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Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

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## II

*(Non-legislative acts)*

## DECISIONS

## COMMISSION IMPLEMENTING DECISION

of 11 December 2013

**confirming measures proposed by the United Kingdom for the protection of marine ecosystems in the areas of conservation Haisborough Hammond & Winterton; Start Point to Plymouth Sound & Eddystone, and Land's End & Cape Bank**

*(notified under document C(2013) 9003)***(Only the Dutch, English and French texts are authentic)**

(2014/13/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the common fisheries policy <sup>(1)</sup>, and in particular Article 9 in conjunction with Article 8(3) thereof,

Whereas:

(1) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora <sup>(2)</sup> provides for the possibility to designate at EU level specific conservation sites. Under Articles 3 and 4, that Directive requires Member States to establish special areas of conservation and, under Article 6 thereof, to take the necessary measures to protect these sites from disturbance and deterioration.

(2) By Commission Implementing Decision 2012/13/EU <sup>(3)</sup> the areas called Haisborough, Hammond & Winterton (UK0030369), Start Point to Plymouth Sound & Eddystone (UK0030373) and Land's End & Cape Bank (UK0030375) were included in the list of Sites of Community Importance under Article 4(2) of Directive 92/43/EEC.

(3) Measures concerning the conservation, management and exploitation of living aquatic resources are subject to the rules of the common fisheries policy.

(4) Article 9 of Regulation (EC) No 2371/2002 enables Member States to take non-discriminatory measures to minimise the effect of fishing on the conservation of marine ecosystems within 12 nautical miles, provided that the Union has not adopted measures addressing conservation or management specifically for that area. Directive 92/43/EEC requires the establishment of conservation measures as necessary for these sites. The Member States' measures must be compatible with the objectives of the common fisheries policy as set out in Article 2 of Regulation (EC) No 2371/2002 and no less stringent than existing Union legislation. If the measures apply to fishing vessels from other Member States, they must be notified to the Commission, to the Member States and to the Regional Advisory Councils concerned and be subsequently confirmed by the Commission.

(5) On 18 November 2013 the United Kingdom notified the measures it intends to take in the above three areas of conservation to Belgium and France, which are the Member States concerned by the measures, as well as to the North Sea Regional Advisory Council, the North Western Waters Regional Advisory Council and to the European Commission.

(6) The measures put forward on the basis of Directive 92/43/EEC by the United Kingdom establish a zoning of the three areas of conservation, and the prohibition to use any bottom towed fishing gear within specified areas in each of the three designated areas of conservation. For the purposes of the measures addressed by

<sup>(1)</sup> OJ L 358, 31.12.2002, p. 59.

<sup>(2)</sup> OJ L 206, 22.7.1992, p. 7.

<sup>(3)</sup> OJ L 11, 13.1.2012, p. 1.

this Decision, the United Kingdom defines bottom towed gear as any fishing gear pushed or pulled through the water which touches the seabed. This includes demersal otter trawls, demersal beam trawls and towed and suction dredges.

- (7) The measures proposed by the United Kingdom aim to contribute to the implementation of Directive 92/43/EEC and are compatible with the objectives set out in Article 2 of Regulation (EC) No 2371/2002, in particular with the precautionary approach to be followed in taking measures designed to protect and conserve living aquatic resources.

HAS ADOPTED THIS DECISION:

*Article 1*

The measures proposed by the United Kingdom for the protection of marine ecosystems in the areas of conservation

Haisborough Hammond & Winterton; Start Point to Plymouth Sound & Eddystone, and Land's End & Cape Bank, as set out in Annex are hereby confirmed.

*Article 2*

This Decision is addressed to the Kingdom of Belgium, the French Republic and the United Kingdom of Great Britain and Northern Ireland.

Done at Brussels, 11 December 2013.

*For the Commission*

Maria DAMANAKI  
*Member of the Commission*



## ANNEX

**EXPLANATORY MEMORANDUM ON THE NOTIFICATION OF THREE BYELAWS TO PROHIBIT BOTTOM TOWED FISHING GEAR IN SPECIFIED AREAS IN UK TERRITORIAL WATERS**

Notification under art. 9 of Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy (Official Journal L 358, 31.12.2002 P. 59).

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## 1. INTRODUCTION

It is the intention of the UK government to take measures prohibiting bottom towed fishing activities in specified areas to protect designated Annex I reef features of certain UK marine Natura 2000 sites. In order to apply these measures to all vessels, including fishing vessels of other Member States of the EU, the UK is following the procedures laid out in article 9 of Reg. 2371/2002 of the EU. The measures which the UK intends to take, and the relevant Member States affected are below:

- The Land's End and Cape Bank European marine site (specified area) bottom towed fishing gear byelaw – France and Belgium (Annex I)

- The Start Point to Plymouth Sound and Eddystone European marine site (specified areas) bottom towed fishing gear byelaw – France and Belgium (Annex II)
- The Haisborough, Hammond and Winterton European marine site (specified areas) bottom towed fishing gear byelaw - Belgium (Annex III)

## 2. EU LEGAL FRAMEWORK

### 2.1. **Article 9 of Reg. 2371/2002 (Common Fisheries Policy Basic Regulation)**

Article 9 of Reg. 2371/2002 allows Member States to take non-discriminatory measures to minimise the effect of fishing on the conservation of marine eco-systems within 12 nautical miles of its baselines provided that the Community has not adopted measures addressing conservation and management specifically for this area.

The Member State measures shall be compatible with the objectives set out in article 2 and they shall be no less stringent than existing Community legislation.

If the Member States measures are liable to affect the vessels of another Member State, such measures shall be adopted only after the Commission, the Member State and the Regional Advisory Councils (RACs) concerned have been consulted on a draft of the measures accompanied by an explanatory memorandum.

The aim of the proposed UK measures is to minimise the effect of fishing on the conservation of marine eco-systems by protecting designated Annex I of Council Directive 92/43/EEC reef features from deterioration due the impact of bottom towed fishing gears.

Furthermore, the Community has not adopted measures specifically addressing the conservation of marine ecosystems for these marine Natura 2000 sites.

### 2.2. **Access to UK territorial waters**

Annex I of Reg. 2371/2002 lays out access rights to English territorial waters (between 6 and 12 nautical miles of the 1983 baselines) of vessels from other Member States.

French and Belgian vessels have access to fish for demersal fish in areas which include Land's End and Cape Bank Site of Community Importance (SCI) <sup>(1)</sup> and Start Point to Plymouth Sound and Eddystone SCI. In addition, Belgian vessels also have access to fish for demersal fish in the area including Haisborough, Hammond and Winterton SCI.

## 3. ENGLISH LEGAL FRAMEWORK

### 3.1. **Marine and Coastal Access Act 2009 (MaCCA)**

Sections 129 to 133 of MaCCA give the Marine Management Organisation (MMO) the power in England to make byelaws out to 12 nautical miles from the UK baseline to further the conservation objectives of marine conservation zones (MCZs) (a type of marine protected area).

### 3.2. **Conservation of Habitats and Species Regulations 2010 (Habitats Regulations)**

Section 38 of the Habitats Regulations extends the MMO's byelaw making powers under MaCCA to empower the MMO to make byelaws for the protection of a European marine site (marine Natura 2000 site) in England.

<sup>(1)</sup> Sites of Community importance (SCI) are those which have been submitted to the European Commission for selection as a special area of conservation (SAC), which make up part of the marine Natura 2000 site series

4. THE REVISED APPROACH TO MANAGEMENT OF COMMERCIAL FISHERIES IN EUROPEAN MARINE SITES (NATURA 2000 SITES)

On the 14 August 2012 the Department for Environment, Food and Rural Affairs (Defra) announced a revised approach to management of commercial fisheries in European marine sites <sup>(1)</sup> (marine Natura 2000 sites) in English waters. The revised approach was developed and is being implemented in close consultation with the Fisheries in European Marine Site Implementation Group, which includes representatives from the fishing industry, environmental NGOs and fisheries and marine scientific advisors.

Under the revised approach, a generic risk assessment of the interactions between all commercial fishing activities and all designated features of marine Natura 2000 sites in English waters was undertaken. The results of this assessment have been brought together and displayed in a matrix <sup>(2)</sup>. In this matrix, activity/feature interactions have been categorised as red, amber, green, or blue. A classification as red indicates a high risk of deterioration to the feature. To ensure that the risk of deterioration of the feature is removed and to thereby secure compliance with article 6 of Council Directive 92/43/EEC (the "Habitats Directive"), UK regulators are required to introduce management to prohibit activity resulting in these interactions by the end of 2013. The outputs of the matrix were subject to an independent review by the Centre for Environment, Fisheries, and Aquaculture Science (Cefas) <sup>(3)</sup>.

The proposed measures included in this notification, are to manage high risk (or red) interactions. For those interactions classified as amber, there is more uncertainty regarding the risk, and as such site-level assessments will be required to determine whether management of an activity is required to protect features. Assessments will take place between 2014 to 2016, and should any management measures be required, these will be introduced by the end of 2016. Assessment of amber interactions must take into account in combination effects from interactions which, by themselves, are highly unlikely to affect the achievement of the feature's conservation objective (these are categorised as green in the matrix). A categorisation of blue indicates that there is no feasible interaction, and as such no further assessment is required.

5. PROPOSED MEASURES

The proposed measures prohibit the use of bottom towed fishing gear in specified areas (Annexes I-III). Bottom towed fishing gear includes any fishing gear pushed or pulled through the water which touches the seabed. This includes demersal otter trawls, demersal beam trawls and towed and suction dredges.

The interactions between these reef features and bottom towed fishing gear have been selected for protection because they have been identified as posing a high risk of deterioration to the features. Other interactions occurring in these marine Natura 2000 sites (for example between bottom towed gear and sandbanks) will be subject to an assessment of impact on a site by site basis (as detailed above) and appropriate management for these interactions will be introduced by the end of 2016.

For each proposed measure, an impact assessment (IA) has been prepared to identify any economic impacts arising (annex IV-VI).

6. ENFORCEMENT OF MEASURES

The MMO will undertake an intelligence led, risk based enforcement approach to the management of European marine sites.

Where intelligence suggests non compliance or a risk of non compliance with a management measure the MMO will develop an enforcement strategy specific to the needs of that MPA and where necessary deploy resources accordingly. This may include a Navy presence, aerial surveillance or joint operations with other agencies (for example the IFCAs, UK Border force, EA or other member state regulating bodies) The MMO will coordinate any joint operations and frequency and intensity of enforcement will be determined by risk and intelligence monitoring measures may also be employed requiring vessels to report their position.

<sup>(1)</sup> Defra policy document: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/policy\\_and\\_delivery.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/policy_and_delivery.pdf)

<sup>(2)</sup> Fisheries in European marine sites matrix: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/populated\\_matrix3.xls](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/populated_matrix3.xls)

<sup>(3)</sup> Cefas independent review of the matrix: [http://www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/cefass\\_matrix\\_review.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/cefass_matrix_review.pdf)

Further information regarding the MMOs Risk Based Enforcement Process can be found at: <http://www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf>

The principals by which the MMO will regulate MPAs are set out by the Legislative and Regulatory Reform Act 2006 and the Regulators' Compliance Code and aim to ensure that the MMO is proportionate, accountable, consistent, transparent and targeted in any enforcement action it takes. Further information can be found in the MMOs compliance and enforcement strategy: [http://www.marinemanagement.org.uk/about/documents/compliance\\_enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/compliance_enforcement.pdf)

#### 7. CONSULTATION OF RELEVANT MEMBER STATES, REGIONAL ADVISORY COUNCILS, AND THE EUROPEAN COMMISSION

The relevant Member States for these proposed measures are France and Belgium. The relevant RACs are the North Sea RAC (for Haisborough, Hammond and Winterton SCI) and the North Western Waters RAC (for Land's End and Cape Bank SCI and Start Point to Plymouth Sound and Eddystone SCI).

The fisheries authorities of France and Belgium were contacted to discuss the UK proposals during informal consultation. Both fisheries authorities, relevant fishing industry representatives from France and Belgium, and the relevant RACs were all consulted as part of formal consultation on these measures from 10 September to 22 October 2013.

##### 7.1. Consultation dates

Informal pre-consultation on the proposed measures took place from 9 June to 15 August 2013. Public consultation on these measures, as required under UK legislation took place from 10 September to 22 October 2013. Formal notification, as required by article 9 of Reg. 2371/2002 will be made by 18 November 2013.

The Marine Management Organisation (MMO) wrote to the fisheries authorities of France (Direction des pêches maritimes et de l'aquaculture, and Agence des aires marine protégées) and Belgium (Dienst Zeevisserij) on 7 June 2013 requesting the opportunity to discuss our proposals with authorities and fishing industry representatives.

A meeting was arranged on 12 July 2013 between MMO, Dienst Zeevisserij (the Belgian fisheries authorities), the Redescentrale (the Belgian Fish Producer Organisation) and other Belgian fishing industry representatives.

The French authorities responded to the MMO on 9 July 2013 suggesting a meeting in September. A meeting was arranged on 27 September 2013 between MMO, direction des pêches maritimes et de l'aquaculture (the French fisheries authorities), the Comité National des Pêches Maritimes et des élevages marins (CNPMEM: the French national fishing industry representatives) and several regional French fisheries representatives.

MMO wrote to the two RACs on 10 September 2013, inviting them to comment on the public consultation. Follow up phone calls to the secretariat of each RAC indicated that both RACs would not be making a consolidated response to the public consultation, but would pass the consultation details to their members to respond individually if they wished to.

##### 7.2. Responses to public consultation and MMO replies

No responses to the public consultation were received from French or Belgian authorities or from the relevant RACs. Responses to the public consultation concerning vessels of other Member States were received from the Redescentrale and CNPMEM.

##### 7.3. Correspondence between the UK and the European Commission

Defra wrote to the European Commission on 20th June to provide an update on the proposed MMO measures. This included a map of the annex 1 features which required protection. A meeting was arranged on 18 September 2013 between Defra, the MMO, and the European Commission to further outline the MMO's proposals.

## ANNEX I

## MARINE MANAGEMENT ORGANISATION

## MARINE AND COASTAL ACCESS ACT 2009 (2009 c.23)

## THE LANDS END AND CAPE BANK EUROPEAN MARINE SITE (SPECIFIED AREA) BOTTOM TOWED FISHING GEAR BYELAW

The Marine Management Organisation <sup>(1)</sup> in exercise of the powers conferred by regulation 38 of the Conservation of Habitats and Species Regulations 2010 <sup>(2)</sup> and section 129 of the Marine and Coastal Access Act 2009 <sup>(3)</sup>, and having:

- placed copies of the draft byelaw in convenient places for the purpose of inspection in accordance with section 130(3) of that Act;
- provided a copy of the draft byelaw to any person upon request in accordance with section 130(4) of that Act;
- published notice of its proposal to make the byelaw in accordance with sections 130(6) and 130(7) of that Act;
- consulted with the European Commission, the Government of the Kingdom of Belgium, the Government of the French Republic, and the North Western Waters Regional Advisory Council and subsequently received confirmation of the draft byelaw from the Commission, in accordance with Articles 8(3), 9(1) and 9(2) of Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and suitable exploitation of fisheries resources under the Common Fisheries Policy <sup>(4)</sup>;

makes the following byelaw.

**Interpretation**

1. In this byelaw, “the specified area” means Cape Bank as defined in the Schedule.

**Prohibition**

2. No person shall use any bottom towed fishing gear in the specified area.

**Exemption for Scientific, Stocking or Breeding Purposes**

3. This byelaw shall not apply to any person performing an act which would otherwise constitute an offence against this byelaw, if that act was carried out in accordance with a written permission issued by the Marine Management Organisation permitting that act for scientific, stocking or breeding purposes.

**Citation**

4. This byelaw may be cited as the Lands End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw.

Made under the Common Seal of the Marine Management Organisation

this [ ]th day of [ ] 2013

**Ls**

The Common Seal of the Marine Management Organisation was affixed to this byelaw in the presence of:

[name]  
Chief Executive of the Marine  
Management Organisation

The Secretary of State for Environment, Food and Rural Affairs in exercise of the power conferred by section 130(8) of the Marine and Coastal Access Act 2009 confirms the Lands End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw made by the Marine Management Organisation on [ ]th [ ] 2013 and has determined that the byelaw comes into force on [ ]th [ ] 2013.

<sup>(1)</sup> The Marine Management Organisation was established by the Marine and Coastal Access Act 2009, section 1.

<sup>(2)</sup> S.I. 2010/490 amended by S.I. 2012/1927.

<sup>(3)</sup> 2009 c.29

<sup>(4)</sup> OJ L 358, 31.12.2002 p. 59; amended by Council Regulation (EC) No 865/2007 of 10 July 2007 (OJ L 192 24.07.2007 p. 1); Council Regulation (EC) No 1224/2009 of 20 November 2009 (OJ L 343 22.12.2009 p. 1); Regulation (EU) No 1152/2012 of the European Parliament and of the Council of 21 November 2012 (OJ L 343 14.12.2012 p. 30).

[name]  
[Job title]

A Senior Civil Servant for, and on behalf of, the Secretary of State for Environment, Food and Rural Affairs

Date:

#### SCHEDULE

##### Definition of Cape Bank

Co-ordinates used in this Schedule are based on WGS 84 datum, where 'WGS 84' means the World Geodetic System, revised in 1984.

"Cape Bank", means the area enclosed by a line drawn from:

Point A (50 Degrees 19,969, Minutes North, 5 Degrees 43,216 Minutes West) to

Point B (50 Degrees 16,913, Minutes North, 5 Degrees 48,820 Minutes West) to

Point C (50 Degrees 8,500, Minutes North, 5 Degrees 47,338 Minutes West) to

Point D (50 Degrees 4,747, Minutes North, 5 Degrees 48,929 Minutes West) to

Point E (50 Degrees 11,468, Minutes North, 5 Degrees 57,977 Minutes West) to

Point F (50 Degrees 19,129, Minutes North, 5 Degrees 52,099 Minutes West) to

Point G (50 Degrees 21,159, Minutes North, 5 Degrees 44,468 Minutes West)

and then from Point G to Point A.

##### Explanatory Note

*(This note is not part of the Byelaw)*

The Marine Management Organisation has made this byelaw to ensure that fishing activities are managed in a manner that secures compliance with the requirements of Article 6 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

This Byelaw protects offshore upstanding reef communities by prohibiting the use of bottom towed fishing gear in specified areas of the Lands End and Cape Bank.

The specified areas are defined in paragraph 1 of and the Schedule to this byelaw.

The specified areas are identified, for illustrative purposes only, on the maps below.





## ANNEX II

## MARINE MANAGEMENT ORGANISATION

## MARINE AND COASTAL ACCESS ACT 2009 (2009 c.23)

THE START POINT TO PLYMOUTH SOUND AND EDDYSTONE EUROPEAN MARINE SITE (SPECIFIED AREAS)  
BOTTOM TOWED FISHING GEAR BYELAW

The Marine Management Organisation <sup>(1)</sup>, in exercise of the powers conferred by regulation 38 of the Conservation of Habitats and Species Regulations 2010 <sup>(2)</sup> and section 129 of the Marine and Coastal Access Act 2009 <sup>(3)</sup>, and having:

- placed copies of the draft byelaw in convenient places for the purpose of inspection in accordance with section 130(3) of that Act;
- provided a copy of the draft byelaw to any person upon request in accordance with section 130(4) of that Act;
- published notice of its proposal to make the byelaw in accordance with sections 130(6) and 130(7) of that Act;
- consulted with the European Commission, the Government of the Kingdom of Belgium, the Government of the French Republic, and the North Western Waters Regional Advisory Council, and subsequently received confirmation of the draft byelaw from the Commission, in accordance with Articles 8(3), 9(1) and 9(2) of Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and suitable exploitation of fisheries resources under the Common Fisheries Policy <sup>(4)</sup>;

makes the following byelaw.

**Interpretation**

1. In this byelaw:

- a) “the 1983 baselines” means the baselines for the measurement of the breadth of the territorial sea of the United Kingdom as they existed at 25th January 1983 in accordance with the Territorial Waters Order in Council 1964 <sup>(5)</sup>;
- b) “the specified areas” means Hatt Rock and Brentons as defined in the Schedule.

**Prohibition**

2. No person shall use any bottom towed fishing gear in the specified areas.

**Exemption for Scientific, Stocking or Breeding Purposes**

3. This byelaw shall not apply to any person performing an act which would otherwise constitute an offence against this byelaw, if that act was carried out in accordance with a written permission issued by the Marine Management Organisation permitting that act for scientific, stocking or breeding purposes.

**Citation**

4. This byelaw may be cited as the Start Point to Plymouth Sound and Eddystone European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw.

Made under the Common Seal of the Marine Management Organisation

this [ ]th day of [ ] 2013

<sup>(1)</sup> The Marine Management Organisation was established by the Marine and Coastal Access Act 2009, section 1.

<sup>(2)</sup> S.I. 2010/490 amended by S.I. 2012/1927

<sup>(3)</sup> 2009 c.29

<sup>(4)</sup> OJ L 358, 31.12.2002 p. 59; amended by Council Regulation (EC) No 865/2007 of 10 July 2007 (OJ L 192 24.07.2007 p. 1); Council Regulation (EC) No 1224/2009 of 20 November 2009 (OJ L 343 22.12.2009 p. 1); Regulation (EU) No 1152/2012 of the European Parliament and of the Council of 21 November 2012 (OJ L 343 14.12.2012 p. 30).

<sup>(5)</sup> 1965 III p.6452A, amended by the Territorial Waters (Amendment) Order in Council 1979, 1979 III p.2866.



**Ls**

The Common Seal of the Marine Management Organisation was affixed to this byelaw in the presence of:

[name]  
Chief Executive of the Marine Management Organisation

The Secretary of State for Environment, Food and Rural Affairs in exercise of the power conferred by section 130(8) of the Marine and Coastal Access Act 2009 confirms the Start Point to Plymouth Sound and Eddystone European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw made by the Marine Management Organisation on [ ]th [ ] 2013 and has determined that the byelaw comes into force on [ ]th [ ] 2013.

[name]  
[Job title]

A Senior Civil Servant for, and on behalf of, the Secretary of State for Environment, Food and Rural Affairs

Date:

**SCHEDULE****Definitions of Hatt Rock and Brentons**

Co-ordinates used in this Schedule are based on WGS 84 datum, where 'WGS 84' means the World Geodetic System, revised in 1984.

"Hatt Rock" means the area enclosed by a line drawn from:

Point A (50 Degrees 10,320 Minutes North, 4 Degrees 28,388 Minutes West) to

Point B (50 Degrees 10,170 Minutes North, 4 Degrees 29,413 Minutes West) to

Point C (50 Degrees 10,568 Minutes North, 4 Degrees 29,755 Minutes West) to

Point D (50 Degrees 10,832 Minutes North, 4 Degrees 29,227 Minutes West) to

Point E (50 Degrees 10,782 Minutes North, 4 Degrees 28,543 Minutes West)

and then from Point E to Point A.

"Brentons" means the area enclosed by a line drawn from:

Point A (50 Degrees 10,714 Minutes North, 4 Degrees 25,325 Minutes West) to

Point B (50 Degrees 10,651 Minutes North, 4 Degrees 25,599 Minutes West) to

Point C (50 Degrees 10,632 Minutes North, 4 Degrees 25,870 Minutes West) to

Point D (50 Degrees 12,167 Minutes North, 4 Degrees 26,709 Minutes West) to

Point E (50 Degrees 12,330 Minutes North, 4 Degrees 26,505 Minutes West) to

Point F (50 Degrees 12,398 Minutes North, 4 Degrees 26,1972 Minutes West) to

Point G (50 Degrees 12,750 Minutes North, 4 Degrees 25,251 Minutes West) to

Point H (50 Degrees 12,956 Minutes North, 4 Degrees 24,723 Minutes West)

and then from Point H to Point A by a line drawn six nautical miles seaward of the 1983 baselines.

**Explanatory Note**

*(This note is not part of the Byelaw)*

The Marine Management Organisation has made this byelaw to ensure that fishing activities are managed in a manner that secures compliance with the requirements of Article 6 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

This Byelaw protects bedrock reefs by prohibiting the use of bottom towed fishing gear in specified areas of the Start Point to Plymouth Sound and Eddystone European Marine Site

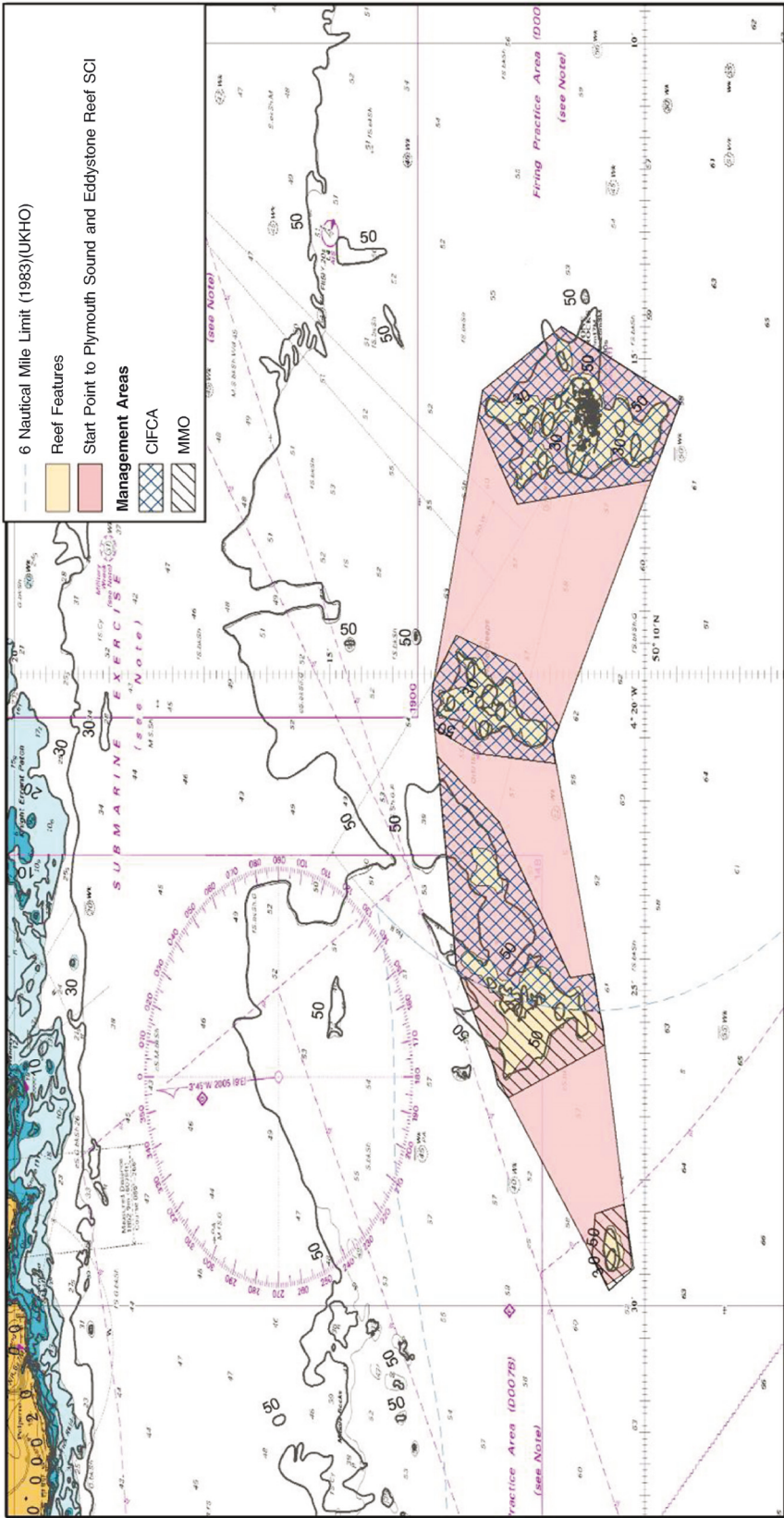
The specified areas are defined in paragraph 1 of and the Schedule to this byelaw.

The specified areas are identified, for illustrative purposes only, on the maps below.



Marine  
Management  
Organisation

Start Point to Plymouth Sound & Eddystone SCI (Eddystone)



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## ANNEX III

## MARINE MANAGEMENT ORGANISATION

## MARINE AND COASTAL ACCESS ACT 2009 (2009 c.23)

## THE HAISBOROUGH HAMMOND AND WINTERTON EUROPEAN MARINE SITE (SPECIFIED AREAS) BOTTOM TOWED FISHING GEAR BYELAW

The Marine Management Organisation <sup>(1)</sup>, in exercise of the powers conferred by regulation 38 of the Conservation of Habitats and Species Regulations 2010 <sup>(2)</sup> and section 129 of the Marine and Coastal Access Act 2009 <sup>(3)</sup>, and having:

- placed copies of the draft byelaw in convenient places for the purpose of inspection in accordance with section 130(3) of that Act;
- provided a copy of the draft byelaw to any person upon request in accordance with section 130(4) of that Act;
- published notice of its proposal to make the byelaw in accordance with sections 130(6) and 130(7) of that Act;
- consulted with the European Commission, the Government of the Kingdom of Belgium, and the North Sea Regional Advisory Council, and subsequently received confirmation of the draft byelaw from the Commission, in accordance with Articles 8(3), 9(1) and 9(2) of Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and suitable exploitation of fisheries resources under the Common Fisheries Policy <sup>(4)</sup>;

makes the following byelaw.

**Interpretation**

1. In this byelaw, “the specified areas” means Area 1 and Area 2 as defined in the Schedule.

**Prohibition**

2. No person shall use any bottom towed fishing gear in the specified areas.

**Exemption for Scientific, Stocking or Breeding Purposes**

3. This byelaw shall not apply to any person performing an act which would otherwise constitute an offence against this byelaw, if that act was carried out in accordance with a written permission issued by the Marine Management Organisation permitting that act for scientific, stocking or breeding purposes.

