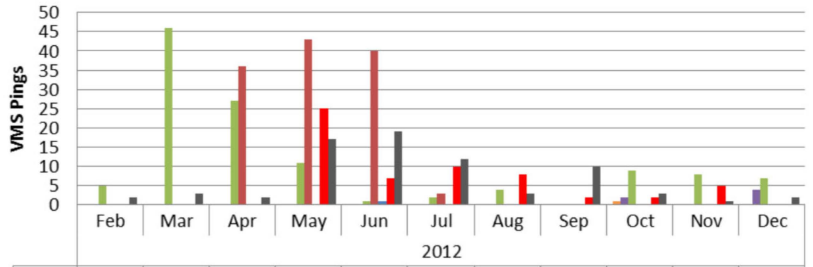
During the period analysed, 2010-2015, there was low levels of activity from a number of nationalities, Germany, Lithuania, Netherlands, Portugal and Spain. These are not displayed in the charts below.

Chart 6.1: Seasonal fishing activity (all gears) in East of Haig Fras MCZ



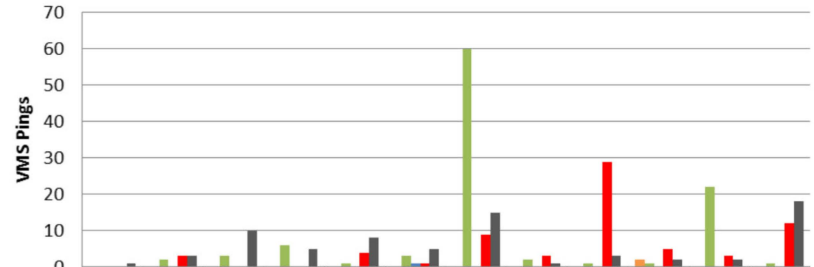


2012 UK activity by gear per month



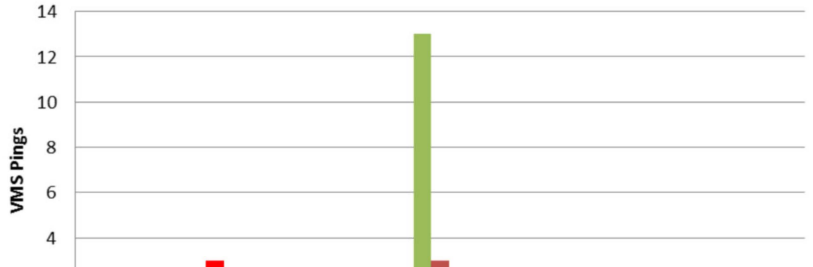
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FPO									1		
GN									2		4
GNS	5	46	27	11	1	2	4		9	8	7
GTR			36	43	40	3					
LLS					1						
TBB				25	7	10	8	2	2	5	
UNK	2	3	2	17	19	12	3	10	3	1	2

2013 UK activity by gear per month



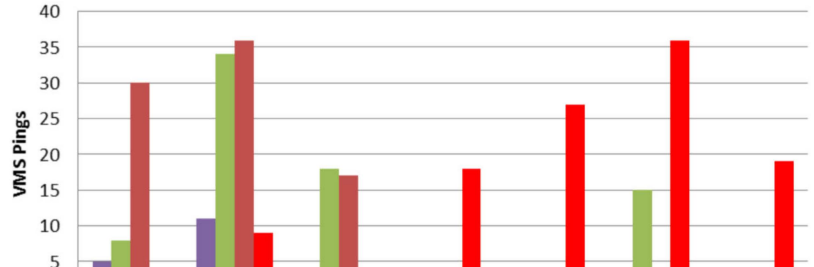
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FPO										2		
GNS		2	3	6	1	3	60	2	1	1	22	1
LLS						1						
TBB		3			4	1	9	3	29	5	3	12
UNK	1	3	10	5	8	5	15	1	3	2	2	18

2014 UK activity by gear per month



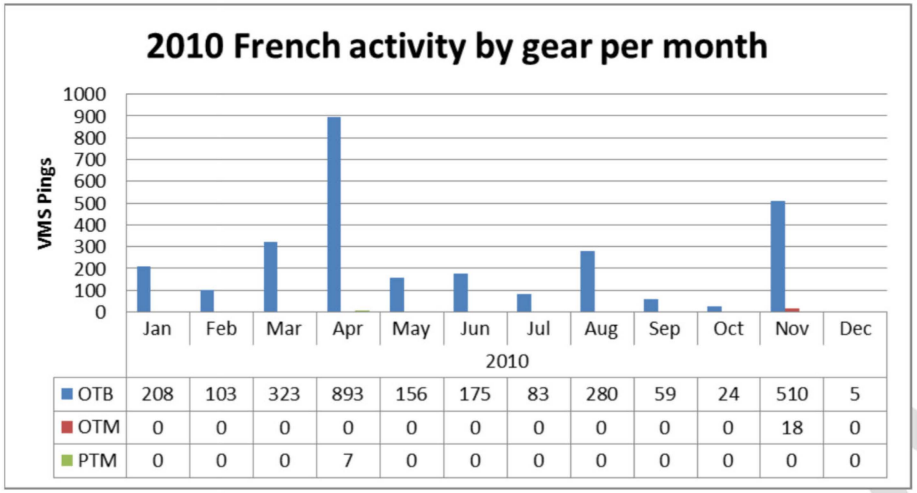
	Jan	Mar	Apr	Jun	Aug	Sep	Oct	Nov	Dec
GNS					13	1	1	2	1
GTR					3				
TBB	1	3	1	2		2			

2015 UK activity by gear per month

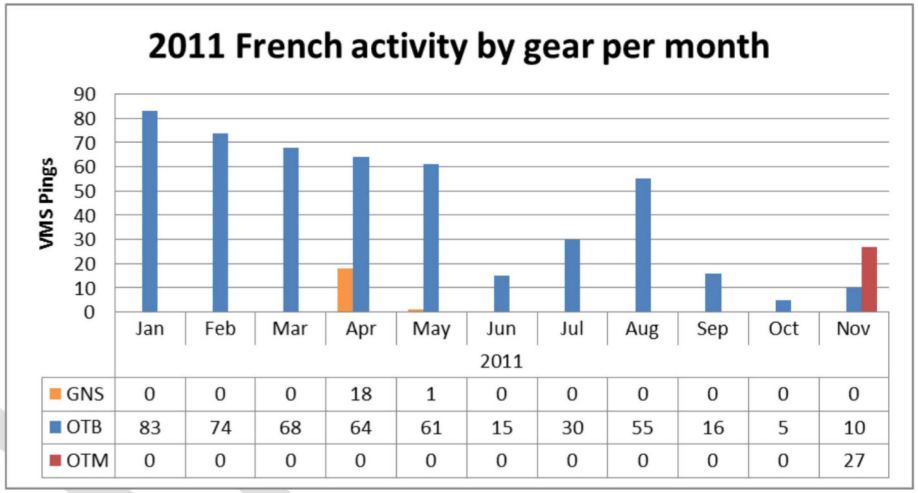


	May	Jun	Jul	Aug	Sep	Oct	Nov
GN	5	11					
GNS	8	34	18			15	
GTR	30	36	17				
TBB		9	1	18	27	36	19

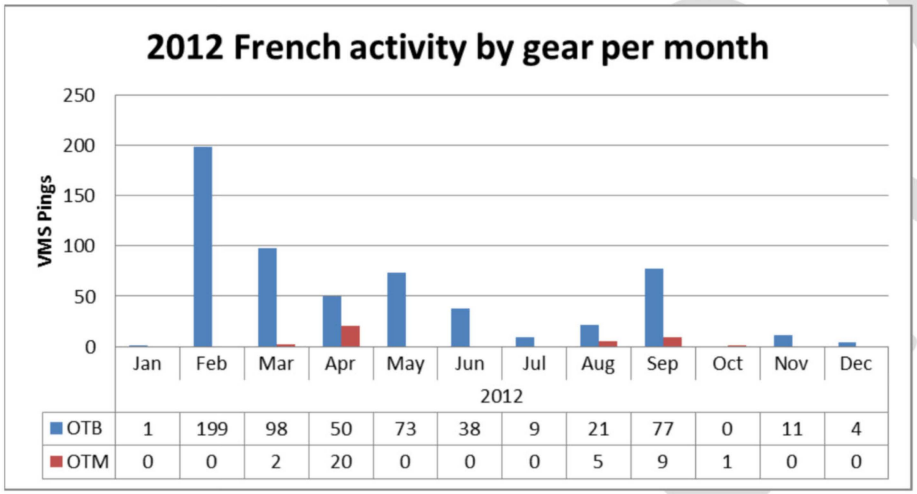
Charts 6.2: French seasonal fishing activity (all gears) in East of Haig Fras MCZ 2010 – 2015