**Citation**

4. This byelaw may be cited as the Haisborough Hammond and Winterton European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw.

Made under the Common Seal of the Marine Management Organisation

this [ ]th day of [ ] 2013

**Ls**

The Common Seal of the Marine Management Organisation was affixed to this byelaw in the presence of:

[name]  
Chief Executive of the Marine  
Management Organisation

<sup>(1)</sup> The Marine Management Organisation was established by the Marine and Coastal Access Act 2009, section 1.

<sup>(2)</sup> S.I. 2010/490 amended by S.I. 2012/1927

<sup>(3)</sup> 2009 c.29

<sup>(4)</sup> OJ L 358, 31.12.2002 p. 59; amended by Council Regulation (EC) No 865/2007 of 10 July 2007 (OJ L 192 24.07.2007 p. 1); Council Regulation (EC) No 1224/2009 of 20 November 2009 (OJ L 343 22.12.2009 p. 1); Regulation (EU) No 1152/2012 of the European Parliament and of the Council of 21 November 2012 (OJ L 343 14.12.2012 p. 30).

The Secretary of State for Environment, Food and Rural Affairs in exercise of the power conferred by section 130(8) of the Marine and Coastal Access Act 2009 confirms the Haisborough Hammond and Winterton European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw made by the Marine Management Organisation on [ ]th [ ] 2013 and has determined that the byelaw comes into force on [ ]th [ ] 2013.

[name]

[Job title]

A Senior Civil Servant for, and on behalf of, the Secretary of State for Environment, Food and Rural Affairs

Date:

#### SCHEDULE

##### Definitions of Area 1 and Area 2

Co-ordinates used in this Schedule are based on WGS 84 datum, where 'WGS 84' means the World Geodetic System, revised in 1984 and further revised in 2004.

"Area 1" means the area enclosed by a line drawn from:

Point A (52 Degrees 47,792 Minutes North, 1 Degree 58,661 Minutes East) to

Point B (52 Degrees 47,919 Minutes North, 1 Degree 58,179 Minutes East) to

Point C (52 Degrees 48,229 Minutes North, 1 Degree 58,065 Minutes East) to

Point D (52 Degrees 48,267 Minutes North, 1 Degree 58,114 Minutes East) to

Point E (52 Degrees 48,442 Minutes North, 1 Degree 57,900 Minutes East) to

Point F (52 Degrees 48,705 Minutes North, 1 Degree 57,942 Minutes East) to

Point G (52 Degrees 48,876 Minutes North, 1 Degree 58,277 Minutes East) to

Point H (52 Degrees 48,814 Minutes North, 1 Degree 58,920 Minutes East) to

Point I (52 Degrees 48,615 Minutes North, 1 Degree 59,207 Minutes East) to

Point J (52 Degrees 48,465 Minutes North, 1 Degree 59,173 Minutes East) to

Point K (52 Degrees 48,397 Minutes North, 1 Degree 59,328 Minutes East) to

Point L (52 Degrees 48,123 Minutes North, 1 Degree 59,400 Minutes East) to

Point M (52 Degrees 47,926 Minutes North, 1 Degree 59,179 Minutes East)

and then from Point M to Point A,

"Area 2" means the area enclosed by a line drawn from:

Point A (52 Degrees 50,804 Minutes North, 1 Degree 48,365 Minutes East) to

Point B (52 Degrees 50,617 Minutes North, 1 Degree 48,178 Minutes East) to

Point C (52 Degrees 50,698 Minutes North, 1 Degree 47,043 Minutes East) to

Point D (52 Degrees 51,027 Minutes North, 1 Degree 46,490 Minutes East) to

Point E (52 Degrees 51,133 Minutes North, 1 Degree 46,633 Minutes East) to

Point F (52 Degrees 51,013 Minutes North, 1 Degree 48,138 Minutes East)

and then from Point F to Point A.

## Explanatory Note

*(This note is not part of the Byelaw)*

The Marine Management Organisation has made this byelaw to ensure that fishing activities are managed in a manner that secures compliance with the requirements of Article 6 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

This byelaw protects biogenic rock worm (*Sabellaria spinulosa*) reefs by prohibiting the use of bottom towed fishing gear in specified areas of the Haisborough Hammond and Winterton European Marine Site.

The specified areas are defined in paragraph 1 of and the Schedule to this byelaw.

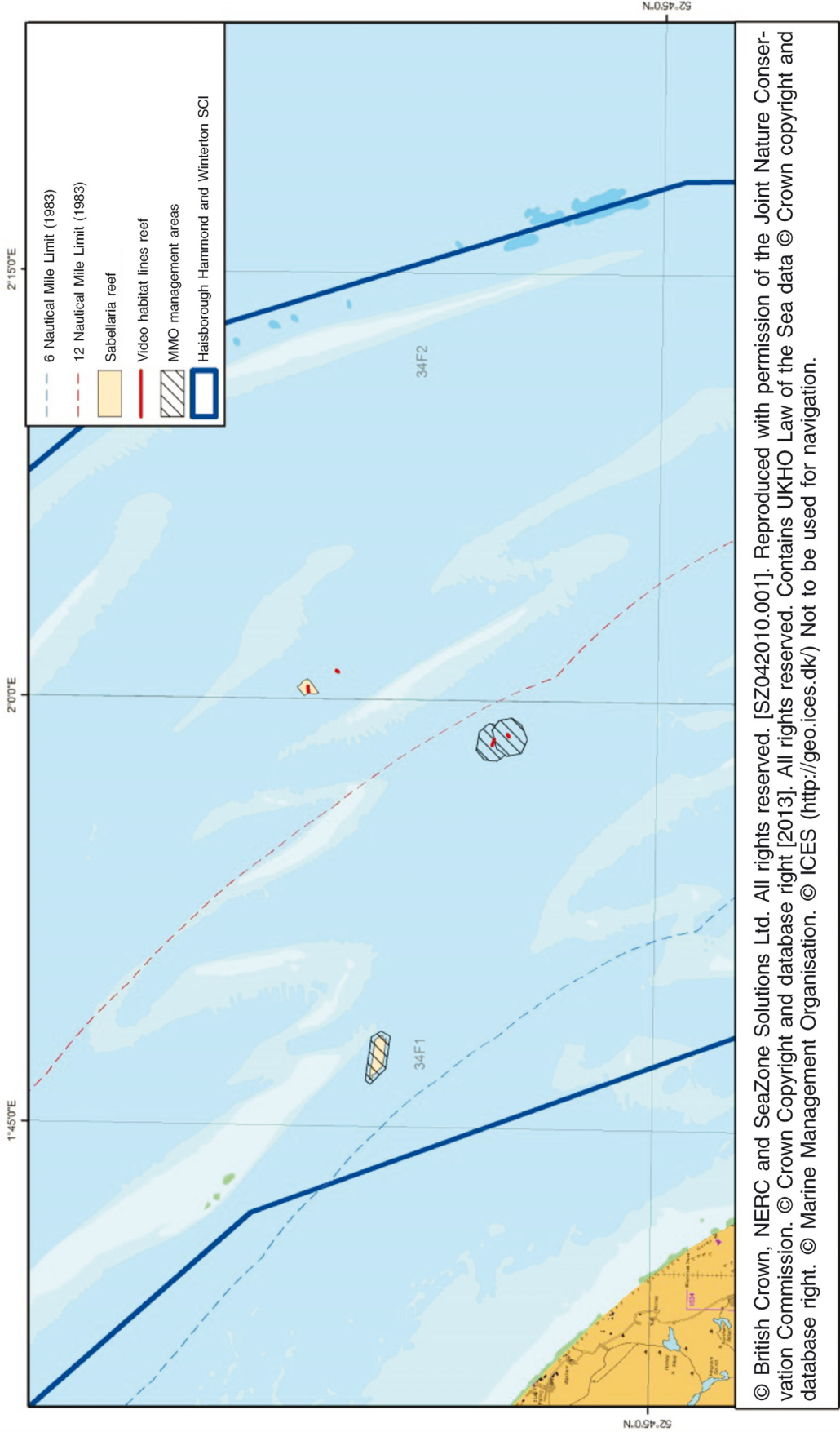
The specified areas are identified, for illustrative purposes only, on the maps below.



Marine  
Management  
Organisation

# Haisborough, Hammond & Winterton SCI

Total proposed closed area = 3.726533 sq km



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## ANNEX IV

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                                                                                                         |                                     |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------|
| <b>Title:</b><br><b>Land's End and Cape Bank European Marine Site (specified areas) bottom towed gear byelaw impact assessment</b><br><b>IA No:</b><br>MMO02<br><b>Lead department or agency:</b><br>Marine Management Organisation<br><b>Other departments or agencies:</b><br>Defra, Natural England, Cornwall Inshore Fisheries and Conservation Authority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   | <b>Impact Assessment (IA)</b>                                                                           |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   | <b>Date:</b> 9.9.2013                                                                                   |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   | <b>Stage:</b> Development/Options                                                                       |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   | <b>Source of intervention:</b> Domestic                                                                 |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   | <b>Type of measure:</b> Secondary Legislation                                                           |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   | <b>Contact for enquiries:</b><br>Michael Coyle<br>Michael.Coyle@marinemangement.org.uk<br>0300 123 1032 |                                     |                             |
| <b>Summary: Intervention and Options</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                   | <b>RPC Opinion:</b> RPC Opinion Status                                                                  |                                     |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                                                                                                         |                                     |                             |
| <b>Cost of Preferred (or more likely) Option</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                                                                                                         |                                     |                             |
| <b>Total Net Present Value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Business Net Present Value</b> | <b>Net cost to business per year (EANCb on 2009 prices)</b>                                             | <b>In scope of One-In, Two-Out?</b> | <b>Measure qualifies as</b> |
| NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA                                | NA                                                                                                      | No                                  | NA                          |
| <b>What is the problem under consideration? Why is government intervention necessary?</b><br><p>The Marine Management Organisation is proposing this byelaw because there is a need to protect designated Annex I bedrock reef features within this European marine site (EMS) from fishing using bottom towed gear.</p> <p>This byelaw is proposed in accordance with the revised approach introduced by the Department for Environment, Food and Rural Affairs (Defra) to ensure the full compliance with Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive) with respect to commercial fishing activity.</p> <p>Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.</p> <p>The revised approach to commercial fishery management is being implemented using an evidence based, risk-prioritised, and phased basis. The approach is informed by an agreed matrix showing how fishing activities could affect features designated in EMSs. Each activity/feature interaction has been categorised as red, amber, green or blue according to the potential risks that specific gear types present to the interest features. A red category indicates that there is a high risk to the feature, and that management actions should be prioritised and implemented by the end of 2013. All remaining gear type/feature interactions identified within the matrix will be assessed and appropriate management measures implemented, if required by 2016.</p> <p>The interaction between bottom towed gear and the bedrock reef feature in the Land's End and Cape Bank Site of Community Importance (SCI) has been identified as red, and therefore a priority for management to remove the risk of damage to the feature from bottom towed gear. There are no other features within the site. The proposed byelaw will ensure that the fishing activity/feature interaction is managed in accordance with Article 6 of the Habitats Directive. The interactions between other fishing gears and reef features have been identified as a lower priority and so will be considered at a later date.</p> <p>For sites located between 0 and 6 nautical miles (nm), Defra expects the relevant Inshore Fisheries and Conservation Authority (IFCA) to be the lead regulatory authority. For sites between 6-12nm, the MMO is the lead regulatory authority and measures will be introduced on a non-discriminatory basis in accordance with, article 9 of Council Regulation 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.</p> <p>Following discussions between the MMO and Cornwall IFCA, it has been agreed that, a MMO byelaw for the part of the Cape Bank reef feature within the 0 – 12nm is the preferred option.</p> |                                   |                                                                                                         |                                     |                             |

**What are the policy objectives and the intended effects?**

- To prevent the deterioration of bedrock reef features within the section of the Land's End and Cape Bank SCI, between 6 and 12nm, from impacts associated with deployment of bottom towed fishing gears;
- To further the conservation objectives stated for the Land's End and Cape Bank SCI;
- To ensure compliance with the Habitats Directive in line with Defra's revised approach;
- To promote sustainable fisheries while conserving the marine environment;
- To minimise the impact on bottom towed gear fishing activity, by maintaining access, where possible, to fishing grounds within the SCI;
- To reduce external negativities and ensure continued provision of public goods.

**What policy options have been considered, including any alternatives to regulation?****Please justify preferred option (further details in Evidence Base)**

1. Do nothing.
2. Voluntary measures.
3. MMO byelaw prohibiting bottom towed gears throughout the SCI ('full site closure').
4. MMO byelaw to prohibit bottom towed gears over bedrock reef feature with appropriate buffering ('zoned management').
5. Management of activity through a Statutory Instrument, Regulating Order or fishing licence condition.

**The preferred option is Option 4 which will promote sustainable fisheries, conserve the marine environment and ensure compliance with the Habitats Directive.**

**Will the policy be reviewed?** It will be reviewed.**If applicable, set review date:** Not applicable

Does implementation go beyond minimum EU requirements?

No

Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.

**Micro**  
Yes/No< 20  
Yes/No**Small**  
Yes/No**Medium**  
Yes/No**Large**  
Yes/NoWhat is the CO<sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO<sub>2</sub> equivalent)**Traded:****Non-traded:**

**I have read the impact assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.**

Signed by the responsible SELECT SIGNATORY: \_\_\_\_\_ Date: \_\_\_\_\_

**Summary: Analysis & Evidence**

Policy Option 1

**Description:****FULL ECONOMIC ASSESSMENT**

| Price Base Year<br>2013 | PV Base Year<br>2013 | Time Period<br>Years<br>10 | Net Benefit (Present Value (PV)) (GBP m) |                |                |
|-------------------------|----------------------|----------------------------|------------------------------------------|----------------|----------------|
|                         |                      |                            | Low: Optional                            | High: Optional | Best Estimate: |

| COSTS (GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excluding transition)<br>(Constant Price) | Total Cost<br>(Present Value) |
|---------------|-----------------------------------------------|--|--------------------------------------------------------------|-------------------------------|
| Low           | NO                                            |  | Optional                                                     | Optional                      |
| High          | NO                                            |  | Optional                                                     | Optional                      |
| Best Estimate | NO                                            |  | Optional                                                     | GBP 0,20m                     |

**Description and scale of key monetised costs by 'main affected groups'**

Estimated annual enforcement costs to be faced by MMO range between **GBP 22 475** to **GBP 23 475**. The best estimate of enforcement costs is assumed to be the mid-point of the low and high cost scenarios (**GBP 22 975**), which results in a present value of costs over 10 years of **GBP 0,2 m**. One-off costs are not anticipated.

Estimated annual loss of UK landings within the prohibited area including buffer zone is **GBP 11 788** and the value of GVA affected is **GBP 4 126,09** <sup>(1)</sup>. Present value of GVA over the 10 year IA timeframe is **GBP 0,04m**.

Due to minimal displacement caused by the intervention, as alternative grounds are accessible, total cost estimates do not include loss of GVA. Costs to fisheries in that case are likely to be an overestimation as no displacement has been assumed and 100 % of GVA in the areas affected is assumed lost.

**Other key non-monetised costs by 'main affected groups'**

French and Belgian vessels have legal access rights in the section of the SCI outside 6 nautical miles.

Section 7.4 highlights the limited activity for both Belgian and French vessels within this SCI which was also confirmed by our early engagement with Belgian fishing industry representatives. Engagement with French authorities occurred in September. During formal consultation both the French and Belgian fishing industry representatives confirmed that some fishing activity takes place in the proposed Cape Bank prohibited area.

The MMO proposes to use other enforcement bodies such as UK Border Agency and the police in order to fully utilise their resources for surveillance and enforcement. These costs cannot be monetised at present as they are requested on an ad hoc basis and costs can vary. These additional costs can be added if required at a later date.

| BENEFITS<br>(GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excluding transition)<br>(Constant Price) | Total Benefit<br>(Present Value) |
|---------------------|-----------------------------------------------|--|--------------------------------------------------------------|----------------------------------|
| Low                 | Optional                                      |  | Optional                                                     | Optional                         |
| High                | Optional                                      |  | Optional                                                     | Optional                         |
| Best Estimate       |                                               |  |                                                              |                                  |

<sup>(1)</sup> Further details on the approach is available in Annex H7 for the MCZ IA: <http://publications.naturalengland.org.uk/publication/1940011>

**Description and scale of key monetised benefits by 'main affected groups'**

No monetised figures are available for the benefits of the recommended closure. However, significant potential benefits are described below.

**Other key non-monetised benefits by 'main affected groups'**

The environmental benefits from the introduction of this byelaw will be significant as it will protect the bedrock reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain' conservation objective. This will have an overall benefit to the reef habitat, as a result of the prohibition recommended. This may promote more recreational use in the area such as divers and recreational anglers, which could potentially benefit the local economy (see evidence base).

**Key assumptions/sensitivities/risks****Discount rate (%)**

3,5 %

Average cost estimates for the fishing industry are based on MMO landings values estimated within the SCI within ICES division VIIe statistical rectangle 29E4. It is unknown what proportion of the total landings value was actually derived directly from the proposed prohibited area, which makes up less than 5.79% of an ICES statistical rectangle (3,840 square km). The statistics data presented in this IA was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity of UK vessels (quantity and value of landings along with details of gear involved) is taken from the MMO Ifish database and includes all logbook entries for UK registered fishing vessels. Information on Belgian and French vessels has been informed by extracts of landings data reported by Member States to the STECF working group on fishing effort regimes. Further description of the methodology used to produce costings is detailed in Annexes A and B.

Reported GVA for UK vessels was calculated by multiplying the value of landings by **percentage** of total income that constitutes GVA for the relevant gear type/region. The provided estimate of GVA as a percentage of total income (35% for bottom trawls) was also used in the calculations for proposed MCZs.

Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with the statement.

**BUSINESS ASSESSMENT (Option 1)**

| Direct impact on business (Equivalent Annual) GBP m: |                  |             | In scope of OITO? | Measure qualifies as |
|------------------------------------------------------|------------------|-------------|-------------------|----------------------|
| <b>Costs:</b>                                        | <b>Benefits:</b> | <b>Net:</b> | Yes/No            | IN/OUT/Zero net cost |

## EVIDENCE BASE

1. **Introduction**

- 1.1. Site: Land's End and Cape Bank SCI <sup>(1)</sup>.
- 1.2. Land's End and Cape Bank SCI has been designated on account of the bedrock reef communities within the site. Bedrock reef communities are areas of protruding rock, colonised by a suite of flora and fauna. A transition of communities can occur from the near surface sunlit zone, dominated by plants, such as kelp forests and red seaweeds, to the deeper waters where a variety of fauna inhabit the bedrock reefs, including echinoderms, sponges, corals, anemones, bryozoans and crustaceans <sup>(2)</sup>.
- 1.3. The bedrock reefs within this site are some of the most biologically diverse in the country and play an important role in supporting species that are considered rare or are occurring at the limit of their bio geographical distribution.
- 1.4. The Department for Food, Environment, and Rural Affairs (Defra) has introduced a revised approach to the management of fisheries in EMS (see section 2.1) This has resulted in the need for the MMO to establish measures to protect the bedrock reef feature from bottom towed fishing gears in the Cape Bank section of the SCI between the 0 to 12nm limits to ensure full compliance with Article 6 of the Habitats Directive <sup>(3)</sup>.
- 1.5. Bottom towed gear means any fishing gear which is pushed or pulled through the sea and contacts the seabed. This includes demersal otter and beam trawls and shellfish dredges. Management measures restricting these activity/feature interactions are therefore required.
- 1.6. This IA has been prepared to outline the costs and benefits of the proposed MMO byelaw to prohibit bottom towed gears for the protection of these features. The IA also indicates why the option being recommended is the preferred option for management. A draft of this IA has been subject to public consultation.
- 1.7. Data and evidence to inform this IA has been gathered from Natural England (NE), IFCA, and the MMO. In addition, the MMO, in conjunction with Cornwall IFCA, hosted a drop-in session in Looe on the 10.6.2013 and in conjunction with Devon and Severn IFCA, in Plymouth, on 11.6.2013 to meet stakeholders to ask direct questions and gather evidence as to the economic impacts of the proposed prohibited areas (see Figure 1). A meeting with the Belgian authorities and fishing industry representatives was held in Belgium on 12.7.2013 and with the French authorities and fishing industry representatives in Paris on 27.9.2013. The French fishing industry representatives highlighted the use of French otter trawls in the Cape Bank proposed prohibited area and highlighted the need for technological advances in gear types to be factored into the management. Information and statements from interviews with commercial fishermen were recorded and incorporated into this IA as anecdotal evidence.
- 1.8. As part of the statutory byelaw process, drafts of the proposed byelaw and IA for this site were formally consulted on from 10.9.2013 to 22.10.2013. Comments from French fishing industry representatives have confirmed that bottom towed fishing activity takes place Western side of the proposed Cape Bank prohibited area. The Belgian fishing industry representatives' response also confirmed Belgian fishery activity in the Northern area of the Cape Bank proposed prohibited area.

<sup>(1)</sup> Sites of Community importance (SCIs) are sites that have been adopted by the European Commission but not yet formally designated as SACs by the UK Government.

<sup>(2)</sup> Natural England Formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

<sup>(3)</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

## 2. Rationale for intervention

- 2.1. In August 2012 Defra undertook a review into the management of fisheries within EMS in order to identify future management required to ensure site features are maintained at favourable condition. This resulted in a revised approach <sup>(1)</sup> to management of fishing in EMS.
- 2.2. The revised approach is being implemented using an evidence based, risk-prioritised, and phased basis. Risk prioritisation is informed by a matrix <sup>(2)</sup> which categorises the risks from interactions between fishing activity and ecological features. Activity/feature interactions have been categorised as red, amber, green or blue. Those classified as red have been prioritised for the implementation of management measures by the end of 2013 (regardless of the actual level of activity) to avoid the deterioration of designated features in line with obligations under Article 6(2) of the Habitats Directive. Interactions which are categorised as amber require a site-level assessment to determine whether management of an activity is required to protect features. Interactions which are categorised as green also require site-level assessment if there are "in-combination" effects. A categorisation of blue indicates that there is no feasible interaction, and as such no further assessment is required <sup>(3)</sup>.
- 2.3. Paragraphs 6(1) and 6(2) of the Habitats Directive <sup>(4)</sup> require that, within special areas of conservation (SACs) and special protection areas (SPAs), member states shall:
  - establish the necessary conservation measures which correspond to the ecological requirements of the Annex I natural habitat types and the Annex II species present on the sites
  - take appropriate steps to the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated
- 2.4. Regulation 8(1) of the Conservation of Habitats and Species Regulations 2010 defines an EMS as any (among others) SAC, SPA and SCI. Part 6 of these regulations lay out the management requirements for EMS, in line with articles 6(2), 6(3) and 6(4) of the Habitats Directive.
- 2.5. Land's End and Cape Bank SCI contains bedrock reef features which have been categorised as red risk with regard to bottom towed gears and therefore management measures are required to remove this risk. The MMO is responsible for implementing management to prohibit the interaction between the bedrock reef features and bottom towed fishing gear. The interaction of other fishing gear types with the bedrock reef features will be assessed during the amber/green assessment process.
- 2.6. This site lies across two administrative areas: 0-6nm and 6-12nm. There are two main areas of bedrock reef feature within the site, one in the Land's End portion and one in the Cape Bank portion. The Land's End reef lies within 6nm and will be managed through a Cornwall IFCA byelaw. The Cape Bank reef lies both inside 6nm and within the 6 to 12nm area and will be managed through an MMO byelaw.
- 2.7. The specific location and extent of the bedrock reef feature was provided by Natural England <sup>(5)</sup>. The buffer is based on Natural England draft guidance <sup>(6)</sup>, which recommends the size of the buffer based on the depth of the feature being protected. The bedrock reef features in this site extend to up to 100m depth. For depths between 25 and 200m, the Natural England guidance recommends a buffer of three times the depth of the feature. A buffer of 300m was therefore applied (three times 100m).

<sup>(1)</sup> Fisheries in EMS policy document: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/policy\\_and\\_delivery.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/policy_and_delivery.pdf)

<sup>(2)</sup> Matrix: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/populated\\_matrix3.xls](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/populated_matrix3.xls)

<sup>(3)</sup> Centre for Environment, Fisheries and Aquaculture Science (CEFAS) review of matrix and supporting evidence: [http://www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/cefass\\_matrix\\_review.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/cefass_matrix_review.pdf)

<sup>(4)</sup> [http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm)

<sup>(5)</sup> Natural England formal advice letter, 2013

<sup>(6)</sup> Natural England buffer advice (draft), April 2013. Contact Natural England for more information.

- 2.8. Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.
- 2.9. Market failures occur when market does not deliver an efficient outcome.<sup>(1)</sup> In the context of the marine environment these failures can be described as:
- For public goods and services – A number of goods and services provided by the marine environment such as climate regulation and biological diversity are ‘public goods’ (no-one can be excluded from benefiting from them and consumption of the service does not diminish the service being available to others). The characteristics of public goods mean that individuals do not necessarily have an economic incentive to voluntarily contribute effort or money to ensure the continued existence of these goods leading to undersupply or in this case under-protection.
  - Negative externalities – Negative externalities occur when damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary price is attached to marine goods and services therefore the cost of damage is not directly priced by the market. Even for those goods that are traded (such as wild fish), market prices often do not reflect the full economic cost, which is ultimately by other individuals and society as a whole.
- 2.10. Government intervention is required to redress both these sources of market failure in the marine environment. Management measures to conserve designated features of EMS will ensure negative externalities are reduced or suitably mitigated. Management measures will also support continued provision of public goods in the marine environment, for example conserving the range of biodiversity in England's seas.
3. **Policy objectives and intended effects**
- 3.1. The Marine and Coastal Access Act 2009<sup>(2)</sup> (MaCAA) established MMO to lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.
- 3.2. The policy objective pertinent to this IA is to further the conservation objectives of this site by ensuring that the bedrock reef feature is protected from the risk of damage from bottom towed gears.
- 3.3. The conservation objectives of this site are:
- Subject to natural change, to maintain:
    - The extent of the bedrock reef habitat and the diversity of the habitat and its component species
    - The community structure of the habitat (e.g. population structure of individual notable species and their contribution to the functioning of the ecosystem)
    - The natural environmental quality (e.g. water quality, suspended sediment levels, etc);
    - The natural environmental processes (e.g. biological and physical processes that occur naturally in the environment, such as water circulation and sediment deposition should not deviate from baseline at time of designation)
- 3.4. The intended effects are that the risk of deterioration of the bedrock reef feature will be reduced and obligations under article 6 of the Habitats Directive will be met. In addition, the economic impacts of management intervention will be minimised where possible.

<sup>(1)</sup> HMT Green Book (2003) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

<sup>(2)</sup> [www.legislation.gov.uk/ukpga/2009/23/contents/enacted](http://www.legislation.gov.uk/ukpga/2009/23/contents/enacted)



#### 4. The options

- 4.1. As part of Defra's revised approach, the preferred management tools are MMO byelaws within 6 to 12nm, and for MMO to lead the management of sites that straddle the 6nm boundary. Following discussions between MMO and Cornwall IFCA, it has been agreed that, although this SCI straddles the 6nm boundary, IFCA byelaws will be established to manage the part of the site within 6nm and an MMO byelaw will be used to manage the Cape Bank part of the site between 0 and 12nm. Therefore an MMO byelaw for the part of the SCI between 0 and 12nm is the recommended option.

##### 4.1.1. Option 1: Do nothing

This option would not involve introducing any permanent management measure. This option would mean that risks to the site from damaging activities would not be addressed and that obligations under Defra's revised approach and Article 6 (2) of the Habitats Directive would not be met.

##### 4.1.2. Option 2: Voluntary agreement

This option would involve the development of voluntary codes of practice to protect features. MMO has considered this option in light of Better Regulation Principles, which require that new regulation is introduced only as a last resort, and Defra's revised approach, under which there is an expectation that management measures will need to be regulatory in nature to ensure adequate protection is achieved. Defra's revised approach also requires measures to be implemented to address high risk (red) interactions between designated features and fishing gears by the end of December 2013. MMO considers that due to the need to protect features quickly, and the risk that even low levels of interaction could lead to deterioration of the feature, voluntary measures are not appropriate in this case.

##### 4.1.3. Option 3: MMO byelaw prohibiting bottom towed gear throughout the SCI ('full site closure')

Prohibiting bottom towed gear throughout the whole Cape Bank part of the SCI is not necessary to achieve protection of the bedrock reef feature and would result in unnecessary economic loss for fishermen using other parts of the SCI. The estimated overall loss of landings as documented in table 1 would be GBP 15 971,20 instead of for the preferred option of GBP 11 788,83 and the enforcement costs to administer would be much higher.

##### 4.1.4. Option 4: MMO byelaw to prohibit bottom towed gears over *Sabellaria spinulosa* reef features with appropriate buffering ('zoned management').

This is the preferred option and a full analysis of this option is included below

##### 4.1.5. Management of activity through a statutory instrument, regulating order or fishing licence condition

These mechanisms for management are deemed to be not appropriate in this instance. MMO byelaw making powers as designated under the MaCAA are more appropriate because they are designed to be used to manage activity within marine protected areas providing the appropriate level of power, flexibility, consultation and speed.

#### 4.2. Recommended Option:

- 4.2.1. MMO byelaw to prohibit bottom towed gears over the bedrock reef feature with appropriate buffering ('zoned management').

- 4.2.2. This option is recommended because it is the most cost effective option. MMO is the most appropriate authority to take forward fisheries management measures for the Cape Bank reef feature between 0 and 12nm as it has powers to make byelaws throughout this area to further the conservation objectives of SCI. The boundary of the proposed prohibited area was determined taking into account the best available existing evidence of the extent of the features as well as the need for a 'buffer zone' between the features and the byelaw boundary. Ease of enforcement and the need to have clear demarcation to promote compliance was also taken into account when considering the shape of the prohibited area.

5. **Evidence base**

5.1. Impacts of bottom towed gear activity on bedrock reef:

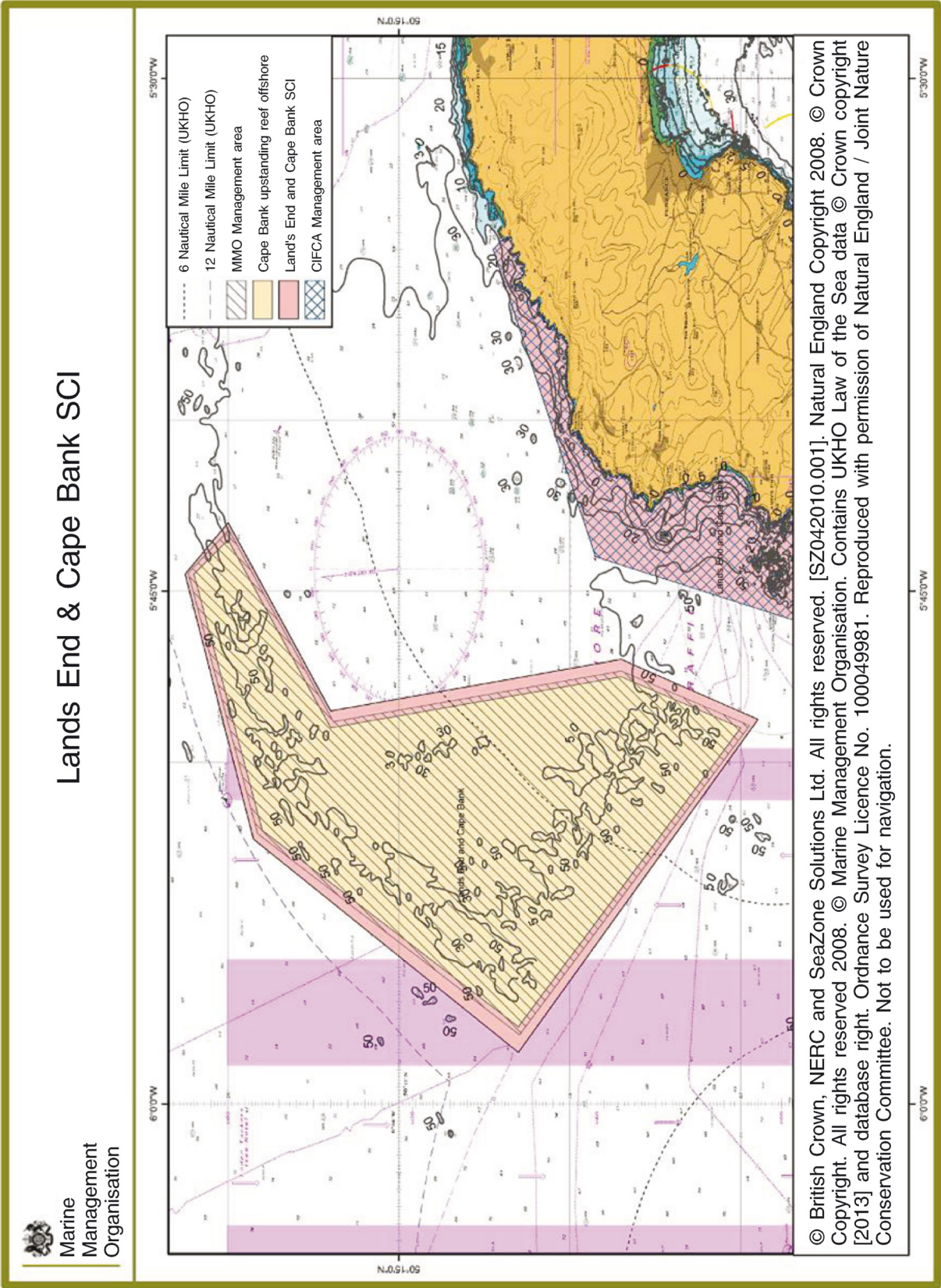
- 5.1.1. The available evidence<sup>(1)</sup> consisting of empirical studies quantifying the impact of fisheries to hard bottom habitats is limited. However, it is known that towing trawls across rocky substrates will cause damage or death to a significant proportion of large, upright attached species such as sponges and corals (Løkkeborg 2005). 67 % of sponges were damaged during a single trawl pass, in the Gulf of Alaska (Freese et al 1999). Other species such as hydroids, anenomes, bryozoans, tunicates and echinoderms are vulnerable to mobile fishing gear (McConnaughey et al 2000, Sewell and Hiscock 2005). Trawling may also reduce habitat complexity as boulders and cobbles associated with the hard substrate are moved around (Engel and Kvitek 2008, Freese et al 1999). Resistance to damage at a physical level is variable with substrate type, with mudstone reefs particularly vulnerable to structural damage (Attrill et al 2011). It is considered that the risk of significant impact is sufficient to require a categorisation of red risk and therefore management measures implemented this year.

5.2. Bedrock reef feature distribution

Figure 1 below identifies the location of the reef bedrock feature within the Cape Bank part of the SCI.

<sup>(1)</sup> Subtidal bedrock reef audit: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/subtidalbedrock.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/subtidalbedrock.pdf)

Figure 1  
Site and feature map



## 6. Sectors affected

- 6.1. Fishing industry: The main vessels affected from the prohibition will be beam trawlers, dredgers and other demersal trawls which primarily include vessels landing into Newlyn. French and Belgian vessels have access rights to fish for demersal species however, the majority of this catch is not landed in the UK. Dialogue with stakeholders and the Belgian fishing industry representatives during the pre-consultation for this proposed management measure indicated that bottom towed fishing activity is limited. A number of French otter trawlers fish in the Western end of the Cape Bank proposed prohibited area and several Belgian vessels in the Northern end of the same area. It is not expected that the intervention will have an impact on non fisheries sectors.
- 6.2. Local economies and society: The potential for social and economic costs to the UK, French and Belgian local communities as a result of potential landings lost and resulting impact on the local fishery is low. This is due to alternative fishing grounds being accessible and therefore displacement will be minimal. Likely low impacts from the preferred option as predominant fisheries are for static gear by vessels based in Newlyn, Mousehole, Sennen Cove, other Penwith Coves, St Ives and Hayle. The wider benefits of protecting the bedrock reefs are outlined in section 7.
- 6.3. Enforcement bodies: The lead responsibility of enforcing the proposed prohibited area in the 0 to 12nm limit will fall to MMO and therefore the additional enforcement cost would impact on MMO. These estimated costs are outlined in section 7.

## 7. Analysis of costs and benefits

### 7.1. Costs for recommended option

#### 7.1.1. The prohibition of bottom towed gear in the proposed area could result in the following costs:

- Direct cost to the fishing industry from reduced fishing grounds
- Costs to the fishing industry associated with displacement to other fishing grounds
- Potential environmental impacts related to possible increased damage to habitats on other areas due to displacement
- Costs to the MMO for the administrative and enforcement of management

#### 7.1.2. Costs to the fishing industry, including potential displacement costs, and administrative and enforcement costs to MMO can be monetised and these estimated values have been collated and presented as part of this IA (Tables 1 to 2 below). Environmental costs due to possible increased damage of habitats are difficult to value and are therefore described here as non-monetised costs.

### 7.2. Analysis of fisheries costs

#### 7.2.1. Information used to assess the impacts of the proposed closure has been taken from:

- Landings data for vessels from 2008 to 2011 taken from entered log book and sales note data provided by MMO statistics
- Landings data to ICES rectangle level. Further analysis to estimate catch and estimated landings for the SCI and reef/buffer area for UK and other member states (Tables 1 and 2)
- Information gathered from fishers during pre-consultation engagement, June-August 2013, by MMO
- Information gathered from stakeholders during MMO formal byelaw consultation, 10 September to 22 October 2013.
- Local MMO and IFCA coastal officer's knowledge.

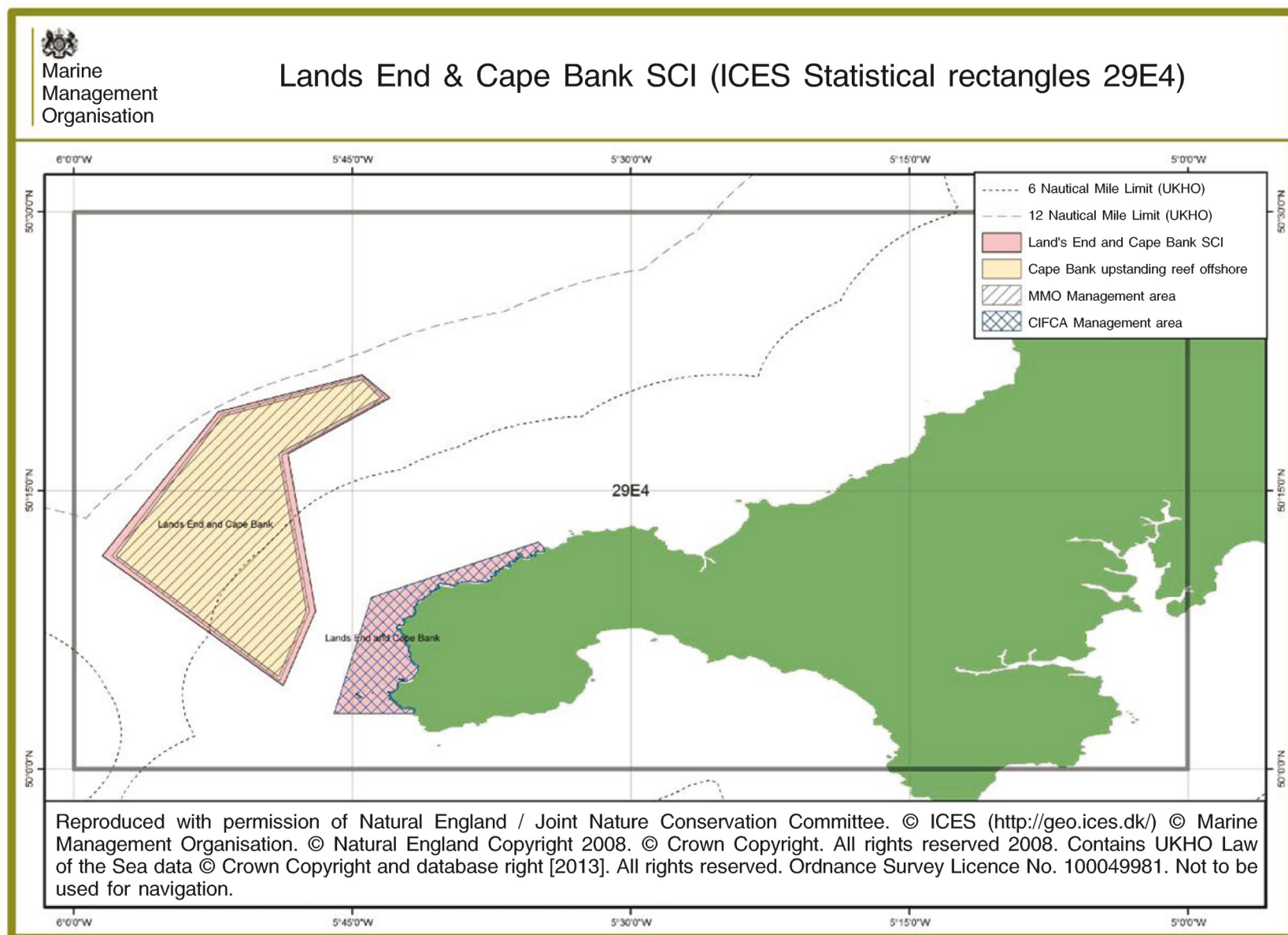
### 7.3. Uncertainty and data assumptions

- 7.3.1. Average cost estimates have been based on UK landings values estimated within the SCI within ICES statistical rectangles 29E4 (See Figure 2). It is unknown what proportion of the total landings value was actually derived directly from the proposed prohibited area which makes up less than 5,79 % of an ICES rectangle. The statistical data was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity (quantity and value of landings along with details of gear involved) is taken from MMO Ifish database. Information on Belgian and French vessels has been informed by extracts of landings data reported by Member States to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes. Further description of the methodologies used to produce fishery costings detailed in Annex A and B.
- 7.3.2. The proposed prohibited area values detailed in Table 1 have been derived by taking the values estimated within the SCI and applying a percentage based on the square area prohibited within the SCI itself. In most cases the square area of the proposed prohibited areas are relatively small compared to the SCI as a whole. Therefore, the estimation detailed should be used with caution will not indicate the true value attributed within the proposed prohibited area. It is also acknowledged that possible increased biodiversity around the reef means that it could be a relatively more abundant fishing ground, and the analysis may underestimate value of reduced fishing ground.
- 7.3.3. Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with a statement.
- 7.3.4. Other member state landings data is limited as the majority of these vessels do not land in the UK. However, some assumptions can be made from the over 15m other member state fleet through VMS received into the UK FMC, detailed in 7.4



Figure 2

Map showing the ICES statistical rectangle 29E4 and the Land's End and Cape Bank SCI



- 7.4. Fishing activities within Land's End and Cape Bank SCI
- 7.4.1. The majority of the UK vessels which operated within ICES area 29E4 are under 10 metres in length and are predominantly netters (165 vessels), handliners (146 vessels), potters (71 vessels) and other demersal trawls (11 vessels). There are occasional over 15 metre beam trawlers (25 vessels).
- 7.4.2. The main species landed are pelagic fish, crustaceans, demersal fish and molluscs.
- 7.4.3. French and Belgian vessels have legal access rights in the section of the SCI outside 6nm.
- 7.4.4. The majority of French and Belgian vessels which operate within the ICES areas are over 15m with the occasional under-10 metre vessel. Data for other member state landings is limited as the majority of these vessels do not land in the UK. 7.4.5 VMS data <sup>(1)</sup> from the French and Belgian fleet show little or no activity within the proposed prohibited areas of the SCI to which they have access to (Figures 3 and 4).
- 7.4.5. A pre-consultation meeting was held with the Belgian fishing industry on the 12.7.2013 in Ostend, with the assistance of the Belgian fisheries authorities. This was to inform them of the potential management of commercial fisheries in England's SCI in relation to Belgian fishing access rights in 6 to 12nm. Representatives from the industry who attended the meeting on the 12 July indicated that the current proposed measures to protect bedrock reef feature in the SCI did not significantly affect their activity. These bedrock reef features were seen to be mostly inhospitable to bottom towed gear. A consultation meeting was held with the French authorities and fishing industry representatives in Paris on 27.9.2013 which confirmed that there were twelve 15 – 24 metre otter trawl vessels from Normandy fishing in the proposed Cape Bank prohibited area.
- 7.4.6. Formal consultation responses from both the Belgian and French fishing industry representatives confirmed that some fishing activity occurs within the proposed prohibited area.

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<sup>(1)</sup> We also hold data for 2010 and 2011 which also indicates limited activity



Figure 3  
2012 French VMS positional reports

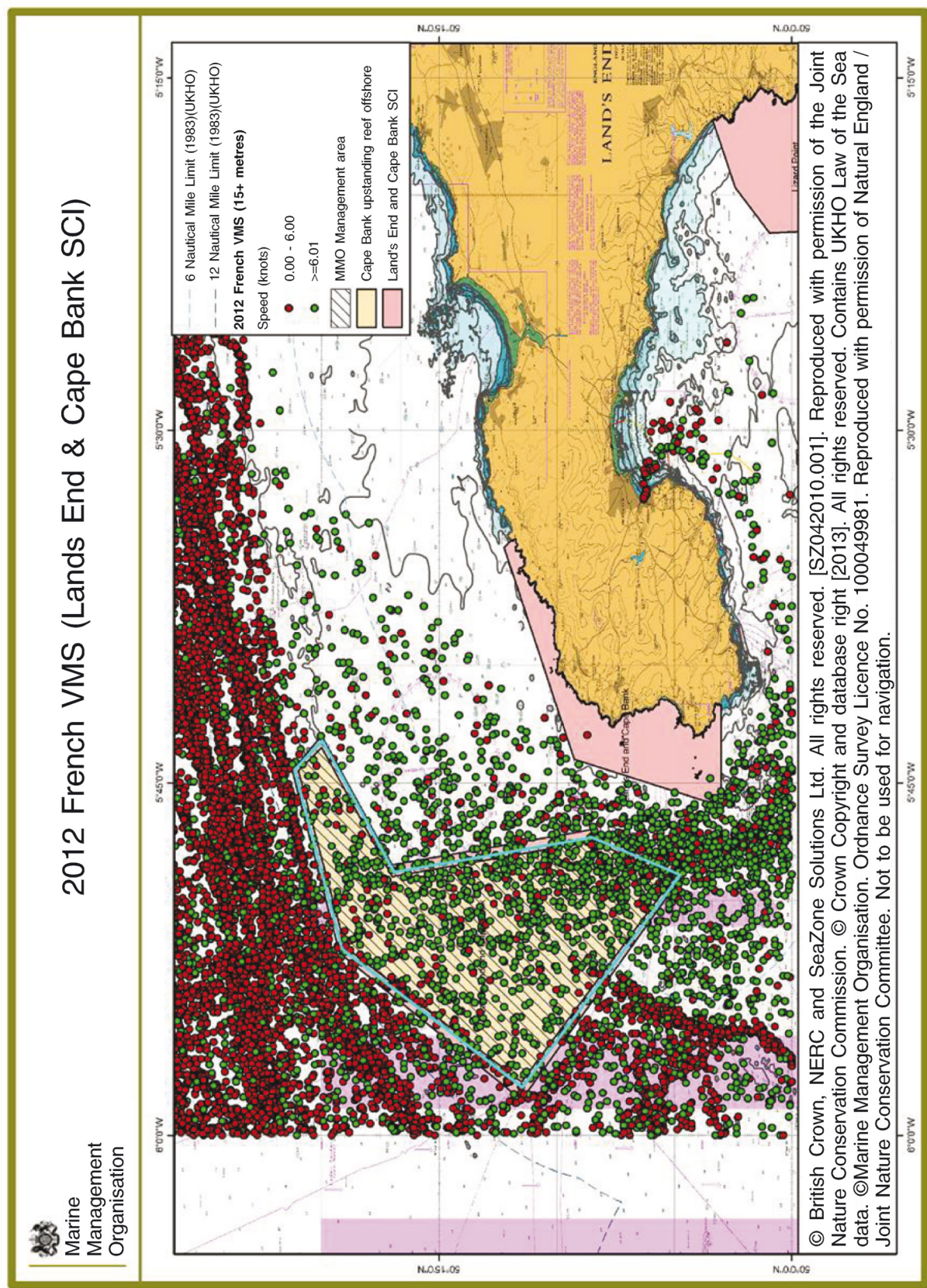
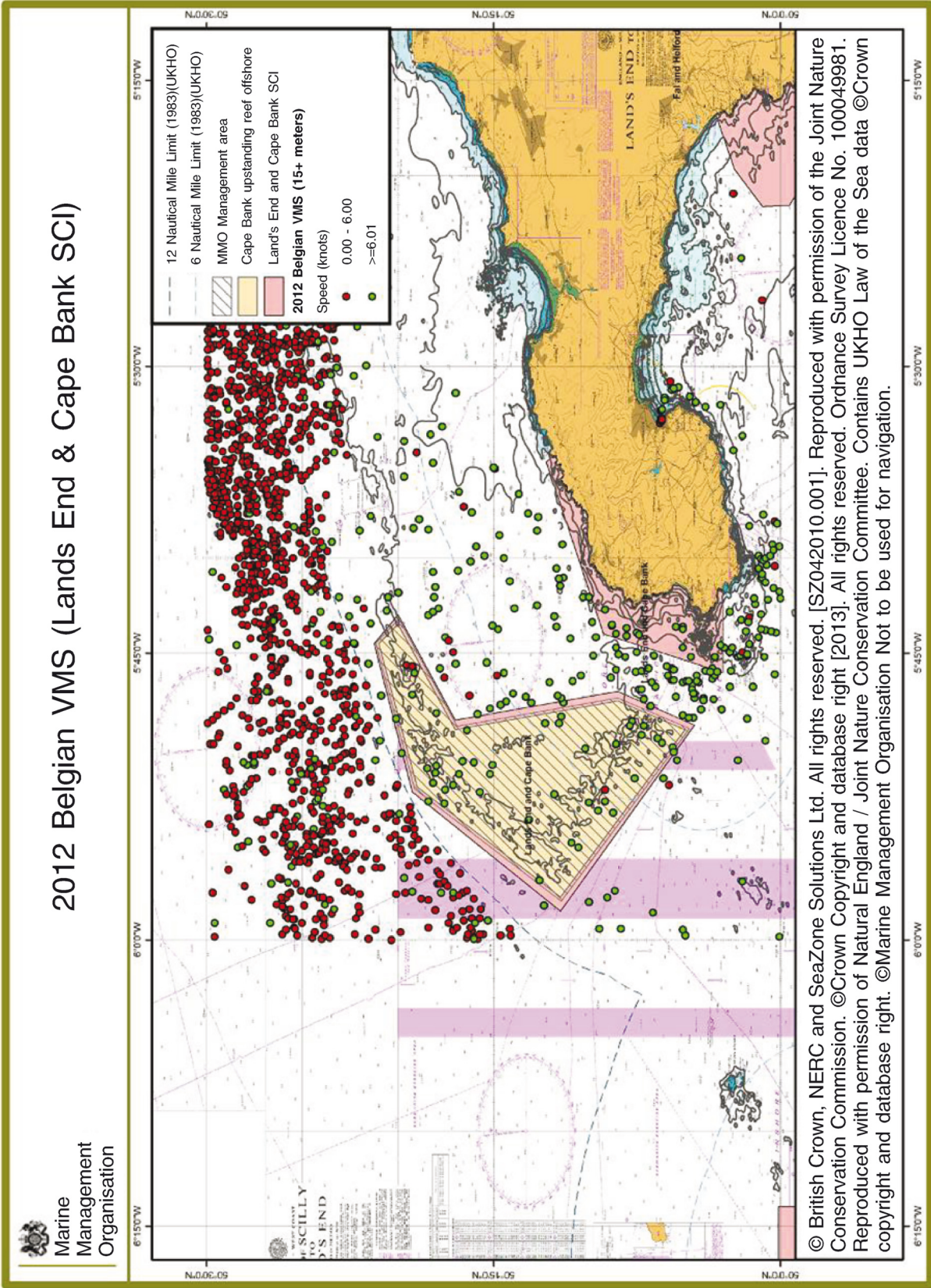




Figure 4  
2012 Belgian VMS positional reports



## 7.5. Valuation of affected landings

**United Kingdom**

- 7.5.1. The direct impact on fishing vessels would be a reduction in catch and therefore landings from bottom towed gear in the proposed prohibited area. In order to estimate potential impacts, landings data collated by the MMO was analysed.
- 7.5.2. Calculation of affected landings from ICES statistical rectangle area 29E4 (for the UK vessels identified as fishing in the area since January 2008) is shown in Table 1. Estimates in Table 1 are based on average landings from January 2008 to December 2011.

Table 1

**UK landings from ICES area 29E4 as an average per year and estimated average landings within the SCI (January 2008 – December 2011)**

| Gear Type               | Landed weight (tonnes) | Value with ICES 29E4 (GBP) | Value within SCI (GBP) | Value within prohibited area (73,813 % of the SCI) (GBP) |
|-------------------------|------------------------|----------------------------|------------------------|----------------------------------------------------------|
| Beam trawlers           | 209                    | 830 886                    | 2 492,30               | 1 839,65                                                 |
| Dredgers                | 86                     | 120 294                    | nil                    | nil                                                      |
| Nephrop trawls          | 3                      | 3 753                      | 141,90                 | 104,74                                                   |
| Other demersal trawlers | 161                    | 342 297                    | 13 337                 | 9 844,44                                                 |
| <b>Total</b>            | <b>459</b>             | <b>1 297 230</b>           | <b>15 971,20</b>       | <b>11 788,83</b>                                         |

- 7.5.3. Estimated values of landings within the SCI have been calculated by associating available landings data (provided by each fishing vessel at ICES rectangle level) with fishing vessel activity data (based on VMS reports) within the SCI. This approach applies a proportion of the landings for each ICES rectangle to the SCI, based on the level of activity within the SCI.

For the Land's End and Cape Bank SCI, landings data for the ICES rectangle (29E4) were used, and were categorised by size of vessel (over 15 metre vessels, 10 to 15 metre vessels and under 10 metre vessels).

Landings values from within the proposed prohibited area were then estimated as a proportion, (based on the size of the respective areas) of the estimated value from within the SCI.

Please refer to the supplementary 2008 to 2011 fishing statistics tables for a full breakdown of the activity within the ICES rectangles associated to the SCI.

It is estimated that the average annual income for the over 15 metre beam trawling fleets from the SCI is GBP 2 434,6. Over 15 metre dredgers are shown as nil and equally other demersal trawlers are shown as nil. For the under 10 m beam trawling fleet the estimated average annual income is GBP 10,90. The estimated average annual income from 10 to 15 metre beam trawling fleet is GBP 46,80. (Please see table 5 from the 2008 to 2011 fishing statistics tables for a full breakdown).

From our pre-consultation engagement with stakeholders the main monetary impact from the introduction of this byelaw will be on bottom trawling and scallop dredging.

- 7.5.4. It has been estimated that within the proposed prohibited area (which is **73,813 %** of the SCI) the total loss in landings would be **GBP 11 788,83**

- 7.5.5. The estimated total cost is likely to be an overestimation as no displacement has been assumed.

#### **France and Belgium**

- 7.5.6. From the analysis of VMS data the vast majority of Belgian fishing activity in ICES 29E4 occurs outside the SCI itself. In 2012, 26 Belgian vessels operated in the northern parts of ICES.

The majority of French fishing activity in ICES 29E4, occurs outside to the north west of the SCI itself. In 2012, 46 French vessels reported a VMS position at a speed of 1-6 knots within the western part of the Cape Bank section of the SCI.

- 7.5.7. The Belgian Fishery primarily target Sole in this area and the French target Haddock and Cod. Using the methodology referred in Annex B "Analysis of NON-UK Vessels in ICES rectangles", it has been estimated that in 2012:

— The quantity of tonnes landed from Belgian activity within the accessible portion of the SCI is estimated at 0,44 tonnes. This equates to a value estimated at GBP 1 749

— The quantity of tonnes landed from French activity within the accessible portion of the SCI is estimated at 24,98 tonnes. This equates to a value estimated at GBP 44 036

- 7.5.8. However, Figures 3 and 4 indicate that most fishing activity is concentrated on the north western corridor of the site, which is outside of the proposed prohibited area (reef feature and buffer). The actual estimated loss of landings is therefore considered to be much lower than the values estimated above. Please refer to Annex B for further information on Non-UK fishing activity in and around the proposed prohibited areas.

#### **7.6. Likely effects on fishing fleet from closure**

- 7.6.1. As the estimated loss of landings is expected to be an over estimate (as a result of the limited fishing activity using bottom towed gear over the bedrock reef feature) it is expected that the impact on the fishing fleet from this closure will be limited. A number of affected fishers stated during pre-consultation meetings that bottom towed gear is not deployed over the bedrock reef feature as this would damage their gear. The French and Belgian fishing industry representatives confirmed that there will be a loss of fishing grounds around the Western and Northern areas of the Cape Bank prohibited area however alternative fishing grounds are easily accessible.

#### **7.7. Adaptability**

- 7.7.1. In order to assess the likely effects of the proposed closure on fishing activities, the extent to which vessels would be able to maintain the value of the catch by moving effort to other areas needs to be assessed.
- 7.7.2. Fishers were asked to complete a questionnaire to inform this assessment and were asked directly as to the degree of displacement incurred to other areas as a result of the proposed closure, and their ability to fish on alternative grounds and adapt in order to maintain catch value. A number of affected fishers stated that they could not change fishing grounds or gear type but as this proposed option will only limit fishing activity over the bedrock reef feature and within the buffer so the potential for displacement will be minimal.
- 7.7.3. As a result of introducing the preferred option (a specified prohibited area byelaw) rather than closing the whole site, the level of displacement from vessels using bottom towed gear will be minimised. French and Belgian fishing industry representatives confirmed during pre and formal consultation that fishing activity occurs in the proposed prohibited area. However, the degree of displacement and alternative fishing grounds were not specifically commented on.

7.7.4. It is envisaged that proof of advances in gear technology and impact on sensitive features will be considered during the amber/green process.

7.8. Indirect costs

7.8.1. Environmental costs

For the recommended option, there will be minimal potential for increased costs in terms of fuel for vessels travelling further afield to access alternative fishing grounds as most fishers have indicated that they do not fish in this area and alternative fishing grounds are easily accessible.

7.9. Administrative and enforcement costs

7.9.1. The MMO will undertake intelligence led, risk based enforcement approach as adopted by a number of regulatory bodies across government in accordance with the National Intelligence Model <sup>(1)</sup>. Where intelligence suggests non-compliance or a risk of non-compliance the MMO will develop an enforcement strategy specific to the needs of the MPA and where necessary deploy resources accordingly. This may include a Navy presence, aerial surveillance or joint operations with other agencies (for example the IFCA's, UK Border force or EA). The MMO would coordinate any joint operations. The principals by which the MMO will regulate MPAs are set out by the Legislative and Regulatory Reform Act 2006 and the Regulators' Compliance Code and aim to ensure that the MMO is proportionate, accountable, consistent, transparent and targeted in any enforcement action it takes <sup>(2)</sup>.