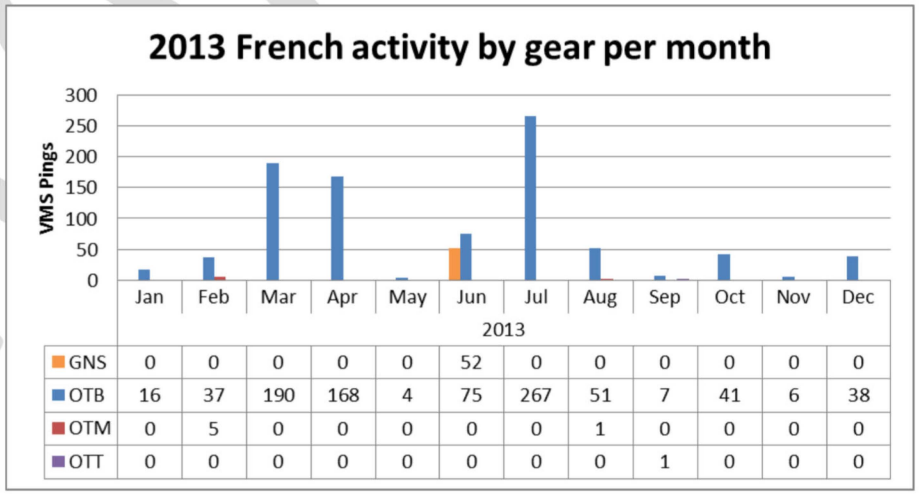
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
OTB	208	103	323	893	156	175	83	280	59	24	510	5
OTM	0	0	0	0	0	0	0	0	0	0	18	0
PTM	0	0	0	7	0	0	0	0	0	0	0	0



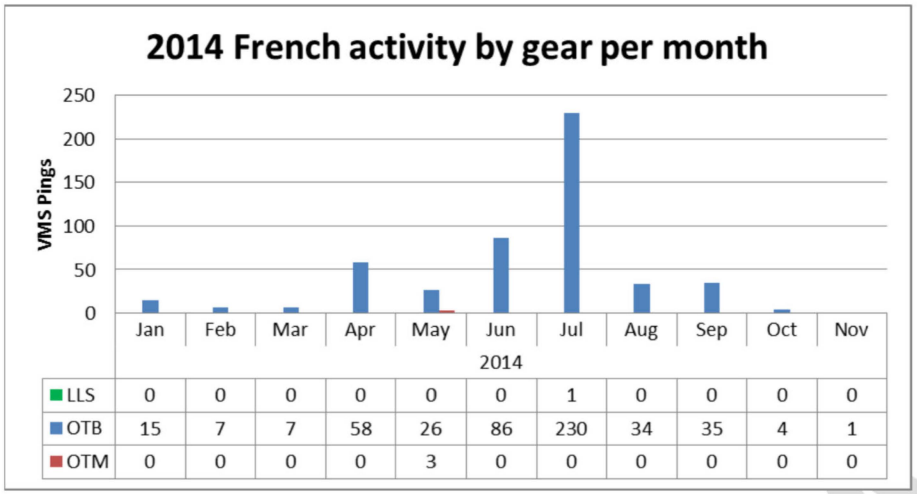
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
GNS	0	0	0	18	1	0	0	0	0	0	0
OTB	83	74	68	64	61	15	30	55	16	5	10
OTM	0	0	0	0	0	0	0	0	0	0	27

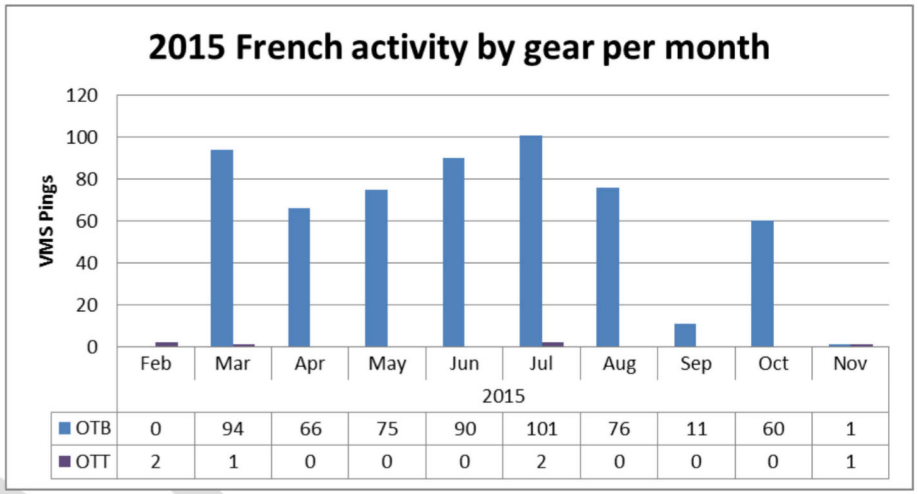


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
OTB	1	199	98	50	73	38	9	21	77	0	11	4
OTM	0	0	2	20	0	0	0	5	9	1	0	0