7.9.2. The enforcement of the proposed byelaw will be met within the current budget. The EU VMS will be used as a management tool for sea and air enforcement of over 12 m vessels. As a result of the low fishing activity within the site the risk of non-compliance will be minimal or low risk <sup>(3)</sup>. Table 2 highlights the estimated enforcement costs for the management of this preferred option.

Table 2

**Annual additional costs of enforcement of recommended option <sup>(1)</sup>**

| Activity                                               | Cost per unit (GBP)       | Estimated number of units per year | Total cost per year (GBP) |
|--------------------------------------------------------|---------------------------|------------------------------------|---------------------------|
| Royal Navy surface surveillance per site               | 4 000 per day             | 1                                  | 4 000                     |
| Joint enforcement patrols with local SFC/IFCA per site | Between 800-1 000 per day | 5                                  | 4 000-5 000               |
| Aerial surveillance per site                           | 2 050 per hour            | 2                                  | 4 100                     |
| Investigations/prosecutions per site                   | 10 375 per case           | 1                                  | 10 375                    |
| <b>Total</b>                                           |                           | <b>9</b>                           | <b>22 475 – 23 475</b>    |

<sup>(1)</sup> Enforcement cost estimates from original submission for Defra's revised approach to minister.

Table 3

**Annual profile of monetised costs of recommended option- (GBPm) constant prices**

|                 | Y <sub>0</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | Y <sub>4</sub> | Y <sub>5</sub> | Y <sub>6</sub> | Y <sub>7</sub> | Y <sub>8</sub> | Y <sub>9</sub> |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Transition cost | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             |

<sup>(1)</sup> [www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf)

<sup>(2)</sup> [www.marinemanagement.org.uk/about/documents/compliance\\_enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/compliance_enforcement.pdf)

<sup>(3)</sup> This risk rating was identified from original submission for Defra's revised approach to minister.



|                                                 | Y <sub>0</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | Y <sub>4</sub> | Y <sub>5</sub> | Y <sub>6</sub> | Y <sub>7</sub> | Y <sub>8</sub> | Y <sub>9</sub>   |
|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Annual recurring cost – Best estimate           | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| Low                                             | 0,022475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| High                                            | 0,023475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| <b>Total present value of annual costs (*):</b> |                |                |                |                |                |                |                |                |                | <b>GBP 0,2 m</b> |

(\*) For the estimation the Impact Assessment Calculator (<https://www.gov.uk/government/publications/impact-assessment-calculator--3>) was used considering a 3,5 % discount rate, a 10 years appraisal period and 2013 as the price and present value base year.

#### 7.10. Benefits of recommended option

7.10.1. The exclusion of bottom towed gear from the proposed prohibited area would prevent the use of bottom towed gear over the bedrock reef feature and result in the following benefits:

— Environmental benefits of maintaining bedrock reef habitats

Environmental benefits are described here as non-monetised benefits.

#### 7.11. Environmental benefits

7.11.1. The bedrock reef within the SCI are some of the most biologically diverse in the country and play an important role in supporting species that are considered rare or are occurring at the limit of their biogeographical distribution. Although the individual reefs are relatively small (both on a national and local scale), they are ecologically diverse and represent a locally significant area (in terms of their size) of permanently submerged, offshore reef habitat <sup>(1)</sup>.

7.11.2. The SCI comprises two main areas of reef that are almost entirely granite (Axelsson & Dewey, 2011; Birchenough et al., 2008); an area of reef fringing the coast (the Land's End part of the SCI – the coastal upstanding reef sub-feature) and an area of upstanding reef further offshore in a broad, arching crescent that is roughly aligned with the coastline (the Cape Bank part of the SCI – the offshore upstanding reef sub-feature). The offshore upstanding reef will be managed by the MMO. This area is kelp-dominated assemblage, bryozoan and hydroid turf communities, as well as areas grazed by echinoderms are present together with Ross coral *Pentapora fascialis*, the echinoderm *Echinus esculentus* and the rock-boring sponge *Cliona celata* (Birchenough et al., 2008a). Water movement by currents and wave action also encourages dense growths of sponges, sea squirts, anemones and soft corals (Irving, 1996) <sup>(2)</sup>.

7.11.3. Reefs also provide some degree of coastal protection and are important areas for nutrient cycling, carbon and nitrogen fixing and sediment stabilisation.

7.11.4. A protected reef habitat is a natural refuge for creating populations of targeted and bycatch species.

7.11.5. The benefits of this byelaw are to afford appropriate protection and a safeguarding of the ecological characteristics that can possibly lead to more abundance of biodiversity compared to the rest of the fishing grounds.

7.11.6. The environmental benefits from the introduction of this byelaw will be significant as it will protect the bedrock reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain' conservation objective. This will have an added benefit on other features within the SCI and will have an overall benefit to the reef habitat as a result of the prohibition recommended. This may promote more recreational use in the area such as divers and recreational anglers which could potentially benefit the local economy

<sup>(1)</sup> Natural England Formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

<sup>(2)</sup> Natural England Formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

#### 7.12. Socio-economic benefits

7.12.1. There is a possibility that the maintained condition of the bedrock reef feature and habitat may increase the attraction for recreational users, including divers and anglers (S.E.Rees *et al*, 2013 <sup>(1)</sup>; D.R. Chae *et al*, 2012 <sup>(2)</sup>). This could also increase tourism to the area and therefore increase spending in local businesses (S.E.Rees *et al*, 2013).

7.12.2. Implementing a zoned approach to management rather than closing the whole site limits the displacement of vessels operating bottom towed gear.

#### 7.13. Distribution of costs and benefits

7.13.1. The distribution of social and economic costs is predominantly at a UK, French and Belgian local level (excluding the enforcement costs) with the overall environmental benefits covering a wider area and having more of a national impact.

### Annex A: Notes of UK fishery statistics data extraction and tables

Data tables that summarise reported activity within the ICES rectangles that cover the detailed areas defined as the European marine site areas are detailed on the MMO website <sup>(3)</sup>.

This level of detail reflects the finest level of detail available within the reported data available to UK fisheries administrations.

This data provides the information on the quantity and value of landings from the rectangles covering the areas, along with details of the vessels, gears used, and the species caught.

In addition to this fishing activity data, vessels over 15 metres in length report their exact position every 2 hours as part of UK Vessel Monitoring Systems.

For these over 15 metre vessels, it has been possible to combine the relatively coarse scale of spatial data from the activity reporting systems with the detailed position reports from the VMS systems to allow estimation of fishing activity at a finer scale. This detailed recasting of the activity data allows estimation of activity within the detailed EMS areas for over 15 metre vessels.

Where available this detail is presented in the tables of data alongside the overall activity within the ICES rectangles, for the over 15 metre vessels; the ratio between these two sets of data has then been applied to the data for other vessel lengths to provide approximate estimates of the activity within the proposed prohibited area by these vessels less than 15 metres overall length.

**Please note** that proposed prohibited area is within inshore waters, therefore using the proportion of activity carried out by over 15 metre vessels within the areas to estimate activity of other UK vessels may be inaccurate as the larger vessels tend to fish further offshore than others, especially the over 10 metre fleet.

This data is shaded grey in the tables to highlight that it is estimated data and should only be used with caution.

<sup>(1)</sup> Rees, S.E., Attrill, M.J., Austen, M.C., Mangi, S.C., Rodwell, L.D (2013). A thematic cost-benefit analysis of a marine protected area. *Journal of Environment management*, 114, 476 – 485.

<sup>(2)</sup> Chae, D., Wattage, P., Pascoe, S (2012). Recreational benefits from marine protected area: A travel cost analysis of Lundy. *Tourism Management*, 33, 971 – 977.

<sup>(3)</sup> <http://www.marinemanagement.org.uk/protecting/conservation/ems-consultation.htm>



The following is a list of the coastal EMS areas covered by this analysis – some rectangles cover more than one area – these are highlighted in yellow.

This overlap means that the total potential coverage of the proposed prohibited areas cannot be estimated by summing the analyses for the individual areas. The table below includes details of the proportion of overall activity in the IECS rectangles involved for each proposed prohibited area that relates to vessels over 15 metres (for these vessels the detailed satellite data is available).

As such, for those vessels with a high proportion of coverage of the EMS sites, the estimates for activity by other length bands based on VMS related activity are likely to be of greater reliability than for those sites with a low proportion of coverage.

#### **Annex B: Notes of Non-UK fishery statistics data**

These tables are extracts of landings data reported by Member States to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes.

As part of the activities of this group, various data sets are compiled including the details for each Member State of landings of species for each ICES rectangle with associated vessel groupings.

This data set is constructed to meet the needs of the STECF group and as such it has had to be processed carefully to avoid double counting of activity data. It has been sourced from the STECF site <sup>(1)</sup>

Summary totals have been checked against the recorded activity on the EU FIDES systems for certain quota stocks to validate the data reported.

*However, there remain differences in the totals between those reported for species/area combinations in the STECF data files and those reported for similar levels of detail as part of the catch reporting systems on FIDES for monitoring quota uptake. As such these figures are indicative of the level of activity in the area by the Member States involved and not definitive statements.*

Indicative monetary values have been constructed using the average value of landings by UK vessels from the ICES rectangle concerned or similar areas.

Where data for years are missing it may be indicative of no activity being reported but it may be a result of no data having been supplied.

#### **ANALYSIS OF NON-UK VESSEL VMS ACTIVITY IN ICES RECTANGLES COVERING THE SCI RELATING TO THIS IMPACT ASSESSMENT**

##### **Methodology used:**

This analysis is the result of applying the standard methodology used to identify whether or not UK vessels have been active in a particular detailed spatial area to the information received for non-UK vessels, in particular those from France and Belgium with historic access rights to certain part of UK inshore waters.

It involves the estimation of fishing activity from VMS data based on the speed of the vessel as reported within the VMS messages ("Pings")

Data for each VMS Ping received from Non-UK vessels in the rectangle or rectangles concerned that cover the detailed area are selected from the UK VMS system, extracting details of the vessel identity (CFR) number, position and speed and the date and time of the Ping.

Each Ping is assessed and classified as indicative of fishing activity taking place if the speed is  $\geq 1$  or  $\leq 6$  knots

<sup>(1)</sup> STECF: [http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013\\_App+08+landings+by+rectangle+by+country.xlsx](http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013_App+08+landings+by+rectangle+by+country.xlsx)

These fishing pings from the rectangle(s) concerned are then processed in GIS software to identify if the position was inside or outside the details spatial area concerned

This allows the proportion of fishing pings recorded for each Member State within the rectangle that were inside the detailed area to be calculated. This factor will then be applied to the overall level of landings seen within the STECF data sets for the Member State concerned to allow estimates of activity by non-UK vessels within the detailed spatial area to be constructed.

#### SUMMARY OF ACTIVITY BY BELGIAN AND FRENCH VESSELS IN ICES RECTANGLE 29E4 COVERING THE LANDS END AND CAPE BANK SITE

This is a summary of the activity by Member State vessels in terms of the quantity and value of fish landed in terms of:

- (1) Total activity within the ICES rectangles covering the area concerned using bottom towed gears.
- (2) Estimates of activity within the specific area concerned using bottom towed gears

#### Part A - total tonnage of activity

|                    |               | (1)                                      |       |        |          | (2)                                                                                           |      |       |       |
|--------------------|---------------|------------------------------------------|-------|--------|----------|-----------------------------------------------------------------------------------------------|------|-------|-------|
|                    |               | Activity (Tonnes) in ICES rectangle 29E4 |       |        |          | Activity (tonnes) estimated as from within the SCI based on maximum VMS activity in 2010-2012 |      |       |       |
| BELGIUM            | Gear Code     | 2009                                     | 2010  | 2011   | 2012     | 2009                                                                                          | 2010 | 2011  | 2012  |
| Over 15m in length | BT2 (*)       | 105,77                                   | 76,81 | 121,77 | 352,38   | 0,13                                                                                          | 0,10 | 0,15  | 0,44  |
|                    | TR2 (**)      | 0,00                                     | 0,00  | 0,00   | 0,35     | 0,00                                                                                          | 0,00 | 0,00  | 0,00  |
|                    | 29E4 Total    | 105,77                                   | 76,81 | 121,77 | 352,73   | 0,13                                                                                          | 0,10 | 0,15  | 0,44  |
| FRENCH             | Gear Code     | 2009                                     | 2010  | 2011   | 2012     | 2009                                                                                          | 2010 | 2011  | 2012  |
| 0 to15m in length  | Beam          | 0,00                                     | 0,00  | 0,00   | 2,15     |                                                                                               |      |       | 0,05  |
|                    | Bottom Trawls | 0,00                                     | 0,00  | 3,00   | 0,17     |                                                                                               |      | 0,07  |       |
|                    | Dredge        | 0,00                                     | 0,00  | 9,63   | 0,00     |                                                                                               |      | 0,23  |       |
| Over 15m in length | Bottom Trawls | 0,00                                     | 0,00  | 940,59 | 1 055,57 |                                                                                               |      | 22,21 | 24,93 |

|  |                   | (1)                                      |             |               |                 | (2)                                                                                           |             |              |              |
|--|-------------------|------------------------------------------|-------------|---------------|-----------------|-----------------------------------------------------------------------------------------------|-------------|--------------|--------------|
|  |                   | Activity (Tonnes) in ICES rectangle 29E4 |             |               |                 | Activity (tonnes) estimated as from within the SCI based on maximum VMS activity in 2010-2012 |             |              |              |
|  | Dredge            | 0,00                                     | 0,00        | 13,26         | 0,00            |                                                                                               |             | 0,31         |              |
|  | <b>29E4 Total</b> | <b>0,00</b>                              | <b>0,00</b> | <b>966,48</b> | <b>1 057,89</b> | <b>0,00</b>                                                                                   | <b>0,00</b> | <b>22,82</b> | <b>24,98</b> |

(\*) BT2 = Beam Trawls - 80-119mm mesh size

(\*\*) TR2 = Demersal Trawls - 70-99mm mesh size

**Part B - total value of activity**

|                           |                   | (1)                                   |                |                  |                  | (2)                                                                                        |             |               |               |
|---------------------------|-------------------|---------------------------------------|----------------|------------------|------------------|--------------------------------------------------------------------------------------------|-------------|---------------|---------------|
|                           |                   | Activity (GBP) in ICES rectangle 29E4 |                |                  |                  | Activity (GBP) estimated as from within the SCI based on maximum VMS activity in 2009-2012 |             |               |               |
| <b>BELGIUM</b>            | <b>Gear Code</b>  | <b>2009</b>                           | <b>2010</b>    | <b>2011</b>      | <b>2012</b>      | <b>2009</b>                                                                                | <b>2010</b> | <b>2011</b>   | <b>2012</b>   |
| <b>Over 15m in length</b> | BT2 (*)           | 442 857                               | 404 990        | 705 959          | 1 409 228        | 549                                                                                        | 502         | 876           | 1 748         |
|                           | TR2 (**)          | 0                                     | 0              | 0                | 522              | 0                                                                                          | 0           | 0             | 1             |
|                           | <b>29E4 Total</b> | <b>442 857</b>                        | <b>404 990</b> | <b>705 959</b>   | <b>1 409 751</b> | <b>549</b>                                                                                 | <b>502</b>  | <b>876</b>    | <b>1 749</b>  |
| <b>FRENCH</b>             | <b>Gear Code</b>  | <b>2009</b>                           | <b>2010</b>    | <b>2011</b>      | <b>2012</b>      | <b>2009</b>                                                                                | <b>2010</b> | <b>2011</b>   | <b>2012</b>   |
| <b>0 to15m in length</b>  | Beam              | 0                                     | 0              | 0                | 8 116            | 0                                                                                          | 0           | 0             | 192           |
|                           | Bottom Trawls     | 0                                     | 0              | 4 898            | 1 452            | 0                                                                                          | 0           | 116           | 34            |
|                           | Dredge            | 0                                     | 0              | 15 722           | 0                | 0                                                                                          | 0           | 371           | 0             |
| <b>Over 15m in length</b> | Bottom Trawls     | 0                                     | 0              | 1 804 373        | 1 855 331        | 0                                                                                          | 0           | 42 607        | 43 810        |
|                           | Dredge            | 0                                     | 0              | 21 648           | 0                | 0                                                                                          | 0           | 511           | 0             |
|                           | <b>29E4 Total</b> | <b>0</b>                              | <b>0</b>       | <b>1 846 641</b> | <b>1 864 899</b> | <b>0</b>                                                                                   | <b>0</b>    | <b>43 605</b> | <b>44 036</b> |

(\*) BT2 = Beam Trawls - 80-119mm mesh size

(\*\*) TR2 = Demersal Trawls - 70-99mm mesh size

Please refer to the Non-UK Fishery statistics data for a full summary of activity.

## ANNEX V

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             |                                                                                                         |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----|
| <b>Title:</b><br><b>Start Point to Plymouth Sound and Eddystone European Marine Site (specified areas) bottom towed gear byelaw impact assessment</b><br><b>IA No:</b><br>MMO01<br><b>Lead department or agency:</b><br>Marine Management Organisation<br><b>Other departments or agencies:</b><br>Defra, Natural England, Devon and Severn and Cornwall Inshore Fisheries and Conservation Authorities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                   |                                                             | <b>Impact Assessment (IA)</b>                                                                           |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             | <b>Date:</b> 5.11.2013                                                                                  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             | <b>Stage:</b> Development/Options                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             | <b>Source of intervention:</b> Domestic                                                                 |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             | <b>Type of measure:</b> Secondary Legislation                                                           |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             | <b>Contact for enquiries:</b><br>Michael Coyle<br>Michael.Coyle@marinemangement.org.uk<br>0300 123 1032 |    |
| <b>Summary: Intervention and Options</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                                                             | RPC Opinion: <b>RPC Opinion Status</b>                                                                  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                                             |                                                                                                         |    |
| <b>Cost of Preferred (or more likely) Option</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                   |                                                             |                                                                                                         |    |
| <b>Total Net Present Value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Business Net Present Value</b> | <b>Net cost to business per year (EANCb on 2009 prices)</b> | <b>In scope of One-In, Measure qualifies as Two-Out?</b>                                                |    |
| NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NA                                | NA                                                          | No                                                                                                      | NA |
| <b>What is the problem under consideration? Why is government intervention necessary?</b><br><p>The Marine Management Organisation (MMO) is proposing this byelaw because there is a need to protect designated Annex I bedrock reef features within this European marine site (EMS) from fishing using bottom towed gear.</p> <p>This byelaw is proposed in accordance with the revised approach introduced by the Department for Environment, Food and Rural Affairs (Defra) to ensure the full compliance with Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive) with respect to commercial fishing activity.</p> <p>Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.</p> <p>The revised approach to commercial fishery management is being implemented using an evidence based, risk-prioritised, and phased basis. The approach is informed by an agreed matrix showing how fishing activities could affect features designated in EMS. Each activity/feature interaction has been categorised as red, amber, green or blue according to the potential risks that specific gear types present to the interest features. A red category indicates that there is a high risk to the feature, and that management actions should be prioritised and implemented by the end of 2013. All remaining gear type/feature interactions identified within the matrix will be assessed and management measures implemented, if required by 2016.</p> <p>The interaction between bottom towed gear and the bedrock reef feature in the Start Point to Plymouth Sound and Eddystone Site of Community Importance (SCI) has been identified as red, and therefore a priority for management to remove the risk of damage to the feature from bottom towed gear. There are no other features within the site. The proposed byelaw will ensure that the fishing activity/feature interaction is managed in accordance with Article 6 of the Habitats Directive. The interactions between with the other fishing gears and the reef features have been identified as lower priority and so will be considered at a later date.</p> <p>For sites located between 0 and 6 nautical miles (nm), Defra expects the relevant Inshore Fisheries and Conservation Authority (IFCA) to be the lead regulatory authority. For sites between 6 and 12nm, the MMO is the lead regulatory authority and measures will be introduced on a non-discriminatory basis in accordance with article 9 of Council Regulation 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.</p> <p>Following discussions between the MMO and Cornwall IFCA, it has been agreed that, a MMO byelaw for the part of the Start Point to Plymouth Sound and Eddystone between 6 and 12nm is the preferred option.</p> |                                   |                                                             |                                                                                                         |    |

**What are the policy objectives and the intended effects?**

- To prevent the deterioration of bedrock reef features within the section of the Start Point to Plymouth Sound and Eddystone SCI, between 6 and 12nm, from impacts associated with deployment of bottom towed fishing gears;
- To further the conservation objectives stated for the Start Point to Plymouth Sound and Eddystone SCI;
- To ensure compliance with the Habitats Directive in line with Defra's revised approach;
- To promote sustainable fisheries while conserving the marine environment;
- To minimise the impact on bottom towed gear fishing activity, by maintaining access, where possible, to fishing grounds within the SCI;
- To reduce external negativities and ensure continued provision of public goods.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

1. Do nothing.
2. Voluntary measures.
3. MMO byelaw prohibiting bottom towed gears throughout the SCI ('full site closure').
4. MMO byelaw to prohibit bottom towed gears over bedrock reef feature with appropriate buffering ('zoned management').
5. Management of activity through a Statutory Instrument, Regulating Order or fishing licence condition.

**The preferred option is Option 4 which will promote sustainable fisheries, conserve the marine environment and ensure compliance with the Habitats Directive**

**Will the policy be reviewed?** It will be reviewed.

**If applicable, set review date:** Not applicable

|                                                                                                                        |                        |                          |                        |                         |                        |
|------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|------------------------|-------------------------|------------------------|
| Does implementation go beyond minimum EU requirements?                                                                 |                        |                          | No                     |                         |                        |
| Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.                       | <b>Micro</b><br>Yes/No | <b>&lt; 20</b><br>Yes/No | <b>Small</b><br>Yes/No | <b>Medium</b><br>Yes/No | <b>Large</b><br>Yes/No |
| What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent) |                        |                          | <b>Traded:</b>         |                         | <b>Non-traded:</b>     |

I have read the impact assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: \_\_\_\_\_ Date: \_\_\_\_\_

**Summary: Analysis & Evidence**

Policy Option 1

**Description:****FULL ECONOMIC ASSESSMENT**

| Price Base Year<br>2013 | PV Base Year<br>2013 | Time Period<br>Years<br>10 | Net Benefit (Present Value (PV)) (GBP m) |                |                |
|-------------------------|----------------------|----------------------------|------------------------------------------|----------------|----------------|
|                         |                      |                            | Low: Optional                            | High: Optional | Best Estimate: |

| COSTS (GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excl. Transition)<br>(Constant Price) | Total Cost<br>(Present Value) |
|---------------|-----------------------------------------------|--|----------------------------------------------------------|-------------------------------|
| Low           | NO                                            |  | Optional                                                 | Optional                      |
| High          | NO                                            |  | Optional                                                 | Optional                      |
| Best Estimate | NO                                            |  | Optional                                                 | GBP 0,20 m                    |

**Description and scale of key monetised costs by 'main affected groups'**

Estimated annual enforcement costs to be faced by MMO range between **GBP 22 475** to **GBP 23 475**. The best estimate of enforcement costs is assumed to be the mid-point of the low and high cost scenarios (**GBP 22 975**), which results in a present value of costs over 10 years of **GBP 0,2 m**.

Estimated annual loss of UK landings within the prohibited area including buffer zone is **GBP 1 428** and the value of GVA affected is **GBP 505** <sup>(1)</sup>. Present value of GVA over the 10 year IA timeframe is **GBP 4 346**.

Due to minimal displacement caused by the intervention for the UK fleet, as alternative fishing grounds are easily accessible, total cost estimates do not include loss of GVA. Costs to fisheries in that case are likely to be an over-estimation as no displacement has been assumed and 100 % of GVA in the areas affected is assumed lost.

**Other key non-monetised costs by 'main affected groups'**

French and Belgian vessels have legal access rights in the section of the SCI outside 6 nautical miles.

Section 7.4 highlights the limited activity of both the Belgian and French vessels within this SCI which was also confirmed by early engagement with Belgian fishing industry representatives. Engagement with French authorities and fishing industry representatives occurred in September. The French fishing industry representatives confirmed that bottom trawlers fish in the Hatt Rock proposed prohibited area.

The MMO proposes to use other enforcement bodies such as UK Border Agency and the police in order to fully utilise their resources for surveillance and enforcement. These costs cannot be monetised at present as they are requested on an ad hoc basis and costs can vary. These additional costs can be added if required at a later date.

| BENEFITS<br>(GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excl. Transition)<br>(Constant Price) | Total Benefit<br>(Present Value) |
|---------------------|-----------------------------------------------|--|----------------------------------------------------------|----------------------------------|
| Low                 | Optional                                      |  | Optional                                                 | Optional                         |
| High                | Optional                                      |  | Optional                                                 | Optional                         |
| Best Estimate       |                                               |  |                                                          |                                  |

<sup>(1)</sup> Further details on the approach is available in Annex H7 for the MCZ IA <http://publications.naturalengland.org.uk/publication/1940011>



**Description and scale of key monetised benefits by 'main affected groups'**

No monetised figures are available for the benefits of the recommended closure. However, significant potential benefits are described below.

**Other key non-monetised benefits by 'main affected groups'**

The environmental benefits from the introduction of this byelaw will be significant as it will protect the bedrock reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain' conservation objective. This will have an overall benefit to the reef habitat, as a result of the prohibition recommended. This may promote more recreational use in the area such as divers and recreational anglers <sup>(1)</sup>, which could potentially benefit the local economy (see evidence base).

**Key assumptions/sensitivities/risks****Discount rate (%)**

3,5 %

Average cost estimates for the fishing industry are based on MMO landings values estimated within the SCI within ICES division VIIe statistical rectangles 29E5 and 29E6. It is unknown what proportion of the total landings value was actually derived directly from the proposed prohibited area, which makes up less than 0.16% of an ICES statistical rectangle (3840 square km). The statistics data presented in this IA was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity of UK vessels (quantity and value of landings along with details of gear involved) is taken from the MMO Ifish database and includes all logbook entries for UK registered fishing vessels. Information on Belgian and French vessels has been informed by extracts of landings data reported by Member states to the STECF working group on fishing effort regimes. Further description of the methodologies used to produce costings is detailed in Annex A and Annex B.

Landing value estimates for the proposed prohibited areas are based on landing value estimations (based on VMS data) for the SCI as a whole. A small proportion of the prohibited area extends beyond the boundary of the SCI. However, due to the small size of the protruding sections of the prohibited area and the low level of fishing activity in the area, this is not considered to have a significant impact on the cost estimates.

Reported GVA was calculated by multiplying the value of landings by **percentage** of total income that constitutes GVA for the relevant gear type/region. The provided estimate of GVA as a percentage of total income (35% for bottom trawls and 39% for dredges) was also used in the calculations for proposed MCZs.

Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with the statement.

**BUSINESS ASSESSMENT (Option 1)**

| Direct impact on business (Equivalent Annual) GBP m: |           |      | In scope of OITO? | Measure qualifies as |
|------------------------------------------------------|-----------|------|-------------------|----------------------|
| Costs:                                               | Benefits: | Net: | Yes/No            | IN/OUT/Zero net cost |

<sup>(1)</sup> Note: commercial diving will be managed as part of the amber process and recreational activities are currently managed within EMS

## EVIDENCE BASE

1. **Introduction**

- 1.1. Site: Start Point to Plymouth Sound and Eddystone SCI <sup>(1)</sup>
- 1.2. Start Point to Plymouth Sound and Eddystone SCI has been designated for bedrock reef communities within the site. Bedrock reef communities are areas of protruding rock, colonised by a suite of flora and fauna. A transition of communities can occur from the near surface sunlit zone, dominated by plants, such as kelp forests and red seaweeds, to the deeper waters where a variety of fauna inhabit the bedrock reefs, including echinoderms, sponges, corals, anemones, bryozoans and crustaceans <sup>(2)</sup>.
- 1.3. The bedrock reefs within this site are some of the most biologically diverse in the country and play an important role in supporting species that are considered rare or are occurring at the limit of their biogeographical distribution.
- 1.4. The Department for Food, Environment, and Rural Affairs (Defra) has introduced a revised approach to the management of fisheries in EMS. This has resulted in the need for the MMO to establish measures to protect the bedrock reef features from bottom towed fishing gears in the SCI between the 6 to 12nm limits to ensure full compliance with Article 6 of the Habitats Directive <sup>(3)</sup>.
- 1.5. Bottom towed gear means any fishing gear which is pushed or pulled through the sea and contacts the seabed. This includes demersal otter and beam trawls and shellfish dredges. Management measures restricting these activity/feature interactions are therefore required.
- 1.6. This IA has been prepared to outline the costs and benefits of the proposed MMO byelaw to prohibit bottom towed gears for the protection of the reef features. The IA also indicates why the option being recommended is the preferred option for management. A draft of this IA has been subject to public consultation.
- 1.7. Data and evidence to inform this IA at the evidence gathering stage has been gathered from Natural England (NE), IFCA, and the MMO. In addition, the MMO, in conjunction with Cornwall IFCA, hosted a drop-in session in Looe on the 10.6.2013 and in conjunction with Devon and Severn IFCA, in Plymouth, on 11.6.2013 to meet stakeholders to ask direct questions and gather evidence as to the economic impacts of the proposed prohibited areas. A meeting with the Belgian authorities and fishing industry representatives was held in Belgium on 12.7.2013 and with the French authorities and fishing industry representatives in Paris on 27.9.2013. The resulting comments from the Belgian fishing industry representative indicated that whilst there is very little use of bottom towed gear within the proposed prohibited areas, apart from the proposed buffer zones, fishing activity occurs within the corridors between the bedrock reef features especially between Eddystone and Hatt rock which will still be accessible. Information and statements from interviews with commercial fishermen were recorded and incorporated into this IA as anecdotal evidence.
- 1.8. As part of the statutory byelaw process, drafts of the proposed byelaw and IA for this site were formally consulted on from 10.9.2013 to 22.10.2013. Comments from French fishing representatives have confirmed that bottom towed fishing activity does take place within the Hatt rock proposed prohibited area. The Belgian fishing industry representatives' response confirmed that the Belgian fishery is limited in this site.

<sup>(1)</sup> Sites of Community importance (SCIs) are sites that have been adopted by the European Commission but not yet formally designated as SACs by the UK Government.

<sup>(2)</sup> Natural England formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

<sup>(3)</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

## 2. Rationale for intervention

- 2.1. In August 2012 Defra undertook a review into the management of fisheries within EMS in order to identify future management required to ensure site features are maintained at favourable condition. This resulted in a revised approach <sup>(1)</sup> to management of fishing in EMS.
- 2.2. The revised approach is being implemented using an evidence based, risk-prioritised, and phased basis. Risk prioritisation is informed by a matrix <sup>(2)</sup> which categorises the risks from interactions between fishing activity and ecological features. Activity/feature interactions have been categorised as red, amber, green or blue. Those classified as red have been prioritised for the implementation of management measures by the end of 2013 (regardless of the actual level of activity) to avoid the deterioration of designated features in line with obligations under Article 6(2) of the Habitats Directive. Interactions which are categorised as amber require a site-level assessment to determine whether management of an activity is required to protect features. Interactions which are categorised as green also require site-level assessment if there are "in-combination" effects. A categorisation of blue indicates that there is no feasible interaction, and as such no further assessment is required <sup>(3)</sup>.
- 2.3. Paragraphs 6(1) and 6(2) of the Habitats Directive <sup>(4)</sup> require that, within special areas of conservation (SACs) and special protection areas (SPAs) <sup>(5)</sup>, member states shall:
  - establish the necessary conservation measures which correspond to the ecological requirements of the Annex I natural habitat types and the Annex II species present on the sites
  - take appropriate steps to the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated
- 2.4. Regulation 8(1) of the Conservation of Habitats and Species Regulations 2010 defines an EMS as any (among others) SAC, SPA and SCI. Part 6 of these regulations lay out the management requirements for EMS, in line with articles 6(2), 6(3) and 6(4) of the Habitats Directive.
- 2.5. Start Point to Plymouth Sound and Eddystone SCI contains bedrock reef features which have been categorised as red risk with regard to bottom towed gears and therefore management measures are required to remove this risk. The MMO is responsible for implementing management to prohibit the interaction between the bedrock reef features and bottom towed fishing gear. The interaction of other fishing gear types as documented in the matrix with bedrock reef features will be assessed during the amber/green assessment process.
- 2.6. The Eddystone part of this site lies across two administrative areas: 0 to 6nm and 6 to 12nm. The bedrock reef features within 6nm will be managed through a Cornwall IFCA byelaw and the bedrock reef features in the 6 to 12nm area will be managed through an MMO byelaw.
- 2.7. The specific location and extent of the bedrock reef features was provided by Natural England <sup>(6)</sup>. The buffer is based on based on Natural England draft guidance <sup>(7)</sup>, which recommends the size of the buffer based on the depth of the feature being protected. The bedrock reef features in this site extend to approximately 60 m depth.

<sup>(1)</sup> Fisheries in EMS policy document: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/policy\\_and\\_delivery.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/policy_and_delivery.pdf)

<sup>(2)</sup> Matrix: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/populated\\_matrix3.xls](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/populated_matrix3.xls)

<sup>(3)</sup> Centre for Environment, Fisheries and Aquaculture Science (CEFAS) review of matrix and supporting evidence: [http://www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/cefass\\_matrix\\_review.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/cefass_matrix_review.pdf)

<sup>(4)</sup> [http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm)

<sup>(5)</sup> Sites of Community importance (SCIs) are sites that have been adopted by the European Commission but not yet formally designated as SACs by the UK Government.

<sup>(6)</sup> Natural England formal advice letter, 2013

<sup>(7)</sup> NE buffer advice (draft), April 2013. Contact Natural England for more information.

For depths between 25 and 200 m, the Natural England guidance recommends a buffer of three times the depth of the feature. Three times 60 m would result in a buffer of 180 m. As the depth of the feature is not precisely known and could extend slightly beyond 60 m, a buffer of 200 m was applied. The boundary of the buffer was then smoothed to facilitate compliance and enforcement.

- 2.8. Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.

- 2.9. Market failures occur when the market does not deliver an efficient outcome<sup>(1)</sup>. In the context of the marine environment these failures can be described as:

- For public goods and services – A number of goods and services provided by the marine environment such as climate regulation and biological diversity are ‘public goods’ (no-one can be excluded from benefiting from them and consumption of the service does not diminish the service being available to others). The characteristics of public goods mean that individuals do not necessarily have an economic incentive to voluntarily contribute effort or money to ensure the continued existence of these goods leading to undersupply or in this case under-protection.
- Negative externalities – Negative externalities occur when damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary price is attached to marine goods and services therefore the cost of damage is not directly priced by the market. Even for those goods that are traded (such as wild fish), market prices often do not reflect the full economic cost, which is ultimately by other individuals and society as a whole.

- 2.10. Government intervention is required to redress both these sources of market failure in the marine environment. Management measures to conserve designated features of EMS will ensure negative externalities are reduced or suitably mitigated. Management measures will also support continued provision of public goods in the marine environment, for example conserving the range of biodiversity in England’s seas.

### 3. Policy objectives and intended effects

- 3.1. The Marine and Coastal Access Act 2009<sup>(2)</sup> (MaCAA) established MMO to lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.

- 3.2. The policy objective pertinent to this IA is to further the conservation objectives of this site by ensuring that the bedrock reef features are protected from the risk of damage from bottom towed gears.

- 3.3. The conservation objectives of this site are:

- Subject to natural change, to maintain:
  - The extent of the bedrock reef habitat and the diversity of the habitat and its component species
  - The community structure of the habitat (e.g. population structure of individual notable species and their contribution to the functioning of the ecosystem)
  - The natural environmental quality (e.g. water quality, suspended sediment levels, etc)

<sup>(1)</sup> HMT Green Book (2003) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

<sup>(2)</sup> [www.legislation.gov.uk/ukpga/2009/23/contents/enacted](http://www.legislation.gov.uk/ukpga/2009/23/contents/enacted)

- The natural environmental processes (e.g. biological and physical processes that occur naturally in the environment, such as water circulation and sediment deposition should not deviate from baseline at time of designation) <sup>(1)</sup>

- 3.4. The intended effects are that the risk of deterioration of the bedrock reef features will be reduced and obligations under article 6 of the Habitats Directive will be met. In addition, the economic impacts of management intervention will be minimised where possible.

#### 4. The options

- 4.1. As part of Defra's revised approach, the preferred management tools are MMO byelaws within 6 to 12nm, and for MMO to lead the management of sites that straddle the 6nm boundary. Following discussions between MMO, Devon and Severn IFCA and Cornwall IFCA, it has been agreed that, although this SCI straddles the 6nm boundary, IFCA byelaws will be established to manage the part of the site within 6nm and an MMO byelaw will be used to manage the part of the site between 6 and 12nm. Therefore an MMO byelaw for the part of the SCI between 6 and 12nm is the recommended option.

##### 4.1.1. Option 1: Do nothing

This option would not involve introducing any permanent management measure. This option would mean that risks to the site from damaging activities would not be addressed and that obligations under Defra's revised approach and Article 6 (2) of the Habitats Directive would not be met.

##### 4.1.2. Option 2: Voluntary agreement

This option would involve the development of voluntary codes of practice to protect features. MMO has considered this option in light of Better Regulation Principles, which require that new regulation is introduced only as a last resort, and Defra's revised approach, under which there is an expectation that management measures will need to be regulatory in nature to ensure adequate protection is achieved. Defra's revised approach also requires measures to be implemented to address high risk (red) interactions between designated features and fishing gears by the end of December 2013. MMO considers that due to the need to protect features quickly, and the risk that even low levels of interaction could lead to deterioration of the feature, voluntary measures are not appropriate in this case.

##### 4.1.3. Option 3: MMO byelaw prohibiting bottom towed gear throughout the SCI ('full site closure')

Prohibiting bottom towed gear throughout the whole SCI is not necessary to achieve protection of the bedrock reef features and would result in unnecessary economic loss for fishermen using other parts of the SCI. The estimated overall loss of landings as documented in table 1 would be GBP 80,671 instead of for the preferred option of GBP 1,428 and the enforcement costs to administer would be much higher.

##### 4.1.4. Option 4: MMO byelaw to prohibit bottom towed gears over *Sabellaria spinulosa* reef features with appropriate buffering ('zoned management').

This is the preferred option and a full analysis of this option is included below

##### 4.1.5. Option 5: Management of activity through a statutory instrument, regulating order or fishing licence condition

These mechanisms for management are deemed to be not appropriate in this instance. MMO byelaw making powers as designated under the MaCAA are more appropriate because they are designed to be used to manage activity within marine protected areas providing the appropriate level of power, flexibility, consultation and speed.

<sup>(1)</sup> Natural England formal site advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

4.2. Recommended Option:

- 4.2.1. MMO byelaw to prohibit bottom towed gears over the bedrock reef features with appropriate buffering ('zoned management').

4.2.2. This option is recommended because it is the most cost effective option. MMO is the most appropriate authority to take forward fisheries management measures between 6 and 12nm as it has powers to make byelaws throughout this area to further the conservation objectives of SCI. The boundary of the proposed prohibited area was determined taking into account the best available existing evidence of the extent of the features as well as the need for a 'buffer zone' between the features and the byelaw boundary. Ease of enforcement and the need to have clear demarcation to promote compliance was also taken into account when considering the shape of the prohibited area.

5. **Evidence Base**

5.1. Impacts of bottom towed gear activity on bedrock reef

- 5.1.1. The available evidence<sup>(1)</sup> consisting of empirical studies quantifying the impact of fisheries to hard bottom habitats is limited. However, it is known that towing trawls across rocky substrates will cause damage or death to a significant proportion of large, upright attached species such as sponges and corals (Løkkeborg 2005). 67 % of sponges were damaged during to a single trawl pass, in the Gulf of Alaska (Freese et al 1999). Other species such as hydroids, anemones, bryozoans, tunicates and echinoderms are vulnerable to mobile fishing gear (McConnaughey et al 2000, Sewell and Hiscock 2005). Trawling may also reduce habitat complexity as boulders and cobbles associated with the hard substrate are moved around (Engel and Kvitek 2008, Freese et al 1999). Resistance to damage at a physical level is variable with substrate type, with mudstone reefs particularly vulnerable to structural damage (Attrill et al 2011). It is considered that the risk of significant impact is sufficient to require a categorisation of red risk and therefore management measures implemented this year.

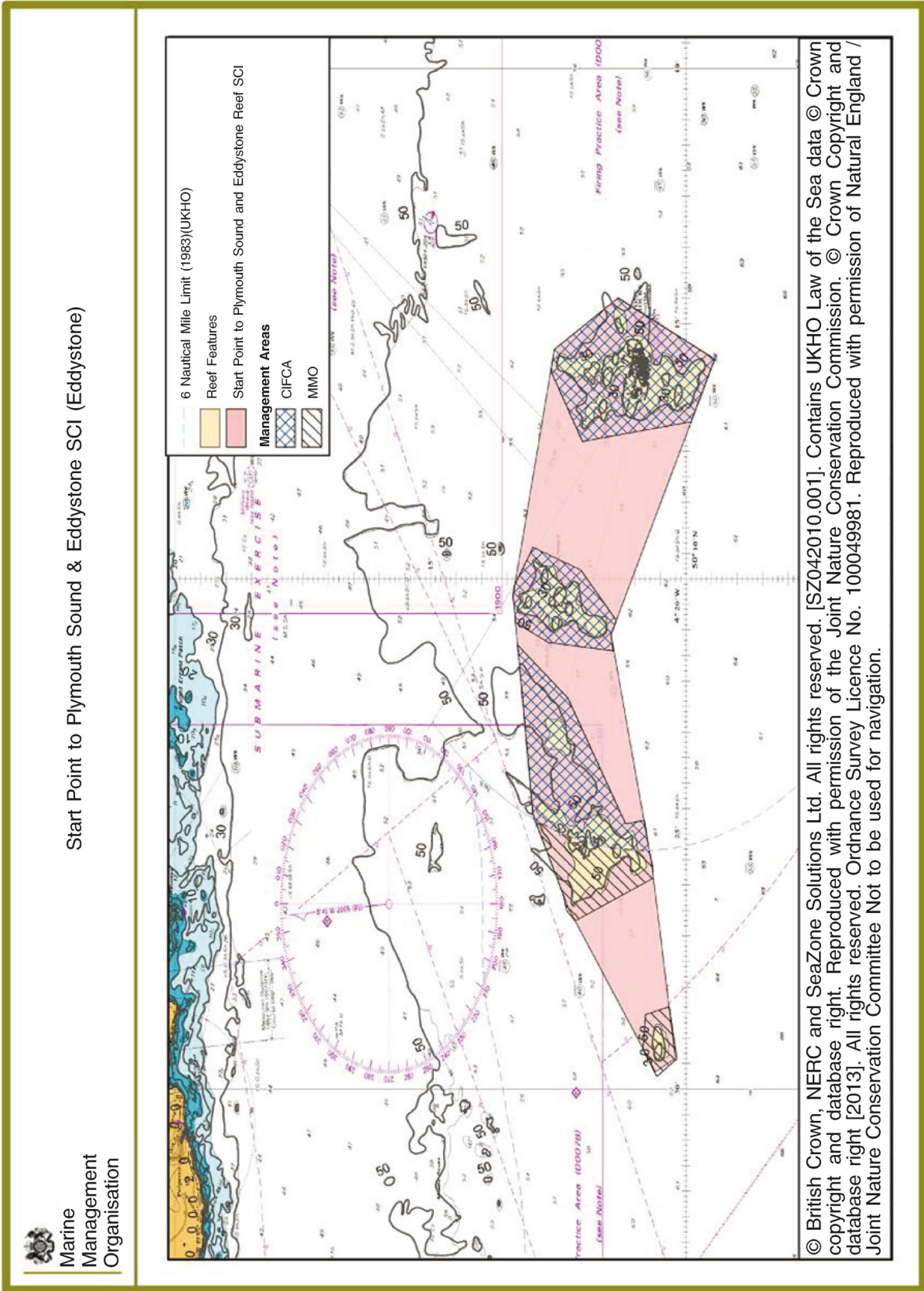
5.2. Bedrock reef feature distribution

Figure 1 below identifies the location of the bedrock reef features within the SCI.

<sup>(1)</sup> Subtidal bedrock reef audit: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/subtidalbedrock.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/subtidalbedrock.pdf)



Figure 1  
Site and feature map



## 6. Sectors affected

- 6.1. Fishing industry: The main vessels affected are scallop dredgers, beam trawlers and local trawlers which primarily include vessels landing into Plymouth and Looe and occasionally into ports such as Brixham and Teignmouth. French and Belgian vessels have access rights to fish for demersal species however; the majority of this catch is not landed in the UK. French bottom trawlers fish in the Hatt Rock proposed prohibited area. The Belgian fishing industry have limited fishing activity within this area. Dialogue with stakeholders during the pre-consultation for this proposed management measure indicated that bottom towed fishing activity mainly takes place within the corridors between the bedrock reef features and the proposed buffer zones. It is not expected that the intervention will have an impact on non fisheries sectors.
- 6.2. Local economies and society: The potential for social and economic costs to local communities as a result of potential landings lost and resulting impact on the local fishery is low. This is due to alternative fishing grounds being accessible and therefore displacement will be minimal. The main ports that may be affected are Plymouth and Looe. French fishing industry representatives have highlighted that there is potential for fishing services to be impacted in areas that rely on fishing activity in coastal areas. The wider benefits of protecting the bedrock reefs are outlined in section 7.
- 6.3. Enforcement bodies: The lead responsibility of enforcing the proposed prohibited area would fall to MMO and therefore the additional enforcement cost would impact on MMO. These estimated costs are outlined in section 7.

## 7. Analysis of costs and benefits

### 7.1. Costs for recommended option

- 7.1.1. The prohibition of bottom towed gear in the proposed area could result in the following costs:

- Direct cost to the fishing industry from reduced fishing grounds
- Costs to the fishing industry associated with displacement to other fishing grounds
- Potential environmental impacts related to possible increased damage to habitats on other areas due to displacement
- Costs to the MMO for the administrative and enforcement of management

- 7.1.2. Costs to the fishing industry, including potential displacement costs, and administrative and enforcement costs to MMO can be monetised and these estimated values have been collated and presented as part of this IA (Tables 1 and 2 below). Environmental costs due to possible increased damage of habitats are difficult to value and are therefore described here as non-monetised costs.

### 7.2. Analysis of fisheries costs

- 7.2.1. Information used to assess the impacts of the proposed closure has been taken from:

- Landings data for vessels from 2008 to 2011 taken from entered log book and sales note data provided by MMO statistics;
- Landings data to ICES rectangle level. Further analysis to estimate catch and estimated landings for the SCI and reef/buffer area for UK and other member states (Tables 1 and 2);
- Information gathered from fishers during pre-consultation engagement, June-August 2013, by MMO;
- Information gathered from stakeholders during MMO formal byelaw consultation, 10 September to 22 October 2013;
- Local MMO and IFCA coastal officer's knowledge.

### 7.3. Uncertainty and data assumptions

7.3.1. Average cost estimates have been based on UK landings values estimated within the SCI within ICES statistical rectangles 29E5 and 29E6 (See Figure 2). It is unknown what proportion of the total landings value was actually derived directly from the proposed prohibited area which makes up less than 0,16 % of an ICES rectangle. The statistical data was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity (quantity and value of landings along with details of gear involved) is taken from MMO Ifish database. Information on Belgian and French vessels has been informed by extracts of landings data reported by Member states to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes. Further description of the methodologies used to produce costings is detailed in Annex A and Annex B.

7.3.2. The proposed prohibited area values detailed in Table 1 have been derived by taking the values estimated within the SCI and applying a percentage based on the square area prohibited within the SCI itself. In most cases the square area of the proposed prohibited areas are relatively small compared to the SCI as a whole. Therefore, the estimation detailed should be used with caution will not indicate the true value attributed within the proposed prohibited area. It is also acknowledged that possible increased biodiversity around the reef means that it could be a relatively more abundant fishing ground, and the analysis may underestimate value of reduced fishing ground.

7.3.3. Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with a statement.

7.3.4. Other member state landings data is limited as the majority of these vessels do not land in the UK. Some assumptions can be made from the over 15m other member state fleet through VMS received into the UK FMC, detailed in 7.4.

— Landings data for vessels from 2008 to 2011 taken from entered log book and sales note data provided by MMO statistics;

— Landings data to ICES rectangle level. Further analysis to estimate catch and estimated landings for the SCI and reef/buffer area for UK and other member states (Tables 1 and 2);

— Information gathered from fishers during pre-consultation engagement, June-August 2013, by MMO;

— Local MMO and IFCA coastal officer's knowledge.

### 7.4. Fishing activities within Start Point to Plymouth Sound and Eddystone SCI

7.4.1. The majority of the UK vessels which operated within ICES area 29E5 and 29E6 are under 10 metres in length and are predominantly netters (261 vessels), handliners (126 vessels) and potters (72 vessels). There are occasional over 15 metre beam trawlers (25 vessels).

7.4.2. The main species landed are scallops, crabs, sprats and pilchards.

7.4.3. French and Belgian vessels have legal access rights in the section of the SCI outside 6nm.

7.4.4. The majority of foreign vessels which operate within the ICES areas are over 15 metres with the occasional under 10 metre vessels. Data for French and Belgian vessels' landings is limited as the majority of these vessels do not land in the UK. Detailed statistical information has been requested from France and Belgium and data will be input to the final IA, once received.

- 7.4.5. VMS data <sup>(1)</sup> from the French and Belgian fleet show little or no activity within the proposed prohibited areas of the SCI to which they have access to (Figures 3 and 4).
- 7.4.6. A pre-consultation meeting was held with the Belgian fishing industry on the 12.7.2013 in Ostend, with the assistance of the Belgian fisheries authorities. This was to inform them of the potential management of commercial fisheries in England's EMS in relation to Belgian fishing access rights in 6 to 12nm. Representatives from the industry who attended the meeting on the 12 July indicated that the current proposed measures to protect the bedrock reef features in the SCI did not significantly affect their activity. These bedrock reef features were seen to be mostly inhospitable to bottom towed gear. A consultation meeting was held with the French authorities and fishing industry representatives in Paris on 27.9.2013. It was stated by the representatives that access between Eddystone and Hatt rock was an important access route for French vessels.
- 7.4.7. Formal consultation responses from the Belgian fishing industry representatives confirmed that this area has limited Belgian fishing activity however, the French fishing industry representatives confirmed fishing activity especially in the area of Hatt Rock.

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<sup>(1)</sup> Data is also held for 2010 – 2011 which also indicates limited activity

Figure 2

Map showing the ICES statistical rectangles 29E5 and 29E6 and the Start Point to Plymouth Sound and Eddystone SCI

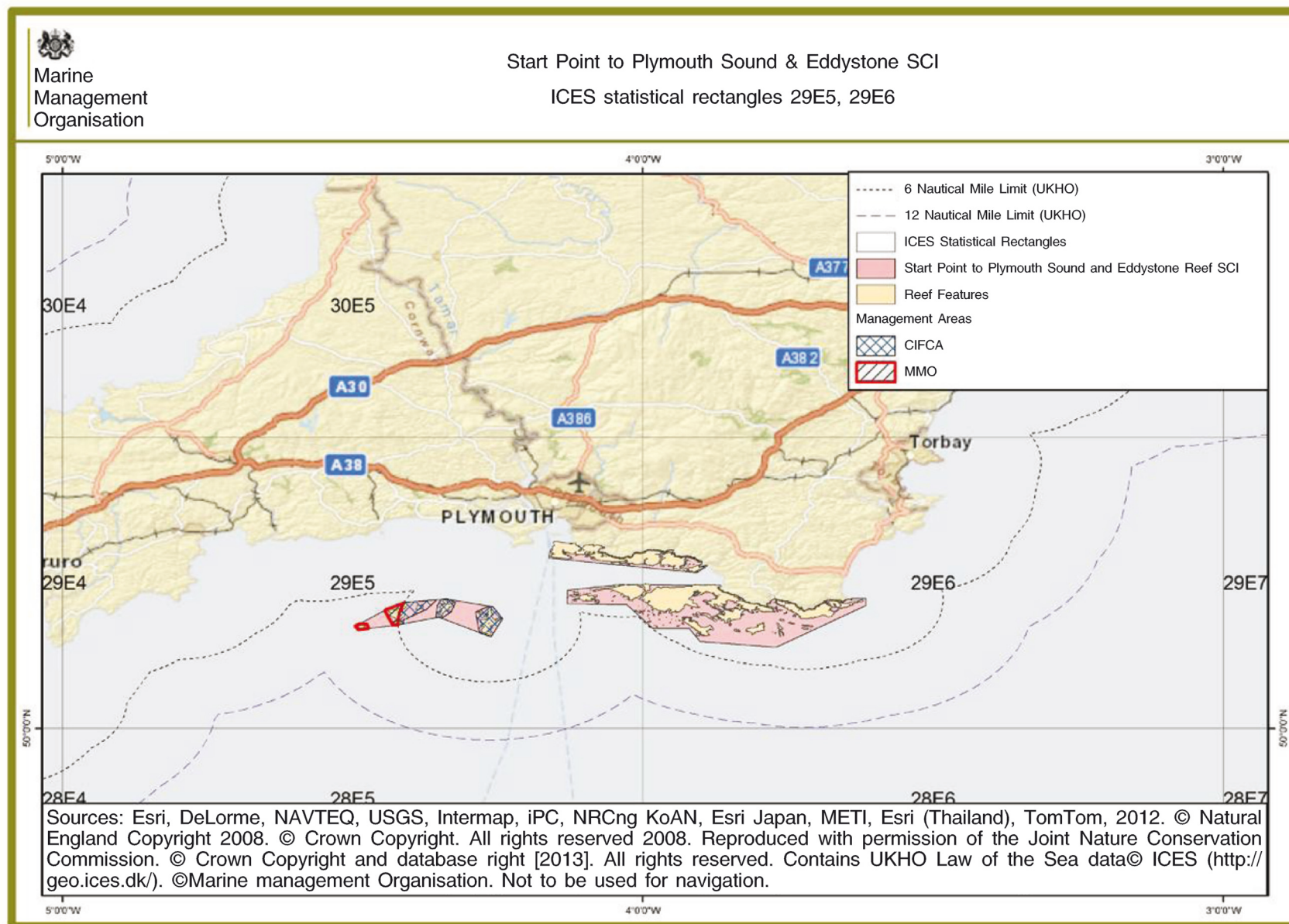




Figure 3  
2012 French VMS positional reports

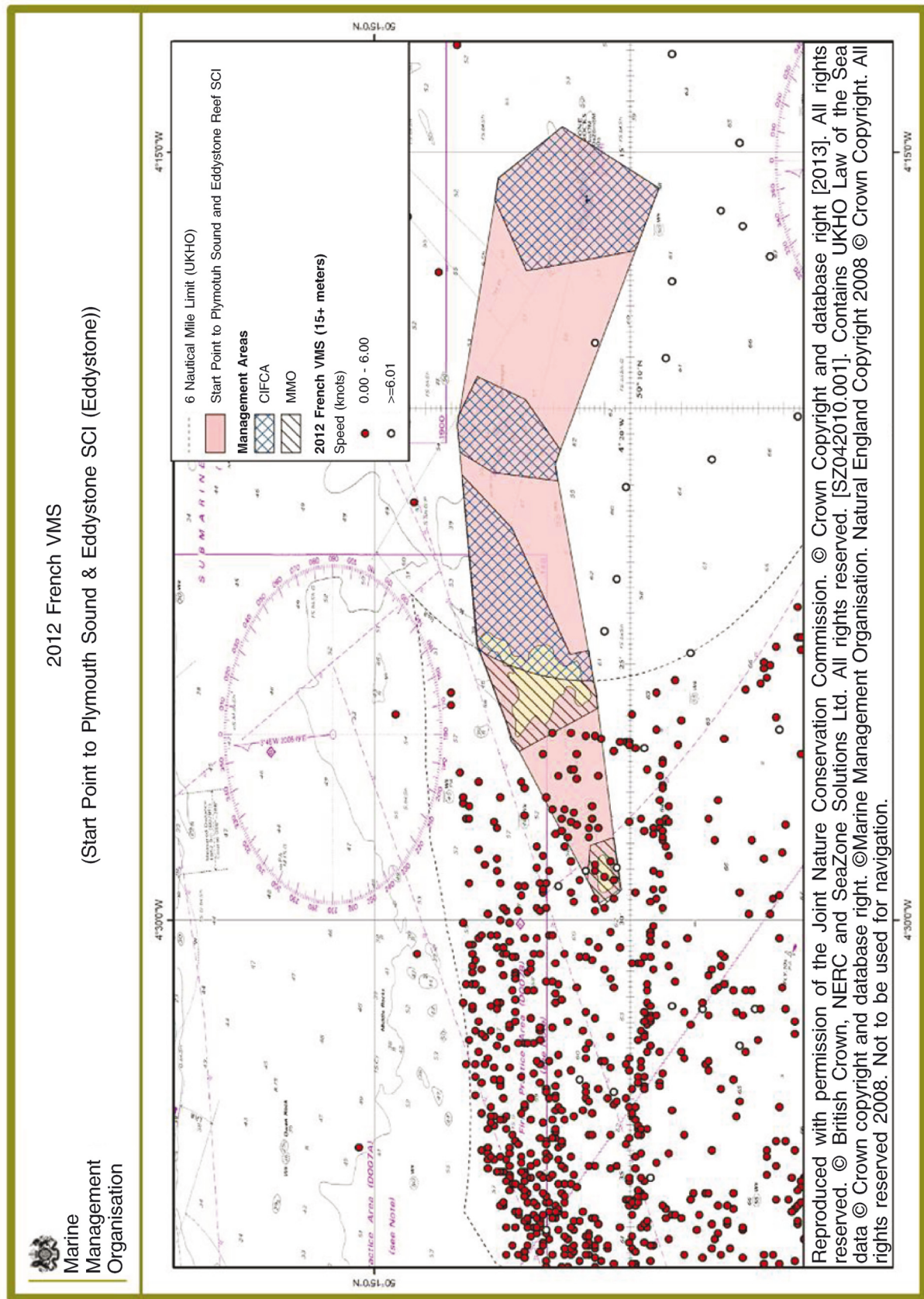
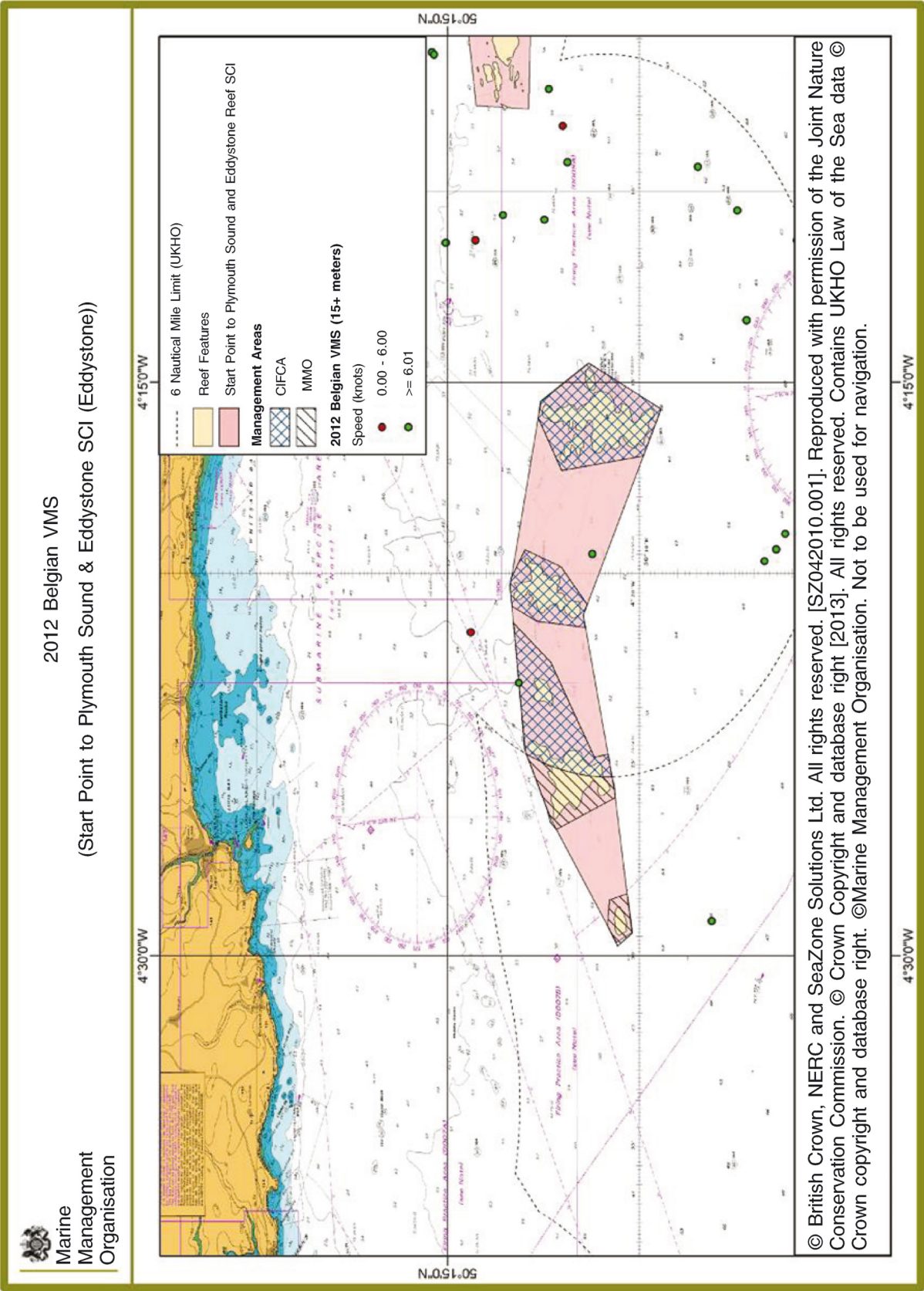




Figure 4  
2012 Belgium VMS positional reports



## 7.5. Valuation of affected landings

**United Kingdom**

- 7.5.1. The direct impact on fishing vessels would be a reduction in catch and therefore landings from bottom towed gear in the proposed prohibited area. In order to estimate potential impacts, landings data collated by the MMO was analysed.
- 7.5.2. Calculation of affected landings from ICES rectangle area 29E5 and 29E6 (for the UK vessels identified as fishing in the area since January 2008) is shown in Table 1. Estimates in Table 1 are based on average landings from January 2008 to December 2011.