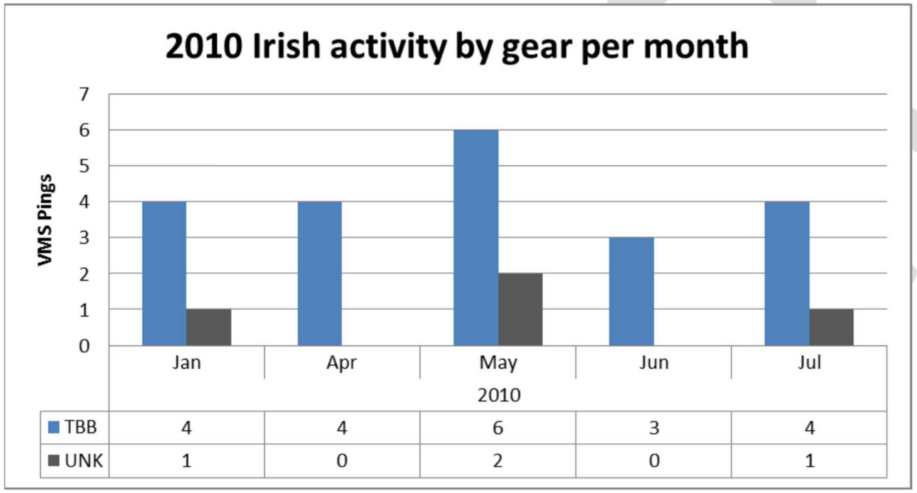


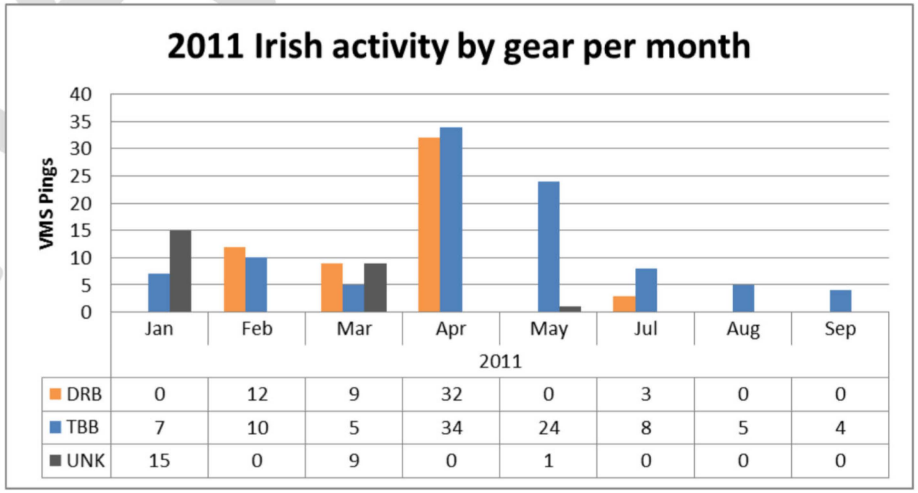
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GNS	0	0	0	0	0	52	0	0	0	0	0	0
OTB	16	37	190	168	4	75	267	51	7	41	6	38
OTM	0	5	0	0	0	0	0	1	0	0	0	0
OTT	0	0	0	0	0	0	0	0	1	0	0	0



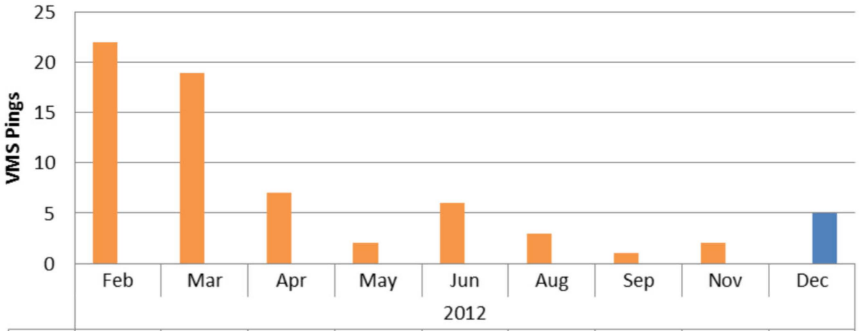


Charts 6.3: Irish seasonal fishing activity (all gears) in East of Haig Fras MCZ 2010 – 2015