Table 1

**Estimated UK landings from ICES area 29E5 and 29E6 as an average per year and average landings within the SCI (January 2008 – December 2011)**

| Gear Type               | Landed weight (tonnes) | Value (GBP)       | Value within SCI (GBP) | Value within prohibited area (1,77 % of the SCI) (GBP) |
|-------------------------|------------------------|-------------------|------------------------|--------------------------------------------------------|
| Beam trawlers           | 1 429                  | 3 844 049         | 2 693                  | 47,67                                                  |
| Dredgers                | 2 589                  | 4 149 690         | 7 368                  | 130,43                                                 |
| Nephrop trawls          | 7                      | 4 873             | 0                      | 0                                                      |
| Other demersal trawlers | 3 211                  | 7 334 338         | 70 610                 | 1 249,78                                               |
| <b>Total</b>            | <b>7 236</b>           | <b>15 332 950</b> | <b>80 671</b>          | <b>1 428</b>                                           |

- 7.5.3. Estimated values of landings within the SCI have been calculated by associating available landings data (provided by each fishing vessel at ICES rectangle level) with fishing vessel activity data (based on VMS reports) within the SCI. This approach applies a proportion of the landings for each ICES rectangle to the SCI, based on the level of activity within the SCI.

For the Start Point to Plymouth Sound and Eddystone SCI, landings data for the ICES rectangles (29E5 and 29E6) were used, and were categorised by size of vessel (over 15 metre vessels, 10 to 15 metre vessels and under 10 metre vessels).

Landings values from within the proposed prohibited area were then estimated as a proportion, (based on the size of the respective areas) of the estimated value from within the SCI.

Please refer to the supplementary 2008 to 2011 fishing statistics tables for a full breakdown of the activity within the ICES rectangles associated to the SCI.

It is estimated that the average annual income for the over 15 metre beam trawling fleets from the SCI is GBP 2 551, over 15 metre dredgers GBP 2 683 and over 15 metre demersal trawling fleet GBP 6 547. From the under 10 metre demersal trawling fleet the estimated average annual income was GBP 15 237. From the 10 to 15 metre demersal trawling fleet the estimated average annual income was GBP 54 408. (Please see table 5 from the 2008 to 2011 fishing statistics tables for a full breakdown). From our pre-consultation engagement with stakeholders the main monetary impact from the introduction of this byelaw will be on bottom trawling and scallop dredging.

7.5.4. It has been estimated that within the MMO prohibited area (which is 1,77 % of the square area of the SCI) the total loss in landings would be **GBP 1 428**.

7.5.5. The estimated total cost is likely to be an overestimation as no displacement has been assumed.

#### France and Belgium

7.5.6. From the analysis of VMS data the vast majority of Belgian fishing activity in ICES 29E5 and 29E6 occurs a distance away from the site itself. In 2012, only 20 vessels operated within the two ICES rectangles. The majority of French fishing activity in ICES 29E5 and 29E6 occurs either to the west of the site or between Hatt Rock and the Brentons. In 2012, 6 French vessels reported a VMS position at a speed of 1-6 knots within the Eddystone section of the SCI.

7.5.7. The Belgian Fishery primarily target Plaice in this area and the French target Haddock and Whiting. Using the methodology referred in Annex B "Analysis of NON-UK Vessels in ICES rectangles", it has been estimated that in 2012:

— The quantity of tonnes landed from Belgian activity within the accessible portion of the SCI is estimated at 0,15 tonnes. This equates to a value of GBP 339

— The quantity of tonnes landed from French activity within the accessible portion of the SCI is estimated at 4,20 tonnes. This equates to a value of GBP 5 929

However, not all of this area will be prohibited from access, and Figures 3 and 4 indicate that fishing activity takes place within the corridors outside of the proposed prohibited area (reef feature and buffer). The actual estimated loss of landings is therefore considered to be much lower than the values shown above.

Please refer to Annex B for further non-UK statistical information.

7.6. Likely effects on fishing fleet from closure

7.6.1. As the estimated loss of landings is low it is expected that the impact on the UK fishing fleet and Belgian fishing fleet from this closure will be limited. A number of affected fishers stated during MMO pre-consultation meetings that bottom towed gear is not used over the bedrock reef features, but potential loss of earnings could potentially occur within the buffer areas around the bedrock reef features. This has been estimated in Table 3. Formal consultation from the Belgian fishing industry representatives confirmed that the Belgian fishery is limited in this site. The French fishing industry representatives confirmed that there will be a loss of fishing grounds around the Hatt Rock prohibited area however alternative fishing grounds are easily accessible.

7.7. Adaptability

7.7.1. In order to assess the likely effects of the proposed closure on fishing activities, the extent to which vessels would be able to maintain the value of the catch by moving effort to other areas needs to be assessed.

7.7.2. Fishers were asked to complete a questionnaire to inform this assessment and were asked directly as to the degree of displacement incurred to other areas as a result of the proposed closure, and their ability to fish on alternative grounds and adapt in order to maintain catch value. The number of affected fishers stated that they could not change fishing grounds or gear type but as this proposed option will only limit fishing activity over the bedrock reef features and standard buffer zone the potential for displacement will be minimal.

- 7.7.3. As a result of introducing the preferred option (a specified prohibited areas byelaw) rather than closing the whole site, the level of displacement from vessels using bottom towed gear will be minimised. From pre-consultation engagement with the fishing industry the main displacement issue raised was the impact of full site closure with preference for corridors between the bedrock reef features. It was stated that bottom towed gear interaction did not take place over the features but does within the proposed buffer zones.
- 7.7.4. It is envisaged that proof of advances in gear technology and impact on sensitive features will be considered during the amber/green assessment process.
- 7.8. Indirect costs
- 7.8.1. Environmental costs
- 7.8.2. There will be minimal potential for increased costs in terms of fuel costs for vessels travelling further afield to access alternative fishing grounds, and to compensate for potential loss of catch due to the proposed prohibited area. This is because fishers are likely to continue to fish in the corridors between the prohibited areas.
- 7.8.3. There is potential for increased fishing effort within the corridors within the spatially prohibited areas which could have an effect on biodiversity and habitats (S.E.Rees *et al*, 2013 <sup>(1)</sup>).
- 7.9. Administrative and enforcement costs
- 7.9.1. The MMO will undertake intelligence led, risk based enforcement approach as adopted by a number of regulatory bodies across government in accordance with the National Intelligence Model <sup>(2)</sup>. Where intelligence suggests non compliance or a risk of non compliance the MMO will develop an enforcement strategy specific to the needs of the MPA and where necessary deploy resources accordingly. This may include a Navy presence, aerial surveillance or joint operations with other agencies (for example the IFCAs, UK Border force or EA). The MMO would coordinate any joint operations. The principals by which the MMO will regulate MPAs are set out by the Legislative and Regulatory Reform Act 2006 and the Regulators' Compliance Code and aim to ensure that the MMO is proportionate, accountable, consistent, transparent and targeted in any enforcement action it takes <sup>(3)</sup>.
- 7.9.2. The enforcement of the proposed byelaw will be met within the current budget. The EU VMS will be used as a management tool for sea and air enforcement of over 12m vessels. As a result of the low fishing activity within the site the risk of non-compliance will be minimal or low risk <sup>(4)</sup>. Table 2 highlights the estimated enforcement costs for the management of this preferred option.

Table 2

**Annual costs of enforcement of recommended option <sup>(1)</sup>**

| Activity                                 | Cost per Unit (GBP) | Estimated number of units per year | Total cost per year (GBP) |
|------------------------------------------|---------------------|------------------------------------|---------------------------|
| Royal Navy surface surveillance per site | 4 000 per day       | 1                                  | 4 000                     |

<sup>(1)</sup> Rees, S.E., Attrill, M.J., Austen, M.C., Mangi, S.C., Rodwell, L.D (2013). A thematic cost-benefit analysis of a marine protected area. *Journal of Environment management*, 114, 476 – 485.

<sup>(2)</sup> [www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf)

<sup>(3)</sup> [www.marinemanagement.org.uk/about/documents/compliance\\_enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/compliance_enforcement.pdf)

<sup>(4)</sup> This risk rating was identified from original submission for Defra's revised approach to minister.

| Activity                                           | Cost per Unit (GBP)       | Estimated number of units per year | Total cost per year (GBP) |
|----------------------------------------------------|---------------------------|------------------------------------|---------------------------|
| Joint enforcement patrols with local IFCA per site | Between 800-1 000 per day | 5                                  | 4 000-5 000               |
| Aerial surveillance per site                       | 2 050 per hour            | 2                                  | 4 100                     |
| Investigations/prosecutions per site               | 10 375 per case           | 1                                  | 10 375                    |
| <b>Total</b>                                       |                           | <b>9</b>                           | <b>22 475 – 23 475</b>    |

(<sup>1</sup>) Enforcement cost estimates from original submission for Defra's revised approach to minister.

Table 3

**Annual profile of monetised costs of recommended option- (GBP m) constant prices**

|                                                 | Y <sub>0</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | Y <sub>4</sub> | Y <sub>5</sub> | Y <sub>6</sub> | Y <sub>7</sub> | Y <sub>8</sub> | Y <sub>9</sub>   |
|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Transition cost                                 | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO               |
| Annual recurring cost – Best estimate           | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| Low                                             | 0,022475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| High                                            | 0,023475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| <b>Total present value of annual costs (*):</b> |                |                |                |                |                |                |                |                |                | <b>GBP 0,2 m</b> |

(\*) For the estimation the Impact Assessment Calculator (<https://www.gov.uk/government/publications/impact-assessment-calculator--3>) was used considering a 3,5 % discount rate, a 10 years appraisal period and 2013 as the price and present value base year.

#### 7.10. Benefits of recommended option

7.10.1. The exclusion of bottom towed gear from the proposed prohibited areas would prevent the use of bottom towed gear over the bedrock reef features and result in the following benefits:

— Environmental benefits of maintaining bedrock reef habitats

Environmental benefits are described here as non-monetised benefits.

#### 7.11. Environmental benefits

7.11.1. The bedrock reef within the SCI are some of the most biologically diverse in the country and play an important role in supporting species that are considered rare or are occurring at the limit of their biogeographical distribution. Although the individual reefs are relatively small (both on a national and local scale), they are ecologically diverse and represent a locally significant area (in terms of their size) of permanently submerged, offshore reef habitat (<sup>1</sup>).

7.11.2. The inshore reefs comprise coastal reef associated with the extension of the exposed terrestrial ecology out into the sublittoral zone and large areas of outcropping bedrock, boulders and cobbles in the offshore extents of the area. The Eddystone and surrounding reefs represent unusual features within the study area in that they lie in deep water and rise steeply, and in the case of the Eddystone, break the water's surface. These host a rich biological community that exhibit classic rocky zonation from deep to shallow water. A wide range of species are found here including soft corals, sea cucumbers, sea urchins, sponges jewel anemones, sea squirts and kelp forests. The sea fan anemone and sunset cup coral (both nationally rare species) and the pink sea fan have been observed (Axelsson *et al*, 2006; Royal Haskoning, 2008; University of Plymouth, 2011) (<sup>2</sup>).

(<sup>1</sup>) Natural England formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted)

(<sup>2</sup>) Natural England formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted)

7.11.3. Reefs also provide some degree of coastal protection and are important areas for nutrient cycling, carbon and nitrogen fixing and sediment stabilisation.

7.11.4. A protected reef habitat is a natural refuge for creating populations of targeted and bycatch species.

7.11.5. The benefits of this byelaw are to afford appropriate protection and a safeguarding of the ecological characteristics that can possibly lead to more abundance of biodiversity compared to the rest of the fishing grounds.

7.11.6. The environmental benefits from the introduction of this byelaw will be significant as it will protect the bedrock reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain' conservation objective. This will have an added benefit on other features within the SCI and will have an overall benefit to the reef habitat as a result of the prohibition recommended. This may promote more recreational use in the area such as divers and recreational anglers which could potentially benefit the local economy.

#### 7.12. Socio-economic benefits

7.12.1. There is a possibility that the maintained condition of the bedrock reef features and habitat may increase the attraction for recreational users, including divers and anglers (S.E.Rees *et al*, 2013 <sup>(1)</sup>; D.R. Chae *et al*, 2012 <sup>(2)</sup>). This could also increase tourism to the area and therefore increase spending in local businesses (S.E.Rees *et al*, 2013).

7.12.2. Implementing a zoned approach to management rather than closing the whole site limits the displacement of vessels operating bottom towed gear.

#### 7.13. Distribution of costs and benefits

7.13.1. The distribution of social and economic costs is predominantly at a UK and French local level (excluding the enforcement costs) with the overall environmental benefits covering a wider area and having more of a national impact.

### Annex A: Notes of UK fishery statistics data extraction and tables

Data tables that summarise reported activity within the ICES rectangles that cover the detailed areas defined as the European marine site areas are detailed on the MMO website <sup>(3)</sup>.

This level of detail reflects the finest level of detail available within the reported data available to UK fisheries administrations.

This data provides the information on the quantity and value of landings from the rectangles covering the areas, along with details of the vessels, gears used, and the species caught.

In addition to this fishing activity data, vessels over 15 metres in length report their exact position every 2 hours as part of UK Vessel Monitoring Systems.

For these over 15 metre vessels, it has been possible to combine the relatively coarse scale of spatial data from the activity reporting systems with the detailed position reports from the VMS systems to allow estimation of fishing activity at a finer scale. This detailed recasting of the activity data allows estimation of activity within the detailed EMS areas for over 15 metre vessels.

Where available this detail is presented in the tables of data alongside the overall activity within the ICES rectangles, for the over 15 metre vessels; the ratio between these two sets of data has then been applied to the data for other vessel lengths to provide approximate estimates of the activity within the proposed prohibited areas by these vessels less than 15 metres overall length.

<sup>(1)</sup> Rees, S.E., Attrill, M.J., Austen, M.C., Mangi, S.C., Rodwell, L.D (2013). A thematic cost-benefit analysis of a marine protected area. *Journal of Environment management*, 114, 476 – 485.

<sup>(2)</sup> Chae, D., Wattage, P., Pascoe, S. (2012). Recreational benefits from marine protected area: A travel cost analysis of Lundy. *Tourism Management*, 33, 971 – 977.

<sup>(3)</sup> <http://www.marinemanagement.org.uk/protecting/conservation/ems-consultation.htm>



**Please note** that proposed prohibited areas are within inshore waters, therefore using the proportion of activity carried out by over 15 metre vessels within the areas to estimate activity of other UK vessels may be inaccurate as the larger vessels tend to fish further offshore than others, especially the over 10 metre fleet.

This data is shaded grey in the tables to highlight that it is estimated data and should only be used with caution.

The following is a list of the coastal EMS areas covered by this analysis – some rectangles cover more than one area – these are highlighted in yellow.

This overlap means that the total potential coverage of the proposed prohibited areas cannot be estimated by summing the analyses for the individual areas. The table below includes details of the proportion of overall activity in the IECS rectangles involved for each proposed prohibited area that relates to vessels over 15 metres (for these vessels the detailed satellite data is available).

As such, for those vessels with a high proportion of coverage of the EMS sites, the estimates for activity by other length bands based on VMS related activity are likely to be of greater reliability than for those sites with a low proportion of coverage.

#### **Annex B: Notes of Non-UK fishery statistics data**

These tables are extracts of landings data reported by Member States to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes.

As part of the activities of this group, various data sets are compiled including the details for each Member State of landings of species for each ICES rectangle with associated vessel groupings. This data set is constructed to meet the needs of the STECF group and as such it has had to be processed carefully to avoid double counting of activity data. It has been sourced from the STECF site <sup>(1)</sup>

Summary totals have been checked against the recorded activity on the EU FIDES systems for certain quota stocks to validate the data reported.

*However, there are remain differences in the totals between those reported for species/area combinations in the STECF data files and those reported for similar levels of detail as part of the catch reporting systems on FIDES for monitoring quota uptake. As such these figures are indicative of the level of activity in the area by the Member States involved and not definitive statements.*

Indicative monetary values have been constructed using the average value of landings by UK vessels from the ICES rectangle concerned or similar areas.

Where data for years are missing it may be indicative of no activity being reported but it may be a result of no data having been supplied.

#### **ANALYSIS OF NON-UK VESSEL VMS ACTIVITY IN ICES RECTANGLES COVERING THE SCI RELATING TO THIS IMPACT ASSESSMENT**

##### **Methodology used:**

This analysis is the results of applying the standard methodology used to identify whether or not UK vessels have been active in a particular detailed spatial area to the information received for non-UK vessels, in particular those from France and Belgium with historic access rights to certain part of UK inshore waters.

It involves the estimation of fishing activity from VMS data based on the speed of the vessel as reported within the VMS messages ("Pings")

Data for each VMS Ping received from Non-UK vessels in the rectangle or rectangles concerned that cover the detailed area are selected from the UK VMS system, extracting details of the vessel identity (CFR) number, position and speed and the date and time of the Ping.

<sup>(1)</sup> STECF: [http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013\\_App+08+landings+by+rectangle+by+country.xlsx](http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013_App+08+landings+by+rectangle+by+country.xlsx)

Each Ping is assessed and classified as indicative of fishing activity taking place if the speed is  $\geq 1$  or  $\leq 6$  knots

These fishing pings from the rectangle(s) concerned are then processed in GIS software to identify if the position was inside or outside the details spatial area concerned

This allows the proportion of fishing pings recorded for each Member State within the rectangle that were inside the detailed area to be calculated. This factor will then be applied to the overall level of landings seen within the STECF data sets for the Member State concerned to allow estimates of activity by non-UK vessels within the detailed spatial area to be constructed.

#### SUMMARY OF ACTIVITY BY BELGIAN AND FRENCH VESSELS IN ICES RECTANGLES 29E5 & 29E6 COVERING PLYMOUTH SOUND, START POINT AND EDDYSTONE SITE

This is a summary of the activity by Member State vessels in terms of the quantity and value of fish landed in terms of:

- (1) Total activity within the ICES rectangles covering the area concerned using bottom towed gears.
- (2) Estimates of activity within the specific area concerned using bottom towed gears

#### Part A - total tonnage of activity

|                    |                           | (1)                                             |              |               |               | (2)                                                                                           |             |             |             |
|--------------------|---------------------------|-------------------------------------------------|--------------|---------------|---------------|-----------------------------------------------------------------------------------------------|-------------|-------------|-------------|
|                    |                           | Activity (Tonnes) in ICES rectangle 29E5 & 29E6 |              |               |               | Activity (tonnes) estimated as from within the SCI based on maximum VMS activity in 2010-2012 |             |             |             |
| BELGIUM            | Gear Code                 | 2009                                            | 2010         | 2011          | 2012          | 2009                                                                                          | 2010        | 2011        | 2012        |
| Over 15m in length | BT2 (*)                   | 52,05                                           | 47,86        | 157,01        | 180,61        | 0,04                                                                                          | 0,03        | 0,11        | 0,13        |
|                    | DRED-GE                   | 0,00                                            | 0,00         | 0,21          | 2,90          | 0,00                                                                                          | 0,00        | 0,00        | 0,00        |
|                    | TR2 (**)                  | 0,00                                            | 1,55         | 11,06         | 30,58         | 0,00                                                                                          | 0,00        | 0,01        | 0,02        |
|                    | <b>29E5 &amp; 6 Total</b> | <b>52,05</b>                                    | <b>49,41</b> | <b>168,27</b> | <b>214,09</b> | <b>0,04</b>                                                                                   | <b>0,03</b> | <b>0,12</b> | <b>0,15</b> |
| FRENCH             | Gear Code                 | 2009                                            | 2010         | 2011          | 2012          | 2009                                                                                          | 2010        | 2011        | 2012        |
| 0 to 15m in length | Bottom Trawls             | 0,00                                            | 0,00         | 5,25          | 1,06          | 0,00                                                                                          | 0,00        | 0,02        | 0,00        |
|                    | Dredge                    | 0,00                                            | 0,00         | 3,60          | 0,93          | 0,00                                                                                          | 0,00        | 0,02        | 0,00        |
| Over 15m in length | Bottom Trawls             | 0,00                                            | 0,00         | 1 033,43      | 960,35        | 0,00                                                                                          | 0,00        | 4,50        | 4,18        |

|  |                           | (1)                                             |             |                 |               | (2)                                                                                           |             |             |             |
|--|---------------------------|-------------------------------------------------|-------------|-----------------|---------------|-----------------------------------------------------------------------------------------------|-------------|-------------|-------------|
|  |                           | Activity (Tonnes) in ICES rectangle 29E5 & 29E6 |             |                 |               | Activity (tonnes) estimated as from within the SCI based on maximum VMS activity in 2010-2012 |             |             |             |
|  | Dredge                    | 0,00                                            | 0,00        | 8,61            | 2,40          | 0,00                                                                                          | 0,00        | 0,04        | 0,01        |
|  | <b>29E5 &amp; 6 Total</b> | <b>0,00</b>                                     | <b>0,00</b> | <b>1 050,89</b> | <b>964,74</b> | <b>0,00</b>                                                                                   | <b>0,00</b> | <b>4,57</b> | <b>4,20</b> |

(\*) BT2 = Beam Trawls - 80-119mm mesh size

(\*\*) TR2 = Demersal Trawls - 70-99mm mesh size

**Part B - total value of activity**

|                           |                           | (1)                                          |                |                  |                  | (2)                                                                                        |             |              |              |
|---------------------------|---------------------------|----------------------------------------------|----------------|------------------|------------------|--------------------------------------------------------------------------------------------|-------------|--------------|--------------|
|                           |                           | Activity (GBP) in ICES rectangle 29E5 & 29E6 |                |                  |                  | Activity (GBP) estimated as from within the SCI based on maximum VMS activity in 2009-2012 |             |              |              |
| <b>BELGIUM</b>            | <b>Gear Code</b>          | <b>2009</b>                                  | <b>2010</b>    | <b>2011</b>      | <b>2012</b>      | <b>2009</b>                                                                                | <b>2010</b> | <b>2011</b>  | <b>2012</b>  |
| <b>Over 15m in length</b> | BT2 (*)                   | 150 193                                      | 141 065        | 472 999          | 388 618          | 106                                                                                        | 99          | 332          | 273          |
|                           | DREDGE                    | 0                                            | 0              | 2 363            | 5 776            | 0                                                                                          | 0           | 2            | 4            |
|                           | TR2 (**)                  | 0                                            | 3 462          | 30 241           | 87 690           | 0                                                                                          | 2           | 21           | 62           |
|                           | <b>29E5 &amp; 6 Total</b> | <b>150 193</b>                               | <b>144 527</b> | <b>505 603</b>   | <b>482 083</b>   | <b>106</b>                                                                                 | <b>102</b>  | <b>355</b>   | <b>339</b>   |
| <b>FRENCH</b>             | <b>Gear Code</b>          | <b>2009</b>                                  | <b>2010</b>    | <b>2011</b>      | <b>2012</b>      | <b>2009</b>                                                                                | <b>2010</b> | <b>2011</b>  | <b>2012</b>  |
| <b>0 to 15m in length</b> | Bottom Trawls             | 0                                            | 0              | 24 412           | 4 117            | 0                                                                                          | 0           | 106          | 18           |
|                           | Dredge                    | 0                                            | 0              | 5 877            | 1 902            | 0                                                                                          | 0           | 26           | 8            |
| <b>Over 15m in length</b> | Bottom Trawls             | 0                                            | 0              | 1 482 281        | 1 351 906        | 0                                                                                          | 0           | 6 453        | 5 885        |
|                           | Dredge                    | 0                                            | 0              | 14 055           | 3 995            | 0                                                                                          | 0           | 61           | 17           |
|                           | <b>29E5 &amp; 6 Total</b> | <b>0</b>                                     | <b>0</b>       | <b>1 526 624</b> | <b>1 361 920</b> | <b>0</b>                                                                                   | <b>0</b>    | <b>6 646</b> | <b>5 929</b> |

(\*) BT2 = Beam Trawls - 80-119mm mesh size

(\*\*) TR2 = Demersal Trawls - 70-99mm mesh size

Please refer to the Non-UK Fishery statistics data for a full summary of activity.

## ANNEX VI

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             |                                                                                                         |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----|
| <b>Title:</b><br><b>Haisborough, Hammond and Winterton European Marine Site (specified areas) bottom towed gear byelaw impact assessment</b><br><b>IA No:</b><br>MMO04<br><b>Lead department or agency:</b><br>Marine Management Organisation<br><b>Other departments or agencies:</b><br>Defra, Natural England, Eastern Inshore Fisheries and Conservation Authority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                   |                                                             | <b>Impact Assessment (IA)</b>                                                                           |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             | <b>Date:</b> 5.11.2013                                                                                  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             | <b>Stage:</b> Development/Options                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             | <b>Source of intervention:</b> Domestic                                                                 |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             | <b>Type of measure:</b> Secondary Legislation                                                           |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             | <b>Contact for enquiries:</b><br>Michael Coyle<br>Michael.Coyle@marinemangement.org.uk<br>0300 123 1032 |    |
| <b>Summary: Intervention and Options</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |                                                             | RPC Opinion: <b>RPC Opinion Status</b>                                                                  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                                             |                                                                                                         |    |
| <b>Cost of Preferred (or more likely) Option</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                                                             |                                                                                                         |    |
| <b>Total Net Present Value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Business Net Present Value</b> | <b>Net cost to business per year (EANCb on 2009 prices)</b> | <b>In scope of One-In, Measure qualifies as Two-Out?</b>                                                |    |
| NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NA                                | NA                                                          | No                                                                                                      | NA |
| <b>What is the problem under consideration? Why is government intervention necessary?</b><br><br><p>The Marine Management Organisation (MMO) is proposing this byelaw because there is a need to protect designated Annex I biogenic (<i>Sabellaria spinulosa</i>) reef features within this European marine site (EMS) from fishing using bottom towed gear.</p> <p>This byelaw is proposed in accordance with the revised approach introduced by the Department for Environment, Food and Rural Affairs (Defra) to ensure the full compliance with Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive) with respect to commercial fishing activity.</p> <p>Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.</p> <p>The revised approach to commercial fishery management is being implemented using an evidence based, risk-prioritised, and phased basis. The approach is informed by an agreed matrix showing how fishing activities could affect features designated in EMSs. Each activity/feature interaction has been categorised as red, amber, green or blue according to the potential risks that specific gear types present to the interest features. A red category indicates that there is a high risk to the feature, and that management actions should be prioritised and implemented by the end of 2013. All remaining gear type/feature interactions identified within the matrix will be assessed and appropriate management measures implemented, if required by 2016.</p> <p>The interaction between bottom towed gear and the <i>Sabellaria spinulosa</i> reef features in Haisborough, Hammond and Winterton Site of Community Importance (SCI) has been identified as red, and therefore a priority for management to remove the risk of damage to the feature from bottom towed gear. The proposed byelaw will ensure that the fishing activity/feature interaction is managed in accordance with Article 6 of the Habitats Directive. The interactions between fishing gears and reef/sandbank features have been identified as either amber or green, and will therefore be considered at a later date.</p> <p>For sites located between 0 and 6 nautical miles (nm), Defra expects the relevant Inshore Fisheries and Conservation Authority (IFCA) to be the lead regulatory authority. For sites between 6-12nm, the MMO is the lead regulatory authority and measures will be introduced on a non-discriminatory basis in accordance with article 9 of Council Regulation 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.</p> <p>Following discussions between the MMO and Eastern IFCA, it has been agreed that, a MMO byelaw will be used to manage the <i>Sabellaria spinulosa</i> reef features within the 0 to 12nm. Therefore an MMO byelaw for the part of the EMS between 0 and 12nm is the preferred option.</p> |                                   |                                                             |                                                                                                         |    |

**What are the policy objectives and the intended effects?**

- To prevent the deterioration of Sabellaria spinulosa reef features within the section of the Haisborough, Hammond and Winterton SCI, between 6 and 12 nm, from impacts associated with deployment of bottom towed fishing gears;
- To further the conservation objectives stated for the Haisborough, Hammond and Winterton SCI;
- To ensure compliance with the Habitats Directive in line with Defra's revised approach;
- To promote sustainable fisheries while conserving the marine environment;
- To minimise the impact on bottom towed gear fishing activity, by maintaining access, where possible, to fishing grounds within the SCI;
- To reduce external negativities and ensure continued provision of public goods.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

1. Do nothing.
2. Voluntary measures.
3. MMO byelaw prohibiting bottom towed gears throughout the SCI ('full site closure').
4. MMO byelaw to prohibit bottom towed gears over bedrock reef feature with appropriate buffering ('zoned management').
5. Management of activity through a Statutory Instrument, Regulating Order or fishing licence condition.