2012 Irish activity by gear per month

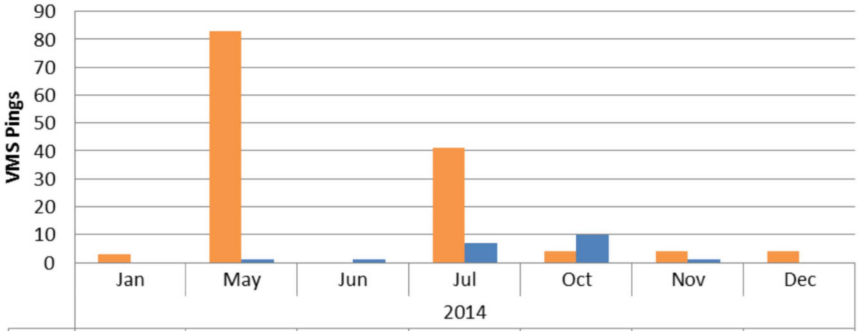


	Feb	Mar	Apr	May	Jun	Aug	Sep	Nov	Dec
DRB	22	19	7	2	6	3	1	2	0
TBB	0	0	0	0	0	0	0	0	5

2013 Irish activity by gear per month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
DRB	1	7	5	0	2	8	6	0	8	0
OTM	0	0	0	0	0	0	1	0	0	0
TBB	1	1	0	3	0	3	9	3	3	5

2014 Irish activity by gear per month



	Jan	May	Jun	Jul	Oct	Nov	Dec
DRB	3	83	0	41	4	4	4
TBB	0	1	1	7	10	1	0

2015 Irish activity by gear per month

	May	Jun	Jul	Aug	Sep	Oct
OTM	0	3	0	0	0	0
TBB	3	11	5	1	1	1

7. 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

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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.

a. Proposed management option

The proposed management option is to remove pressure through the exclusion of demersal towed gears across the entire MCZ. This option will prohibit the use of demersal towed gear over the entirety of the MCZ and therefore also the entire area to be managed as moderate energy circalittoral rock feature (Figure 11).