The preferred option is option 4 which will promote both sustainable fisheries and conserve the marine environment and will ensure compliance with the Habitats Directive.

**Will the policy be reviewed? It will be reviewed.****If applicable, set review date: Not applicable**

|                                                                                                                        |                        |                          |                        |                         |                        |
|------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|------------------------|-------------------------|------------------------|
| Does implementation go beyond minimum EU requirements?                                                                 |                        |                          | No                     |                         |                        |
| Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.                       | <b>Micro</b><br>Yes/No | <b>&lt; 20</b><br>Yes/No | <b>Small</b><br>Yes/No | <b>Medium</b><br>Yes/No | <b>Large</b><br>Yes/No |
| What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent) |                        |                          | <b>Traded:</b>         |                         | <b>Non-traded:</b>     |

I have read the impact assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: \_\_\_\_\_ Date: \_\_\_\_\_

**Summary: Analysis & Evidence**

Policy Option 1

**Description:****FULL ECONOMIC ASSESSMENT**

| Price Base Year<br>2013 | PV Base Year<br>2013 | Time Period<br>Years<br>10 | Net Benefit (Present Value (PV)) (GBP m) |                |                |
|-------------------------|----------------------|----------------------------|------------------------------------------|----------------|----------------|
|                         |                      |                            | Low: Optional                            | High: Optional | Best Estimate: |

| COSTS (GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excluding transition)<br>(Constant Price) | Total Cost<br>(Present Value) |
|---------------|-----------------------------------------------|--|--------------------------------------------------------------|-------------------------------|
| Low           | NO                                            |  | Optional                                                     | Optional                      |
| High          | NO                                            |  | Optional                                                     | Optional                      |
| Best Estimate |                                               |  | Optional                                                     | GBP 0,20m                     |

**Description and scale of key monetised costs by 'main affected groups'**

Estimated annual enforcement costs to be faced by MMO range between **GBP 22 475** to **GBP 23 475**. The best estimate of enforcement costs is assumed to be the mid-point of the low and high cost scenarios (**GBP 22 975**), which results in a present value of costs over 10 years of **GBP 0,2 m**. One-off costs are not anticipated.

Estimated annual loss of UK landings within the prohibited area including buffer zone is **GBP 82,24** and the value of GVA affected is **GBP 28,76** <sup>(1)</sup>. Present value of GVA over the 10 year IA timeframe is **GBP 247,56**.

Due to minimal displacement caused by the intervention, as alternative fishing grounds are easily accessible, total cost estimates do not include loss of GVA. Costs to fisheries in that case are likely to be an overestimation as no displacement has been assumed and 100 % of GVA in the areas affected is assumed lost.

**Other key non-monetised costs by 'main affected groups'**

Belgian vessels have legal access rights in the section of the SCI outside 6 nautical miles.

Section 7.4 VMS data highlights the limited activity for the Belgian fishing vessels within this SCI which was also confirmed by early engagement with Belgian fishing industry representatives in July. During formal consultation Belgian fishing industry representatives confirmed that some fishing activity takes place in the proposed prohibited area.

The MMO proposes to use other enforcement bodies such as UK Border Agency and the police in order to fully utilise their resources for surveillance and enforcement. These costs cannot be monetised at present as they are requested on an ad hoc basis and costs can vary. These additional costs can be added if required at a later date.

| BENEFITS<br>(GBP m) | Total Transition<br>(Constant Price)<br>Years |  | Average Annual<br>(excluding transition)<br>(Constant Price) | Total Benefit<br>(Present Value) |
|---------------------|-----------------------------------------------|--|--------------------------------------------------------------|----------------------------------|
| Low                 | Optional                                      |  | Optional                                                     | Optional                         |
| High                | Optional                                      |  | Optional                                                     | Optional                         |
| Best Estimate       |                                               |  |                                                              |                                  |

<sup>(1)</sup> Further details on the approach is available in Annex H7 for the MCZ IA <http://publications.naturalengland.org.uk/publication/1940011>



**Description and scale of key monetised benefits by 'main affected groups'**

No monetised figures are available for the benefits of the recommended closure. However, significant potential benefits are described below.

**Other key non-monetised benefits by 'main affected groups'**

The environmental benefits from the introduction of this byelaw will be significant as it will protect the *Sabellaria spinulosa* reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain' or 'restore' conservation objective. This will have an added benefit on other features within the SCI and will have an overall benefit to the reef habitat as a result of the prohibition recommended. This could promote more recreational use in the area such as divers and recreational anglers which could potentially benefit the local economy (see evidence base).

**Key assumptions/sensitivities/risks****Discount rate (%)**

3,5%

Average cost estimates for the fishing industry are based on MMO landings values estimated within the SCI within ICES division VIIe statistical rectangles 35F1, 35F2, 34F1 and 34F2. It is unknown what proportion of the total landings value was actually derived directly from the proposed prohibited area, which makes up less than 0,092% of an ICES statistical rectangle (3840 square km). The statistics data presented in this IA was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity of UK vessels (quantity and value of landings along with details of gear involved) is taken from the MMO Ifish database and includes all logbook entries for UK registered fishing vessels. Information on Belgian vessels has been informed by extracts of landings data reported by Member States to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes. Further description of the methodologies used to produce fishery costings is detailed in Annex A and B.

Reported GVA was calculated by multiplying the value of landings by **percentage** of total income that constitutes GVA for the relevant gear type/region. The provided estimate of GVA as a percentage of total income (30% for bottom trawls and 33% for dredges) was also used in the calculations for the proposed MCZs.

Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with the statement.

**BUSINESS ASSESSMENT (Option 1)**

| Direct impact on business (Equivalent Annual) GBP m: |           |      | In scope of OITO? | Measure qualifies as |
|------------------------------------------------------|-----------|------|-------------------|----------------------|
| Costs:                                               | Benefits: | Net: | Yes/No            | IN/OUT/Zero net cost |

## EVIDENCE BASE

**Introduction**

- 1.1. Site: Haisborough, Hammond and Winterton SCI <sup>(1)</sup>.
- 1.2. Haisborough, Hammond and Winterton SCI has been designated for reef (*Sabellaria spinulosa*) and sandbanks (Sandbanks which are slightly covered by sea water all the time. *Sabellaria spinulosa* reef features have a number of important effects on the physical environment: they often stabilise sands, gravels and stones; the shells or tubes of the organisms themselves provide hard substrata for attachment of sessile organisms; they may provide a diversity of crevices, surfaces and sediments for colonisation; and accumulated faeces, pseudo faeces and other sediments may be an important source of food for other organisms (Holt *et al.*, 1998; Hendricks *et al.*, 2011; Limpenny *et al.*, 2010). For these reasons many biogenic reefs have a very rich associated fauna and flora, which at least in terms of macrofauna is often much richer and more diverse than in surrounding areas (Holt *et al.*, 1998; Hendrick *et al.*, 2011; Pearce *et al.*, 2007) <sup>(2)</sup>.
- 1.3. The Department for Food, Environment, and Rural Affairs (Defra) has introduced a revised approach to the management of fisheries in EMS (see section 2.1). This has resulted in the need for the MMO to establish measures to protect the *Sabellaria spinulosa* reef features from bottom towed fishing gears in the SCI between the 6 to 12 nm limits to ensure full compliance with Article 6 of the Habitats Directive <sup>(3)</sup>.
- 1.4. Bottom towed gear means any fishing gear which is pushed or pulled through the sea and contacts the seabed. This includes demersal otter and beam trawls and shellfish dredges. Management measures restricting these activity/feature interactions are therefore required.
- 1.5. This IA has been prepared to outline the costs and benefits of the proposed MMO byelaw to prohibit bottom towed gears for the protection of the reef features. The IA also indicates why the option being recommended is the preferred option for management. A draft of this IA has been subject to public consultation.
- 1.6. Data and evidence to inform this IA has been gathered from Natural England (NE), IFCA's, and the MMO. In addition, the MMO in conjunction with Eastern IFCA attended drop-in sessions in King's Lynn on the 11.6.2013 and Boston on the 17.6.2013 to meet stakeholders to ask direct questions and gather evidence as to the economic impacts of the proposed prohibited areas. A meeting with the Belgian authorities and fishing industry representatives was held in Belgium on the 12.7.2013. The resulting comments from industry and the Belgian fishing industry representatives indicated that there is very little use of bottom towed gear within the proposed prohibited areas. Information and statements from interviews with commercial fishermen were recorded and incorporated into this IA as anecdotal evidence.
- 1.7. As part of the statutory byelaw process, drafts of the proposed byelaw and IA for this site were formally consulted on from 10.9.2013 to 22.10.2013. Comments from the Belgian fishing industry representatives indicated that there is Belgian fishing activity within the EMS but did not confirm specifically if activity takes place in the proposed prohibited areas.

**2. Rationale for intervention**

- 2.1. In August 2012 Defra undertook a review into the management of fisheries within EMS in order to identify future management required to ensure site features are maintained at favourable condition. This resulted in a revised approach <sup>(4)</sup> to management of fishing in EMS.

<sup>(1)</sup> Sites of Community importance (SCIs) are sites that have been adopted by the European Commission but not yet formally designated as SACs by the UK Government.

<sup>(2)</sup> Natural England and JNCC formal site advice: [http://jncc.defra.gov.uk/pdf/HHW\\_Reg%2035\\_Conservation%20Advice\\_v6.0.pdf](http://jncc.defra.gov.uk/pdf/HHW_Reg%2035_Conservation%20Advice_v6.0.pdf)

<sup>(3)</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

<sup>(4)</sup> Fisheries in EMS policy document: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/policy\\_and\\_delivery.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/policy_and_delivery.pdf)

- 2.2. The revised approach is being implemented using an evidence based, risk-prioritised, and phased basis. Risk prioritisation is informed by a matrix <sup>(1)</sup> which categorises the risks from interactions between fishing activity and ecological features. Activity/feature interactions have been categorised as red, amber, green, or blue. Those classified as red have been prioritised for the implementation of management measures by the end of 2013 (regardless of the actual level of activity) to avoid the deterioration of Annex I features in line with obligations under Article 6(2) of the Habitats Directive. Interactions which are categorised as amber require a site-level assessment to determine whether management of an activity is required to protect features. Interactions which are categorised as green also require site-level assessment if there are “in-combination” effects. A categorisation of blue indicates that there is no feasible interaction, and as such no further assessment is required <sup>(2)</sup>.
- 2.3. Paragraphs 6(1) and 6(2) of the Habitats Directive require that, within special areas of conservation (SACs) and special protection areas (SPAs), member states:
- establish the necessary conservation measures which correspond to the ecological requirements of the Annex I natural habitat types and the Annex II species present on the sites;
  - take appropriate steps to the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated.
- 2.4. Regulation 8(1) of the Conservation of Habitats and Species Regulations 2010 defines an EMS as any (among others) SAC, SPA and SCI. Part 6 of these regulations lay out the management requirements for EMS, in line with articles 6(2), 6(3) and 6(4) of the Habitats Directive.
- 2.5. Haisborough, Hammond and Winterton SCI contains *Sabellaria spinulosa* reef features which have been categorised as red with regard to bottom towed gears and therefore management measures are required to remove this risk. The MMO is responsible for implementing management to prohibit the interaction between the *Sabellaria spinulosa* reef features and bottom towed fishing gear. The interaction of other fishing gear types with *Sabellaria spinulosa* reef features and the interactions between all fishing gear types and subtidal sandbank features will be assessed during the amber/green assessment process.
- 2.6. This site lies across three administrative areas: 0 to 6nm, 6 to 12nm and offshore of 12nm. For the purpose of fisheries management, the 1983 British Fisheries Limits apply. There are three *Sabellaria spinulosa* reef areas identified within Haisborough, Hammond and Winterton SCI. Reef areas one and two lies within the 6-12nm area and will be managed through an MMO byelaw. Reef area three lies offshore of 12nm and therefore will be managed by the European Commission.
- 2.7. The specific location and extent of the reef feature was provided by Natural England <sup>(3)</sup>. The buffers are based on Natural England draft guidance <sup>(4)</sup>, which recommends the size of the buffer based on the depth of the feature being protected. For Area 1, *Sabellaria spinulosa* has been identified as present but the extent has not been identified. The buffer for Area 1 is 650 metres based on 500 metres plus three times depth (as recommended for buffering of point data) of 50 metres. The Area 2 buffer is 150 metres based on three times depth of 50 metres. The boundaries of the buffers were then smoothed to facilitate compliance and enforcement.
- 2.8. Intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this byelaw will ensure continued provision of public goods in the marine environment.

<sup>(1)</sup> See Matrix: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/populated\\_matrix3.xls](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/populated_matrix3.xls)

<sup>(2)</sup> Centre for Environment, Fisheries and Aquaculture Science (CEFAS) review of matrix and supporting evidence: [http://www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/cefass\\_matrix\\_review.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/cefass_matrix_review.pdf)

<sup>(3)</sup> Natural England formal advice letter, 2013

<sup>(4)</sup> NE buffer advice (draft), April 2013. Contact Natural England for more information.

- 2.9. Market failures occur when the market does not deliver an efficient outcome <sup>(1)</sup>. In the context of the marine environment these failures can be described as:

- For public goods and services – A number of goods and services provided by the marine environment such as climate regulation and biological diversity are ‘public goods’ (no-one can be excluded from benefiting from them and consumption of the service does not diminish the service being available to others). The characteristics of public goods mean that individuals do not necessarily have an economic incentive to voluntarily contribute effort or money to ensure the continued existence of these goods leading to undersupply or in this case under-protection.
- Negative externalities – Negative externalities occur when damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary price is attached to marine goods and services therefore the cost of damage is not directly priced by the market. Even for those goods that are traded (such as wild fish), market prices often do not reflect the full economic cost, which is ultimately by other individuals and society as a whole.

- 2.10. Government intervention is required to redress both these sources of market failure in the marine environment. Management measures to conserve designated features of EMS will ensure negative externalities are reduced or suitably mitigated. Management measures will also support continued provision of public goods in the marine environment, for example conserving the range of biodiversity in England’s seas.

### 3. Policy objectives and intended effects

- 3.1. The Marine and Coastal Access Act 2009 (MaCAA) <sup>(2)</sup> established MMO to lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.

- 3.2. The policy objective pertinent to this IA is to further the conservation objectives of this site by ensuring that the *Sabellaria spinulosa* reef features are protected from the risk of damage from bottom towed gear.

- 3.3. The conservation objectives of this site are:

- Subject to natural change, to maintain or restore <sup>(3)</sup>:
  - Extent of the habitat (and elevation and patchiness for reef)
  - Diversity of the habitat
  - Community structure associated with the habitat (e.g. population structure of individual notable species and their contribution to the functioning of the habitat)
  - Natural environmental quality (e.g. water quality, suspended sediment levels, etc.)

- 3.4. The intended effects are that the risk of deterioration of the *Sabellaria spinulosa* reef features will be reduced and obligations under article 6 of the Habitats Directive will be met. In addition, the economic impacts of management intervention will be minimised where possible.

### 4. The options

- 4.1. As part of Defra’s revised approach, the preferred management tools are MMO byelaws within 6 to 12nm, and for the MMO to lead the management of sites that straddle the 6nm boundary. Following discussions between the MMO and Eastern IFCA, it has been agreed that, a MMO byelaw will be used to manage the *Sabellaria spinulosa* reef feature within the 0 to 12nm. Therefore an MMO byelaw for the part of the EMS between 0 and 12nm is the preferred option.

<sup>(1)</sup> HMT Green Book (2003) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

<sup>(2)</sup> [www.legislation.gov.uk/ukpga/2009/23/contents/enacted](http://www.legislation.gov.uk/ukpga/2009/23/contents/enacted)

<sup>(3)</sup> Natural England formal advice: [www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted](http://www.naturalengland.org.uk/ourwork/marine/mpa/ems/submitted).

#### 4.1.1. Option 1: Do nothing

This option would not involve introducing any permanent management measure. This option would mean that risks to the site from damaging activities would not be addressed and that obligations under Defra's revised approach and Article 6 (2) of the Habitats Directive would not be met.

#### 4.1.2. Option 2: Voluntary agreement

This option would involve the development of voluntary codes of practice to protect features. MMO has considered this option in light of Better Regulation Principles, which require that new regulation is introduced only as a last resort, and Defra's revised approach, under which there is an expectation that management measures will need to be regulatory in nature to ensure adequate protection is achieved. Defra's revised approach also requires measures to be implemented to address high risk (red) interactions between designated features and fishing gears by the end of December 2013. MMO considers that due to the need to protect features quickly, and the risk that even low levels of interaction could lead to deterioration of the feature, voluntary measures are not appropriate in this case.

#### 4.1.3. Option 3: MMO byelaw prohibiting bottom towed gear throughout the SCI ('full site closure')

Prohibiting bottom towed gear throughout the whole Cape Bank part of the SCI is not necessary to achieve protection of the bedrock reef feature and would result in unnecessary economic loss for fishermen using other parts of the SCI. The estimated overall loss of landings as documented in Table 1 would be GBP 2 559,30 instead of for the preferred option of GBP 6,40 and the enforcement costs to administer would be much higher.

#### 4.1.4. Option 4: MMO byelaw to prohibit bottom towed gears over *Sabellaria spinulosa* reef features with appropriate buffering ('zoned management').

This is the preferred option and a full analysis of this option is included below

#### 4.1.5 Management of activity through a statutory instrument, regulating order or fishing licence condition

These mechanisms for management are deemed to be not appropriate in this instance. MMO byelaw making powers as designated under the MaCAA are more appropriate because they are designed to be used to manage activity within marine protected areas providing the appropriate level of power, flexibility, consultation and speed.

#### 4.2. Recommended option:

##### 4.2.1. MMO byelaw to prohibit bottom towed gears over the *Sabellaria spinulosa* reef features with appropriate buffering ('zoned management').

##### 4.2.2. This option is recommended because it is the most cost effective option. MMO is the most appropriate authority to take forward fisheries management measures between 0 and 12nm. The boundary of the proposed prohibited areas were determined taking into account the best available existing evidence of the extent of the features as well as the need for a 'buffer zone' between the features and the byelaw boundary. Ease of enforcement and the need to have clear demarcation to promote compliance was also taken into account when considering the shape of the prohibited area.

## 5. Evidence Base

### 5.1. Impacts of bottom towed gear activity on *Sabellaria spinulosa* reef:

#### 5.1.1. The available evidence<sup>(1)</sup> highlights the impact of towed demersal gears as a significant threat to *Sabellaria* spp. reef. It is acknowledged that different fishing gears are likely to have variable levels of impact and there is limited peer reviewed empirical data demonstrating impacts. However, these factors are not considered to outweigh a precautionary rating of red particularly in the context of known declines of this feature in the OSPAR region. There are clear links between human activity and threat to *Sabellaria spinulosa* reefs, the most significant of which is physical damage caused by towed demersal trawling (Jones *et al.* 2000, Holt *et al.* 1998 and OSPAR, 2010). The impact of towed demersal gear is to break apart the worm tubes resulting in direct mortality (death) of the worms and in a reduction of the structure and complexity of the habitat which may no longer support the associated animals and plant communities (UK BAP 2000). One study (Volberg 2000) conducted off the coast of France and in the Wadden Sea challenges the view that all towed gears constitute a great risk to all *Sabellaria* spp.

<sup>(1)</sup> See *Sabellaria spinulosa* Red risk audit: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/sabellaria.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/sabellaria.pdf)

reef; however, the study findings relate exclusively to short-term effects following once-only disturbance and conclude that the possibility of impairment by shrimp trawling in the medium to long-term cannot be ruled out in the event of intensive fishing, despite the relatively light weight of the gear used <sup>(1)</sup>.

5.2. Reef distribution

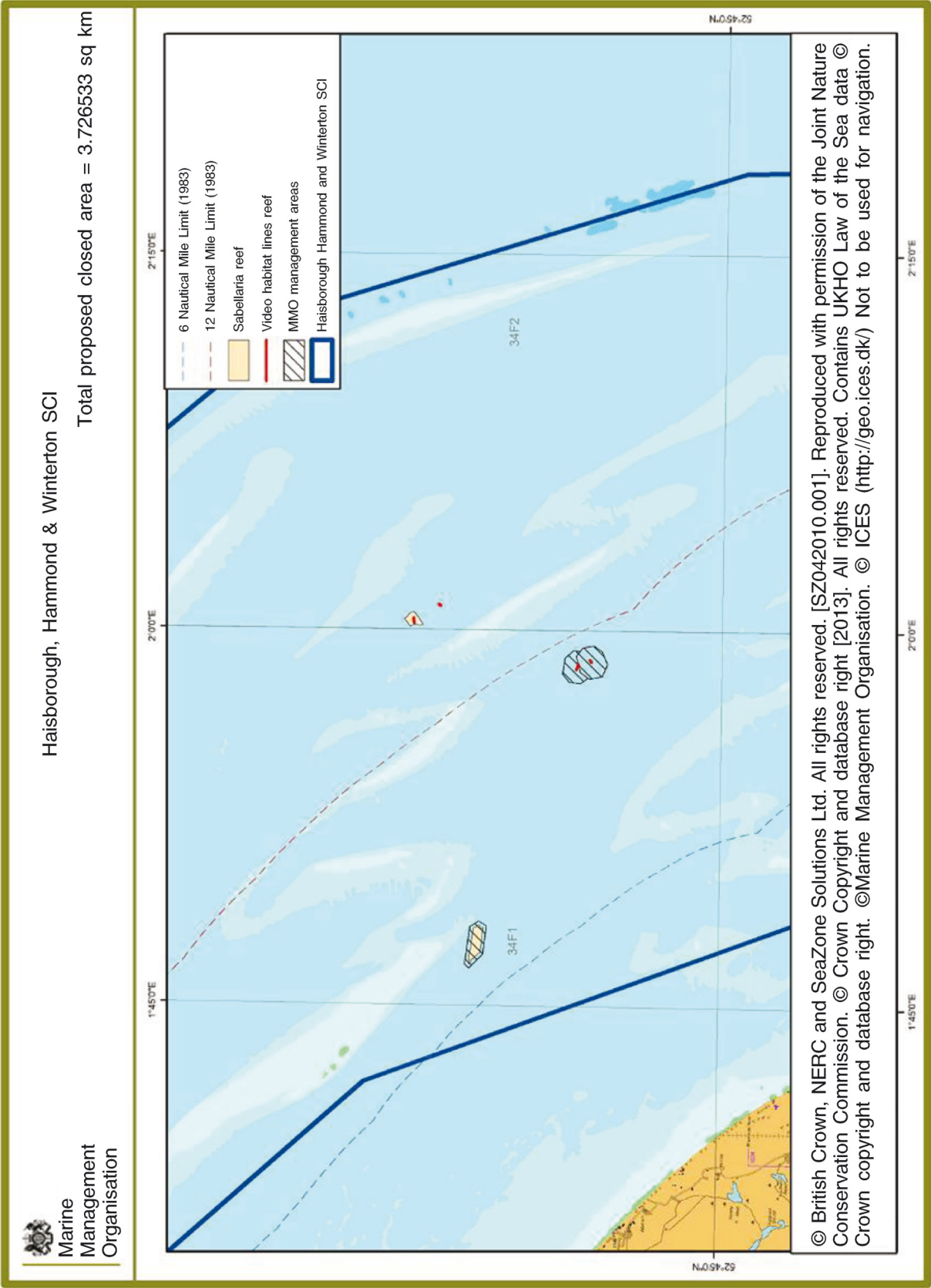
Figure 1 below identifies the location of the *Sabellaria spinulosa* reef features within the SCI.

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<sup>(1)</sup> See *Sabellaria spinulosa* Red risk audit: [www.marinemanagement.org.uk/protecting/conservation/documents/ems\\_fisheries/sabellaria.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/ems_fisheries/sabellaria.pdf)



Figure 1  
Site and Feature Map



## 6. Sectors affected

- 6.1. Fishing industry: The main vessels affected are beam trawlers which primarily include vessels landing into Lowestoft and Great Yarmouth. It was indicated from dialogue with stakeholders during the pre-consultation that the proposed management measure will have a small impact on the bottom towed fishing industry. Belgium vessels have access rights to fish for demersal fish in this area up to the 1983 6nm limit however, the majority of this catch is not landed in the UK. From dialogue with Belgian authorities and fishing industry representatives, during the pre-consultation for this proposed management measure, it was confirmed that bottom towed fishing activity is limited. As a result of the formal consultation the Belgian fishing industry representatives have highlighted the importance of the fishing grounds within the whole EMS but have not specifically identified if fishing activity occurs in the proposed prohibited areas. It is not expected that the intervention will have an impact on non fisheries sectors.
- 6.2. Local economies and society: The potential for social and economic costs to the UK local communities as a result of potential landings lost and resulting impact on the local fishery is low. This is due to alternative fishing grounds being accessible and therefore displacement will be minimal. The wider benefits of protecting the *Sabellaria Spinulosa* reefs are outlined in section 7.
- 6.3. Enforcement bodies: The lead responsibility of enforcing the proposed prohibited area would fall to MMO and therefore the additional enforcement cost would impact on MMO. These estimated costs are outlined in section 7.

## 7. Analysis of costs and benefits

### 7.1. Costs for recommended option

#### 7.1.1. The prohibition of bottom towed gear in the proposed area would result in the following costs:

- Direct cost to the fishing industry from reduced fishing grounds
- Costs to the fishing industry associated with displacement to other fishing grounds
- Potential environmental impacts related to possible increased damage to habitats on other areas due to displacement
- Costs to the MMO for the administrative and enforcement of management

#### 7.1.2. Costs to the fishing industry, including potential displacement costs, and administrative and enforcement costs to the MMO can be monetised and these estimated values have been collated and presented as part of this impact assessment (Tables 1 and 2 below). Environmental costs due to possible increased damage of habitats are difficult to value and are therefore described here as non-monetised costs.

### 7.2. Analysis of fisheries costs

#### 7.2.1. Information used to assess the impacts of the proposed closure has been taken from:

- Landings data for vessels from 2008 to 2011 taken from entered log book and sales note data provided by the MMO statistics;
- Landings data to ICES rectangle level. Further analysis to estimate catch and estimated landings for EMS and reef/buffer area for UK and other member states
- Information gathered from fishers during pre-consultation engagement June-August 2013 by MMO;
- Information gathered from stakeholders during MMO formal byelaw consultation, 10 September to 22 October 2013;
- Local MMO and IFCA coastal officer's knowledge.

### 7.3. Uncertainty and data assumptions

7.3.1. Average cost estimates have been based on UK landings values estimated within the SCI within ICES statistical rectangles 35F1, 35F2, 34F1 and 34F2 (See Figure 2). It is unknown what proportion of the total landings value was actually derived directly from the proposed closed area which makes up less than 0,25 % of the four ICES statistical rectangles. The statistical data was produced using reported activity within the ICES rectangles that cover the defined SCI areas. The reported activity (quantity and value of landings along with details of gear involved) is taken from MMO Ifish database. See Annex A for further information on the methodology used and the statistic tables for this SCI.

7.3.2. The proposed prohibited area values detailed in Table 1 have been derived by taking the values estimated within the SCI and applying a percentage based on the square area prohibited within the SCI itself. In most cases the square area of the proposed prohibited areas are relatively small compared to the SCI as a whole. Therefore, the estimation detailed should be used with caution will not indicate the true value attributed within the proposed prohibited area. It is also acknowledged that possible increased biodiversity around the reef means that it could be a relatively more abundant fishing ground, and the analysis may underestimate value of reduced fishing ground.

7.3.3. Information gathered from fishers and other stakeholders during the pre-consultation meetings is used to support the evidence base and assumptions with the caveat that it is anecdotal evidence only. The information gathered was opportunistic and is only a snapshot from the respondents available to provide comments on the day. The number of respondents reflects only those who independently came forth with the information rather than the number who necessarily agree or disagree with a statement.