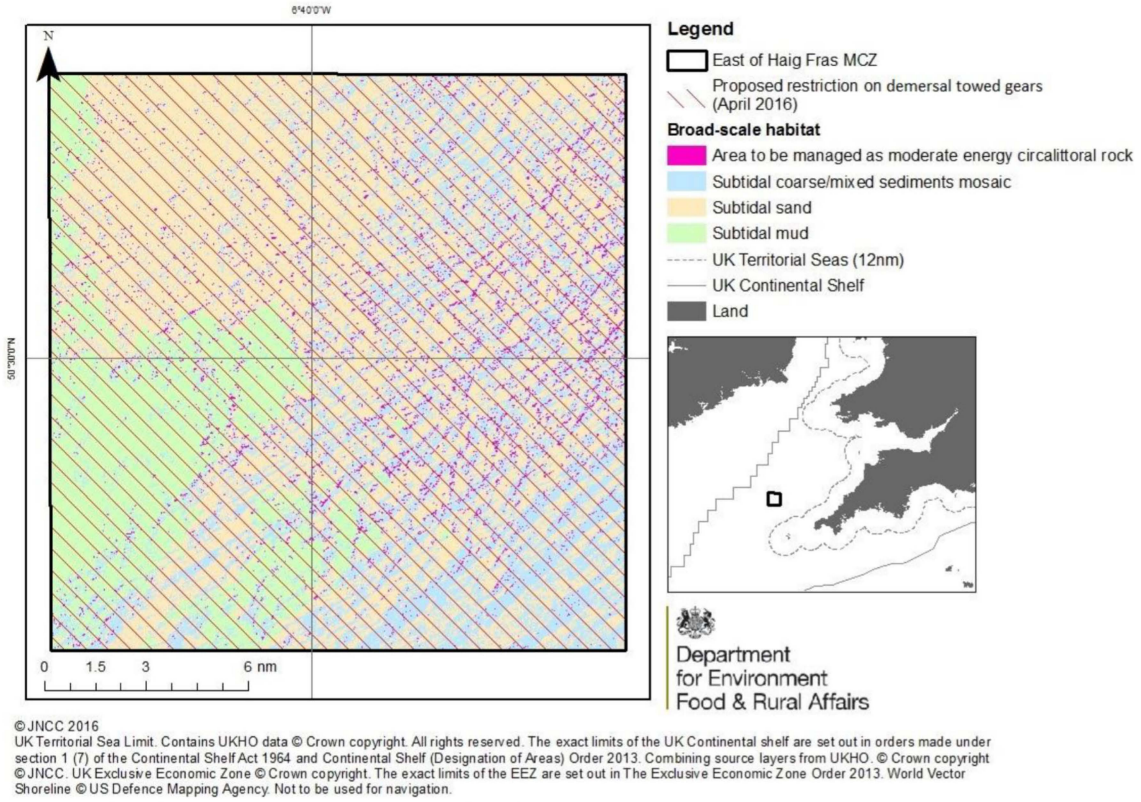


Figure 12: East of Haig Fras MCZ site map including protected features for which management is being proposed

b. Other fisheries measures which apply to the site

The East of Haig Fras MCZ lies within an area where Commission Regulation (EC) 494/2002 of 19 March 2002 establishing additional technical measures for the recovery of the stock of hake in ICES sub-areas III, IV, V, VI and VII and ICES divisions VIII a, b d, e applies.

Regulation 494/2002 contains the following measures:

- Catch composition rules requiring the maximum allowed proportion of hake in a total catch for gear types.
- Gear specification requirements, including twine thickness and mesh sizes for various gear types.

- Within a specified area[9] (which encompass East of Haig Fras MCZ), it is prohibited to use any fixed gear of mesh size less than 120mm.
- Within a specified area (which encompass East of Haig Fras MCZ), it is prohibited to use any towed net of mesh range 55 to 99mm, except for east of 7° 30'W where beam trawls of mesh range 55 to 99mm may be deployed from April to October.

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

a. Measures envisaged by Member states for Control, Enforcement and Compliance

The proposed control, enforcement and compliance regime for East of Haig Fras MCZ consists of a reporting zone around the prohibited area, increased reporting within zone, 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 CFP.

i. Surface surveillance

Surface surveillance of East of Haig Fras MCZ will be continued under the existing surveillance plans for the Celtic Sea and South West Approaches. 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 MMOS's risk based compliance and enforcement strategy.

ii. 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 MCZ without being identified between the two hourly reporting times. Increased reporting within the site will reduce this risk.

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

Increased reporting zone

Vessels fishing within 1nm of the MCZ 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. Vessels will still be allowed to fish in the increased reporting

[9] As defined by article 5, paragraph 1(a) of Commission Regulation (EC) 494/2002 of 19 March 2002 establishing additional technical measures for the recovery of the stock of hake in ICES sub-areas III, IV, V, VI and VII and ICES divisions VIII a, b d,e

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b. Vessel position monitoring system requirement and estimation of increased reporting costs.

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 MMO 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.

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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c. Key provisions to include in EC regulation to manage East of Haig Fras MCZ

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

- A prohibition on any demersal trawls, dredges and seines being deployed within the MCZ.
- Establishment of a 1nm (1.852km) reporting zone around East of Haig Fras MCZ. All fishing vessels within this area shall be required to record or report vessel positions at minimum 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 for minimal requirements) and is installed and operative. Any fishing vessel entering East of Haig Fras MCZ or the reporting zone without such a system will be committing an offence.
- A requirement for all fishing vessels transiting the restricted area carrying prohibited gears to have all prohibited 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 six knots except in the case of force majeure or adverse conditions. In such cases the master shall immediately inform the fisheries monitoring centre of the flag member state which shall then inform the UK FMC.

The proposal on which gears types to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011. In general prohibited gears types are demersal towed gears and dredges and seines over certain features. 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 gear types 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.

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

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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 the MCZ will be closed to demersal trawls, dredges and seines, some displacement is likely to occur both within and outside the MCZ.

Displacement is difficult to quantify, and it is impossible to predict where exactly activities will be displaced to.

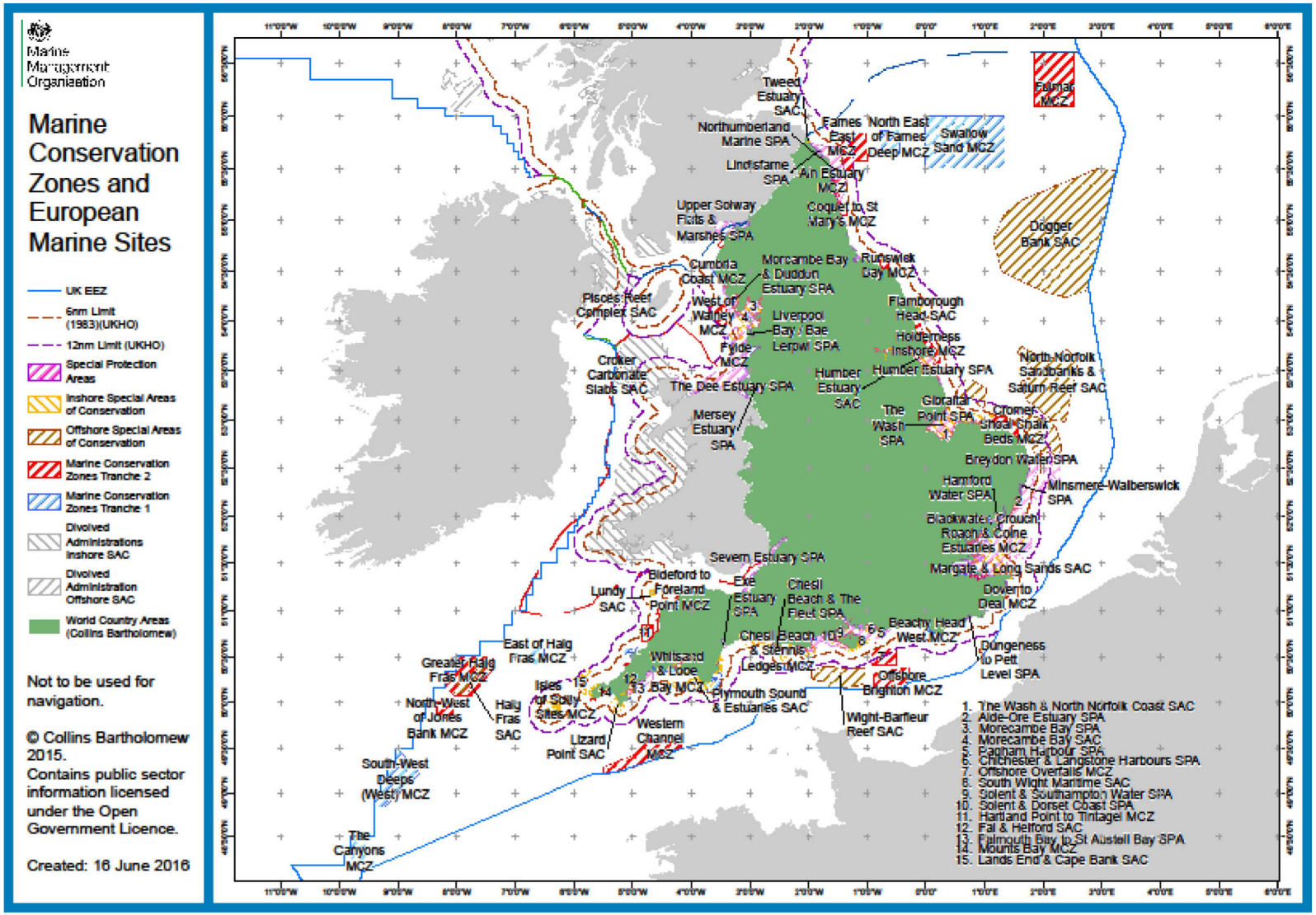
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Displacement is dependent on the intensity and distribution of fishing activities within the site before the closure and on external factors (such as fish distribution, TAC/quota, fuel prices, other spatial claims).

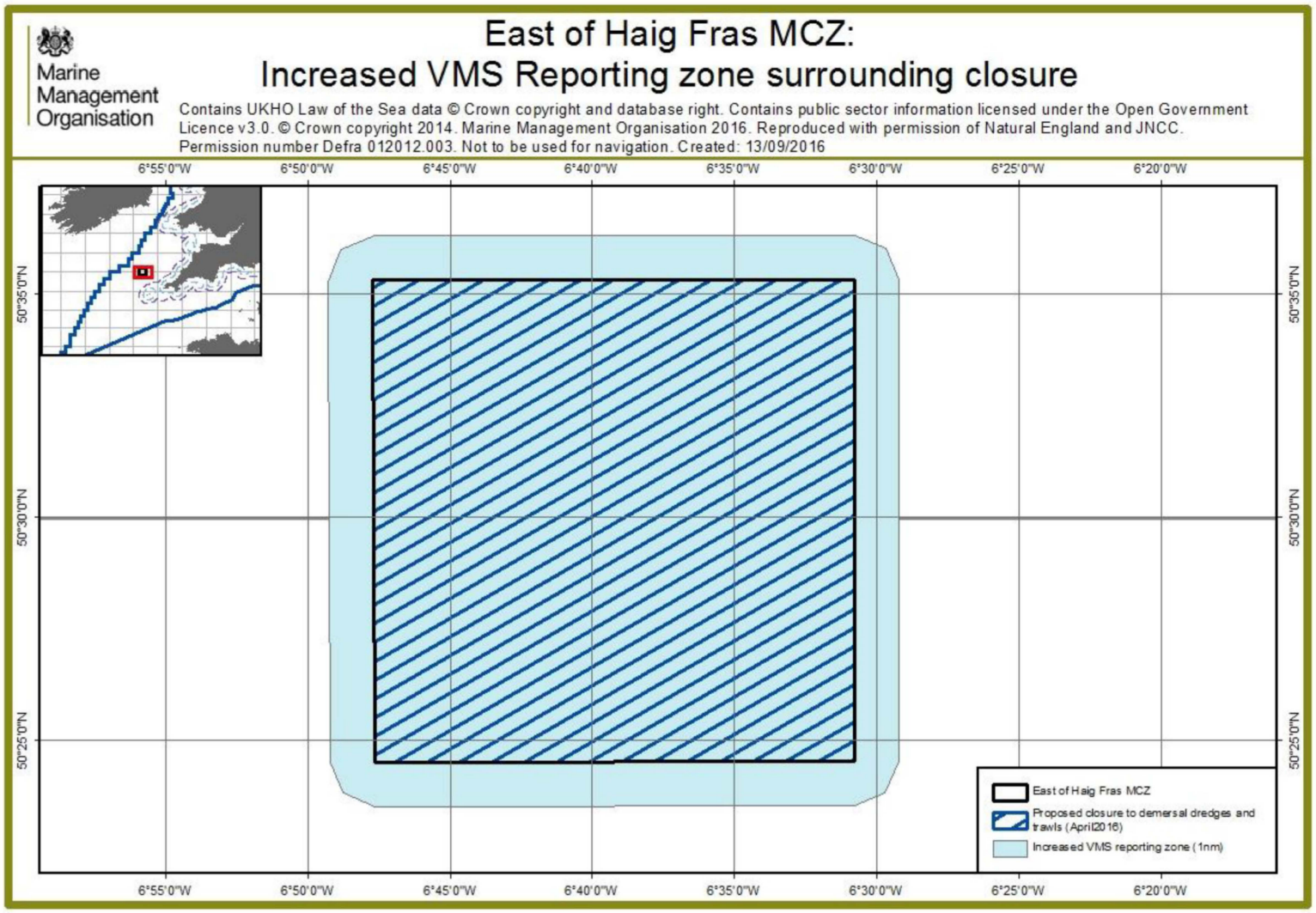
As part of the MMOs risk-based enforcement, regular monitoring of fishing activity is collated on a Monitoring Control and Surveillance System (MCSS). MCSS does not analyse fishing trends and activity, but stores information, which can be accessed at any time. The MMOs monitoring of activity in each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



Annex D – Map and coordinates for East of Haig Fras MCZ reporting zone with increased reporting



Increased reporting zone coordinates

	Degrees Minutes		Degrees Minutes Seconds	
Point	Lat (North)	Lon (West)	Lat (North)	Lon (West)
1	50°23.53740'	-006°30.78360'	50°23'32.2440"	-006°30'47.0160"
2	50°23.52720'	-006°47.65140'	50°23'31.6320"	-006°47'39.0840"
3	50°23.82960'	-006°48.78120'	50°23'49.7760"	-006°48'46.8720"
4	50°24.51480'	-006°49.21980'	50°24'30.8880"	-006°49'13.1880"
5	50°35.28720'	-006°49.29180'	50°35'17.2320"	-006°49'17.5080"
6	50°36.00780'	-006°48.85500'	50°36'00.4680"	-006°48'51.3000"
7	50°36.31740'	-006°47.66160'	50°36'19.0440"	-006°47'39.6960"
8	50°36.31320'	-006°30.76860'	50°36'18.7920"	-006°30'46.1160"
9	50°36.02220'	-006°29.66040'	50°36'01.3320"	-006°29'39.6240"
10	50°35.32080'	-006°29.20200'	50°35'19.2480"	-006°29'12.1200"
11	50°24.53700'	-006°29.20620'	50°24'32.2200"	-006°29'12.3720"
12	50°23.81700'	-006°29.68980'	50°23'49.0200"	-006°29'41.3880"

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Annex E – References

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