7.3.4. Other member state landings data is limited as the majority of these vessels do not land in the UK. Some assumptions can be made from the over 15m other member state fleet through VMS received into the UK FMC, detailed in 7.4

— Landings data for vessels from 2008 to 2011 taken from entered log book and sales note data provided by MMO statistics;

— Landings data to ICES rectangle level. Further analysis to estimate catch and estimated landings for the SCI and reef/buffer area for UK and other member states (Tables 1 and 2);

— Information gathered from fishers during pre-consultation engagement, June-August 2013, by MMO coastal and IFCA coastal officer's knowledge;

— Information gathered from stakeholders during MMO formal byelaw consultation, 10 September to 22 October 2013;

— Local MMO and IFCA coastal officer's knowledge.

### 7.4. Fishing activities within Haisborough, Hammond and Winterton SCI

7.4.1. UK and Belgian vessels operate within the site targeting demersal species. All other Member State's vessels have access rights in the section of the SCI beyond the 1983 12nm limit.

7.4.2. The majority of the UK vessels which operate within ICES area 35F1, 35F2, 34F1 and 34F2 are under 10 metres in length and are predominantly netters (28 vessels), longliners (10 vessels) and potters (22 vessels). There are occasional over 15 metre beam trawlers (4 vessels).

7.4.3. The majority of foreign vessels which operate within the ICES area are over 15metre with the occasional under 10metre vessels. Other member state landings data is limited as the majority of these vessels do not land in the UK.

7.4.4. The main species landed are crabs, lobsters, cod, skates and rays, dogfish and bass.

- 
- 7.4.5. VMS data from the Belgian fleet show no activity within the SCI within 6 to 12nm. VMS from the over 15m fleet show limited activity within the SCI (Figure 3).
- 7.4.6. A pre-consultation meeting with the Belgian fishing industry representatives was held on the 12.7.2013 in Ostend, with the assistance of the Belgian authorities. This was to inform them of the potential management of commercial fisheries in England's EMS in relation to Belgian fishing access rights in 6 to 12nm. Fishing industry representative who attended the meeting in Ostend indicated that the current proposed closures to protect reef in the EMS did not significantly affect their activity.
- 7.4.7. Formal consultation responses from the Belgian fishing industry representatives confirmed the importance of the fishing grounds within the EMS as a whole but not specifically within the proposed prohibited areas.

Figure 2

Map showing ICES statistical rectangles 34F1, 34F2, 35F1 and 35F2 and the Haisborough, Hammond & Winterton SCI

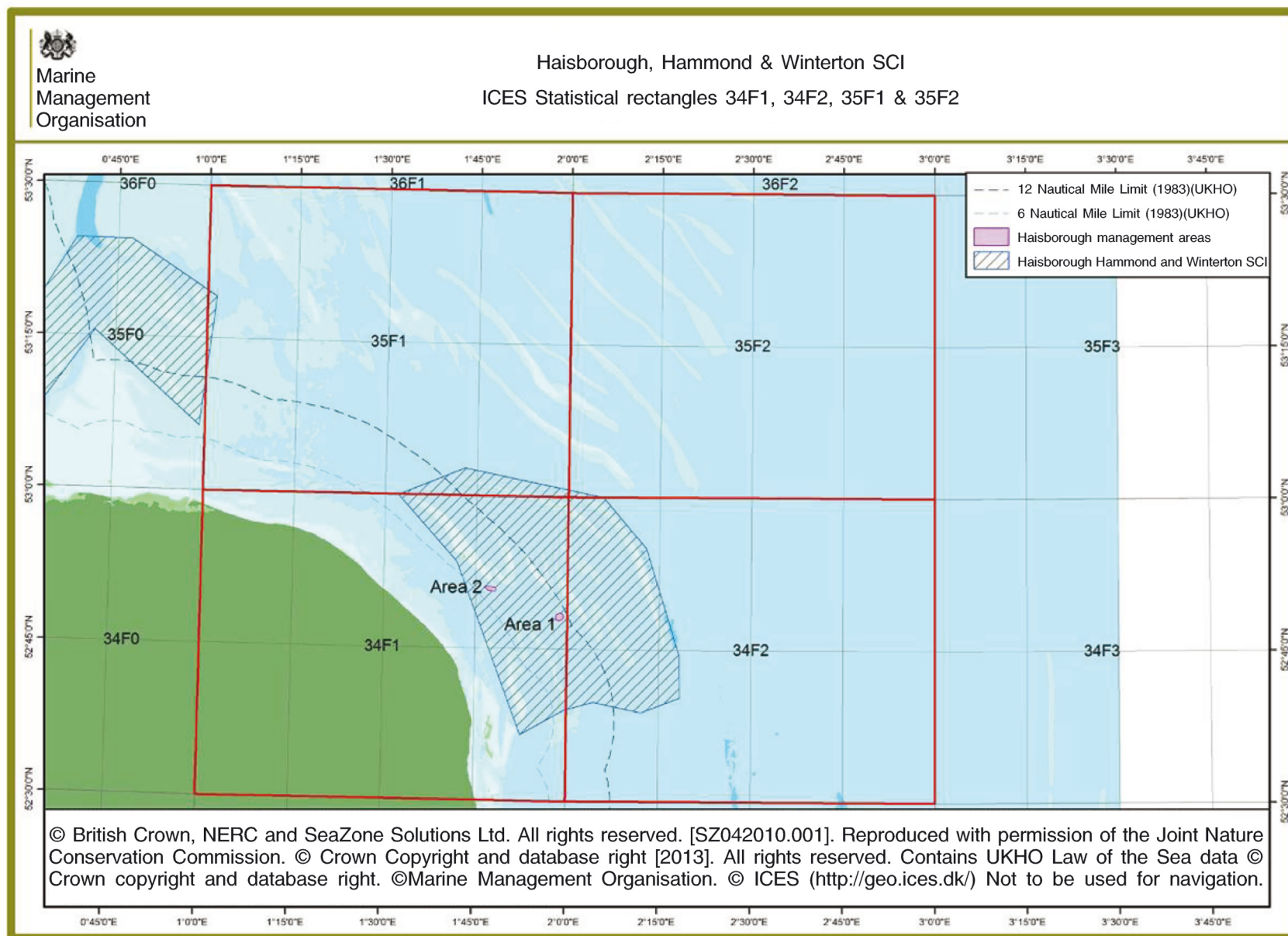
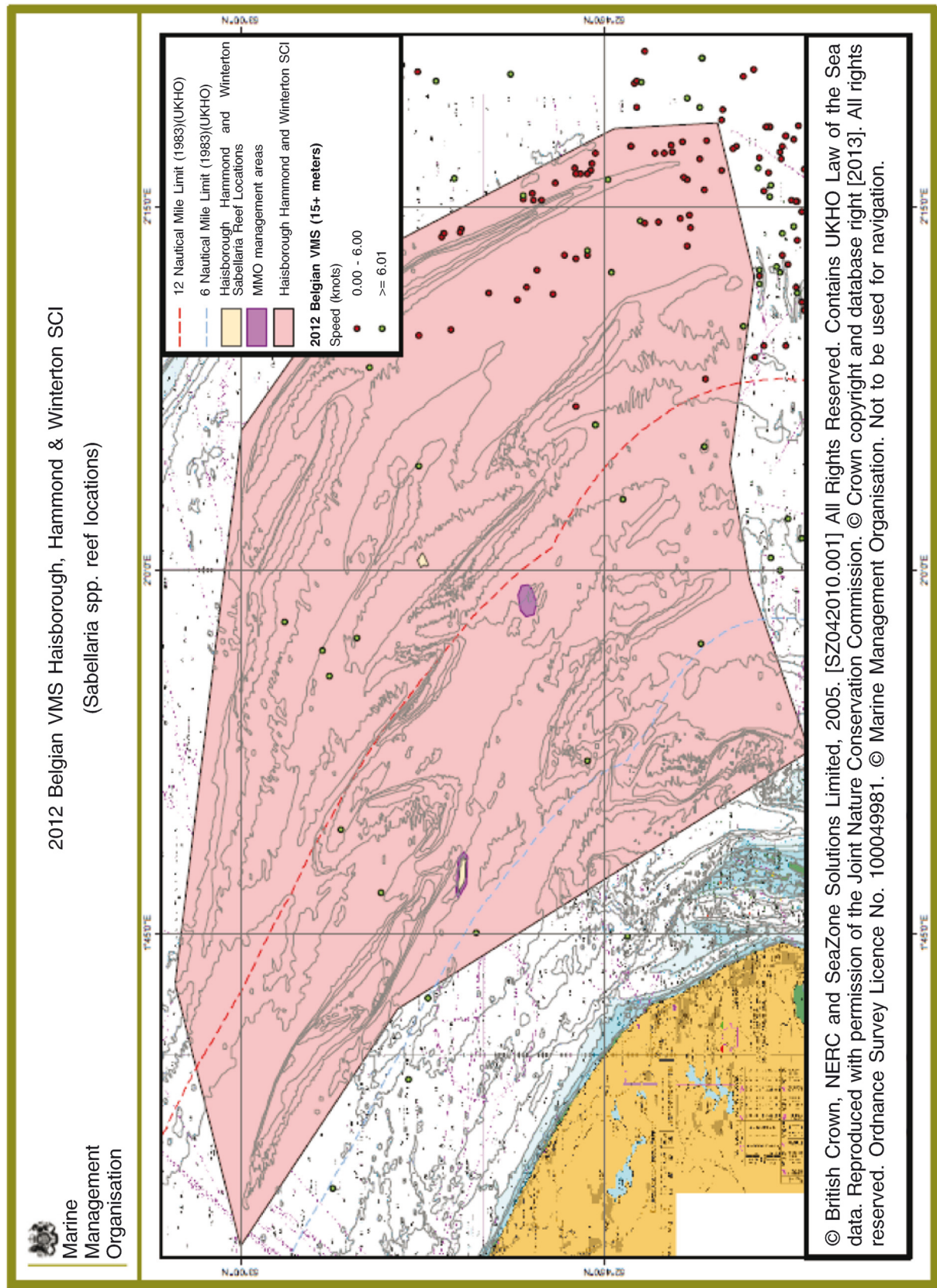




Figure 3  
2012 Belgium VMS positional reports





## 7.5. Valuation of affected landings

**United Kingdom**

- 7.5.1. The direct impact on fishing vessels would be a reduction in catch and therefore landings from bottom towed gear in the proposed prohibited area. In order to estimate potential impacts, landings data collated by the MMO was analysed.
- 7.5.2. Calculation of affected landings from ICES rectangle area 35F1, 35F2, 34F1 and 34F2 (for the UK vessels identified as fishing in the area since January 2008) is shown in table 1. Estimates in Table 1 are based on average landings from January 2008 to December 2011.

Table 1

**UK landings from ICES area 35F1, 35F2, 34F1 and 34F2 as an average per year and estimated average landings within the EMS (January 2008 – December 2011)**

| Gear Type               | Landed weight (tonnes) | Value within 35F1, 35F2, 34F1 and 34F2 (GBP) | Value within EMS (GBP) | New Value within prohibited area (0,25 % of EMS) (GBP) |
|-------------------------|------------------------|----------------------------------------------|------------------------|--------------------------------------------------------|
| Beam trawlers           | 127                    | 336 914                                      | 32 175,29              | 80,44                                                  |
| Dredgers                | 601                    | 1 548                                        | 147,84                 | 0,37                                                   |
| Nephrop trawl           | 1                      | 1 643                                        | 156,90                 | 0,40                                                   |
| Other demersal trawlers | 57                     | 26 799                                       | 2 559,30               | 6,40                                                   |
| <b>Total</b>            | <b>786</b>             | <b>366 904</b>                               | <b>35 039,33</b>       | <b>87,61</b>                                           |

- 7.5.3. Estimated values of landings within the SCI have been calculated by associating available landings data (provided by each fishing vessel at ICES rectangle level) with fishing vessel activity data (based on VMS reports) within the SCI. This approach applies a proportion of the landings for each ICES rectangle to the SCI, based on the level of activity within the SCI.

For the Haisborough, Hammond and Winterton SCI, landings data for the ICES rectangles (35F1, 35F2, 34F1 and 34F2 <sup>(1)</sup>) were used, and were categorised by size of vessel (over 15 metre vessels, 10 to 15 metre vessels and under 10 metre vessels).

Landings values from within the proposed prohibited area were then estimated as a proportion, (based on the size of the respective areas) of the estimated value from within the SCI.

Please refer to the supplementary 2008 to 2011 fishing statistics tables for a full breakdown of the activity within the ICES rectangles associated to the SCI.

It is estimated that average annual income for the over 15 metre beam trawling fleets from the ICES rectangles is GBP 323 155. For the under 10 metre fleet, the gear type that will mainly impact will be on vessels using demersal trawls, which have an estimated average annual income of GBP 228.

- 7.5.4. It has been estimated that within the proposed prohibited area (which is **0,25 %** of the area of SCI) the total loss in landings would be **GBP 87,61**.

<sup>(1)</sup> Note: due to the limited data and limited VMS data estimations are not possible within the specific EMS.

- 7.5.5. The estimated total cost is likely to be an overestimation as no displacement has been assumed.

#### **Belgium**

- 7.5.6. From the analysis of VMS data, Belgian fishing activity in ICES rectangles 34F1, 34F2, 35F1 and 35F2 occurs beyond the 12 nm portion of the SCI itself. In 2012, 6 Belgian vessels operated in this part SCI, no VMS activity was recorded in the vicinity of the proposed prohibited areas. The Belgian Fishery primarily target Sole and Plaice in this area.

- 7.5.7. Using the methodology referred in Annex B “Analysis of NON-UK Vessels in ICES rectangles”, it has been estimated that in 2012:

— The quantity of tonnes landed from Belgian activity within the SCI is estimated at 5,73 tonnes. This equates to a value estimated at GBP 15 858

- 7.5.8. However, the fact that the prohibited area equates to only 0,25 % of the site, and no VMS activity was reported in the vicinity of these, the actual estimated loss is considered to be very small. Please refer to Annex B for further information on Non-UK fishing activity in and around the proposed prohibited areas.

- 7.6. Likely effects on fishing fleet from closure

- 7.6.1. As the estimated loss of landings is low and it is expected that the impact on the UK fishing fleet from this prohibition will be limited. There is occasional bottom towed gear activity at low levels by under 15 metre vessels mainly based in East Anglia. This was indicated during MMO pre-consultation meetings and with MMO coastal staff. The effects of this have been estimated in Table 1.

- 7.6.2. It is expected that the impact on the Belgian fishing fleet will be low as VMS data indicates that activity within the proposed prohibited areas is limited.

- 7.7. Adaptability

- 7.7.1. In order to assess the likely effects of the proposed closure on fishing activities, the extent to which vessels would be able to maintain the value of the catch by moving effort to other areas needs to be assessed.

- 7.7.2. Fishers were asked to complete a questionnaire to inform this assessment and were asked directly as to the degree of displacement incurred to other areas as a result of the proposed closure, and their ability to fish on alternative grounds and adapt in order to maintain catch value. The majority of affected fishers stated that they could not change fishing grounds or gear type but as this proposed option will only limit fishing activity over the reefs and standard buffer zone the potential for displacement will be minimal.

- 7.7.3. As a result of introducing the preferred option (a specified prohibited area byelaw containing two prohibited areas) rather than closing the whole site, the level of displacement from vessels using bottom towed gear will be minimised.

- 7.7.4. It is envisaged that proof of advances in gear technology and impact on sensitive features will be considered during the amber/green process.

- 7.8. Indirect costs

- 7.8.1. Environmental costs

- 7.8.2. For the recommended option, there will be minimal potential for increased costs in terms of fuel costs for vessels travelling further afield to access alternative fishing grounds, as other fishing grounds are easily accessible.

- 7.8.3. There is potential for increased fishing effort outside of the spatially prohibited areas which could have an effect on biodiversity and habitats (S.E.Rees *et al*, 2013).

## 7.9. Administrative and enforcement costs

- 7.9.1. The MMO will undertake intelligence led, risk based enforcement approach as adopted by a number of regulatory bodies across government in accordance with the National Intelligence Model <sup>(1)</sup>. Where intelligence suggests non compliance or a risk of non compliance the MMO will develop an enforcement strategy specific to the needs of the MPA and where necessary deploy resources accordingly. This may include a Navy presence, aerial surveillance or joint operations with other agencies (for example the IFCA's, UK Border force or EA). The MMO would coordinate any joint operations. The principals by which the MMO will regulate MPAs are set out by the Legislative and Regulatory Reform Act 2006 and the Regulators' Compliance Code and aim to ensure that the MMO is proportionate, accountable, consistent, transparent and targeted in any enforcement action it takes <sup>(2)</sup>.
- 7.9.2. The enforcement of the proposed byelaw will be met within the current budget. The EU VMS will be used as a management tool for sea and air enforcement of over 12m vessels. As a result of the low fishing activity within the inshore part of the site (within 12nm) the risk of non-compliance will be minimal or low risk. Table 2 highlights the estimated enforcement costs for the management of this preferred option.

Table 2

**Annual additional costs of enforcement of recommended option <sup>(1)</sup>**

| Activity                                           | Cost per unit (GBP)       | Estimated number of units per year | Total cost per year (GBP) |
|----------------------------------------------------|---------------------------|------------------------------------|---------------------------|
| Royal Navy Surface surveillance per site           | 4 000 per day             | 1                                  | 4 000                     |
| Joint enforcement patrols with local IFCA per site | Between 800-1 000 per day | 5                                  | 4 000-5 000               |
| Aerial surveillance per site                       | 2 050 per hour            | 2                                  | 4 100                     |
| Investigations/prosecutions per site               | 10 375 per case           | 1                                  | 10 375                    |
| <b>Total</b>                                       |                           | <b>9</b>                           | <b>22 475 – 23 475</b>    |

<sup>(1)</sup> Enforcement cost estimates from original submission for Defra's revised approach to minister.

Table 3

**Annual profile of monetised costs of recommended option- (GBP m) constant prices**

|                                       | Y <sub>0</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | Y <sub>4</sub> | Y <sub>5</sub> | Y <sub>6</sub> | Y <sub>7</sub> | Y <sub>8</sub> | Y <sub>9</sub> |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Transition cost                       | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             | NO             |
| Annual recurring cost – Best estimate | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       |
| Low                                   | 0,022475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       |

<sup>(1)</sup> [www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/risk-based-enforcement.pdf)

<sup>(2)</sup> [www.marinemanagement.org.uk/about/documents/compliance\\_enforcement.pdf](http://www.marinemanagement.org.uk/about/documents/compliance_enforcement.pdf)

|                                                 | Y <sub>0</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | Y <sub>4</sub> | Y <sub>5</sub> | Y <sub>6</sub> | Y <sub>7</sub> | Y <sub>8</sub> | Y <sub>9</sub>   |
|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| High                                            | 0,023475       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975       | 0,022975         |
| <b>Total present value of annual costs (*):</b> |                |                |                |                |                |                |                |                |                | <b>GBP 0,2 m</b> |

(\*) For the estimation the Impact Assessment Calculator (<https://www.gov.uk/government/publications/impact-assessment-calculator--3>) was used considering a 3,5 % discount rate, a 10 years appraisal period and 2013 as the price and present value base year.

#### 7.10. Benefits of recommended option

7.10.1. The exclusion of bottom towed gear from the proposed prohibited areas would prevent the use of bottom towed gear over the *Sabellaria spinulosa* reef features and result in the following benefits:

— Environmental benefits of maintaining or restoring *Sabellaria spinulosa* reef habitats

Environmental benefits are described here as non-monetised benefits.

#### 7.11. Environmental benefits

7.11.1. The *Sabellaria spinulosa* reefs provide an important hard substrate within a predominately soft-sediment environment, which provides unique refuge for certain species. Biogenic reefs increase habitat heterogeneity and offer associated species a surface for attachment (e.g. tubeworms, hydroids, bryozoans, sponges and ascidians), and a place to escape from predation (Bruno & Bertness, 2001).

7.11.2. *Sabellaria spinulosa* reefs also provide some degree of coastal protection and are important areas for nutrient cycling, carbon and nitrogen fixing and sediment stabilisation.

7.11.3. A protected reef habitat is a natural refuge for creating populations of targeted and by catch species.

7.11.4. The benefits of this byelaw are to afford appropriate protection and a safeguarding of the ecological characteristics that can possibly lead to more abundance of biodiversity compared to the rest of the fishing grounds.

7.11.5. The environmental benefits from the introduction of this byelaw will be significant as it will protect the *Sabellaria spinulosa* reef features within the site from bottom towed gear. This will contribute to meeting the 'maintain or restore' conservation objective. This will have an added benefit on other features within the SCI and will have an overall benefit to the reef habitat as a result of the prohibition recommended. This may promote more recreational use in the area such as divers and recreational anglers which could potentially benefit the local economy

#### 7.12. Socio-economic benefits

7.12.1. There is a possibility that that the maintained or restore condition of the *Sabellaria spinulosa* reef features and habitat may increase the attraction for recreational users, including divers and anglers (S.E.Rees *et al*, 2013 <sup>(1)</sup>; D.R. Chae *et al*, 2012 <sup>(2)</sup>). This could also increase tourism to the area and therefore increase spending in local businesses (S.E.Rees *et al*, 2013).

7.12.2. Implementing a zoned approach to management rather than closing the whole site limits the displacement of vessels operating bottom towed gear.

#### 7.13. Distribution of costs and benefits

7.13.1. The distribution of social and economic costs are predominantly at a UK and Belgian local level (excluding the enforcement costs) with the overall environmental benefits covering a wider area and having more of a national impact.

<sup>(1)</sup> Rees, S.E., Attrill, M.J., Austen, M.C., Mangi, S.C., Rodwell, L.D (2013). A thematic cost-benefit analysis of a marine protected area. *Journal of Environment management*, 114, 476 – 485.

<sup>(2)</sup> Chae, D., Wattage, P., Pascoe, S. (2012). Recreational benefits from marine protected area: A travel cost analysis of Lundy. *Tourism Management*, 33, 971 – 977.

**Annex A: Notes of fishery statistics data extraction and tables**

Data tables that summarise reported activity within the ICES rectangles that cover the detailed areas defined as the European marine site areas are detailed on the MMO website <sup>(1)</sup>.

This level of detail reflects the finest level of detail available within the reported data available to UK fisheries administrations.

This data provides the information on the quantity and value of landings from the rectangles covering the areas, along with details of the vessels, gears used, and the species caught.

In addition to this fishing activity data, vessels over 15metres in length report their exact position every 2 hours as part of UK Vessel Monitoring Systems.

For these over 15metre vessels, it has been possible to combine the relatively coarse scale of spatial data from the activity reporting systems with the detailed position reports from the VMS systems to allow estimation of fishing activity at a finer scale. This detailed recasting of the activity data allows estimation of activity within the detailed EMS areas for over 15metre vessels.

Where available this detail is presented in the tables of data alongside the overall activity within the ICES rectangles, for the over 15metre vessels; the ratio between these two sets of data has then been applied to the data for other vessel lengths to provide approximate estimates of the activity within the proposed prohibited areas by these vessels less than 15metres overall length.

**Please note** that proposed prohibited areas are primarily within inshore waters, therefore using the proportion of activity carried out by over 15metre vessels within the areas to estimate activity of other UK vessels may be inaccurate as the larger vessels tend to fish further offshore than others, especially the over 10metre fleet.

This data is shaded grey in the tables to highlight that it is estimated data and should only be used with caution.

The following is a list of the coastal EMS areas covered by this analysis – some rectangles cover more than one area – these are highlighted in yellow.

This overlap means that the total potential coverage of the proposed prohibited areas cannot be estimated by summing the analyses for the individual areas. The table below includes details of the proportion of overall activity in the ICES rectangles involved for each proposed prohibited area that relates to vessels over 15metres (for these vessels the detailed satellite data is available).

As such, for those vessels with a high proportion of coverage of the EMS sites, the estimates for activity by other length bands based on VMS related activity are likely to be of greater reliability than for those sites with a low proportion of coverage.

**Annex B: Notes of Non-UK fishery statistics data**

These tables are extracts of landings data reported by Member States to the Scientific, Technical and Economic Committee for Fisheries (STECF) working group on fishing effort regimes.

As part of the activities of this group, various data sets are compiled including the details for each Member State of landings of species for each ICES rectangle with associated vessel groupings.

This data set is constructed to meet the needs of the STECF group and as such it has had to be processed carefully to avoid double counting of activity data. It has been sourced from the STECF site <sup>(2)</sup>

<sup>(1)</sup> <http://www.marinemanagement.org.uk/protecting/conservation/ems-consultation.htm>

<sup>(2)</sup> STECF: [http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013\\_App+08+landings+by+rectangle+by+country.xlsx](http://stecf.jrc.ec.europa.eu/documents/43805/594796/2013_App+08+landings+by+rectangle+by+country.xlsx)

Summary totals have been checked against the recorded activity on the EU FIDES systems for certain quota stocks to validate the data reported.

*However, there are remain differences in the totals between those reported for species/area combinations in the STECF data files and those reported for similar levels of detail as part of the catch reporting systems on FIDES for monitoring quota uptake. As such these figures are indicative of the level of activity in the area by the Member States involved and not definitive statements.*

Indicative monetary values have been constructed using the average value of landings by UK vessels from the ICES rectangle concerned or similar areas.

Where data for years are missing it may be indicative of no activity being reported but it may be a result of no data having been supplied.

#### ANALYSIS OF NON-UK VESSEL VMS ACTIVITY IN ICES RECTANGLES COVERING THE SCI RELATING TO THIS IMPACT ASSESSMENT

##### **Methodology used:**

This analysis is the results of applying the standard methodology used to identify whether or not UK vessels have been active in a particular detailed spatial area to the information received for non-UK vessels, in particular those from Belgium with historic access rights to certain part of UK inshore waters.

It involves the estimation of fishing activity from VMS data based on the speed of the vessel as reported within the VMS messages ("Pings")

Data for each VMS Ping received from Non-UK vessels in the rectangle or rectangles concerned that cover the detailed area are selected from the UK VMS system, extracting details of the vessel identity (CFR) number, position and speed and the date and time of the ping.

Each Ping is assessed and classified as indicative of fishing activity taking place if the speed is  $\geq 1$  or  $\leq 6$  knots

These fishing pings from the rectangle(s) concerned are then processed in GIS software to identify if the position was inside or outside the details spatial area concerned

This allows the proportion of fishing pings recorded for each Member State within the rectangle that were inside the detailed area to be calculated. This factor will then be applied to the overall level of landings seen within the STECF data sets for the Member State concerned to allow estimates of activity by non-UK vessels within the detailed spatial area to be constructed.

#### SUMMARY OF ACTIVITY BY BELGIAN VESSELS IN ICES RECTANGLES COVERING HAISBOROUGH HAMMOND AND WINTERTON SITE

This is a summary of the activity by Member State vessels in terms of the quantity and value of fish landed in terms of:

- (1) Total activity within the ICES rectangles covering the area concerned using bottom towed gears.
- (2) Estimates of activity within the specific area concerned using bottom towed gears



**Part A - total tonnage of activity**

|                           |                  | (1)                                                  |               |               |              | (2)                                                                                           |              |              |             |
|---------------------------|------------------|------------------------------------------------------|---------------|---------------|--------------|-----------------------------------------------------------------------------------------------|--------------|--------------|-------------|
|                           |                  | Activity (Tonnes) in ICES rectangle 34F1-F2, 35F1-F2 |               |               |              | Activity (tonnes) estimated as from within the SCI based on maximum VMS activity in 2010-2012 |              |              |             |
| <b>BELGIUM</b>            | <b>Gear Code</b> | <b>2009</b>                                          | <b>2010</b>   | <b>2011</b>   | <b>2012</b>  | <b>2009</b>                                                                                   | <b>2010</b>  | <b>2011</b>  | <b>2012</b> |
| <b>Over 15m in length</b> | BEAM             | 201,39                                               | 205,30        | 137,13        | 62,24        | 16,95                                                                                         | 17,28        | 11,54        | 5,24        |
|                           | BOTTOM TRAWLS    | 1,59                                                 | 3,85          | 6,27          | 5,86         | 0,13                                                                                          | 0,32         | 0,53         | 0,49        |
|                           | <b>Total</b>     | <b>202,97</b>                                        | <b>209,15</b> | <b>143,40</b> | <b>68,10</b> | <b>17,08</b>                                                                                  | <b>17,60</b> | <b>12,07</b> | <b>5,73</b> |

**Part B - total value of activity**

|                           |                  | (1)                                               |                |                |                | (2)                                                                                        |               |               |               |
|---------------------------|------------------|---------------------------------------------------|----------------|----------------|----------------|--------------------------------------------------------------------------------------------|---------------|---------------|---------------|
|                           |                  | Activity (GBP) in ICES rectangle 34F1-F2, 35F1-F2 |                |                |                | Activity (GBP) estimated as from within the SCI based on maximum VMS activity in 2009-2012 |               |               |               |
| <b>BELGIUM</b>            | <b>Gear Code</b> | <b>2009</b>                                       | <b>2010</b>    | <b>2011</b>    | <b>2012</b>    | <b>2009</b>                                                                                | <b>2010</b>   | <b>2011</b>   | <b>2012</b>   |
| <b>Over 15m in length</b> | BT2 (*)          | 697 560                                           | 698 597        | 520 929        | 177 932        | 58 711                                                                                     | 58 798        | 43 845        | 14 976        |
|                           | TR2 (**)         | 3 150                                             | 3 264          | 10 519         | 10 476         | 265                                                                                        | 275           | 885           | 882           |
|                           | <b>Total</b>     | <b>700 710</b>                                    | <b>701 862</b> | <b>531 449</b> | <b>188 408</b> | <b>58 976</b>                                                                              | <b>59 073</b> | <b>44 730</b> | <b>15 858</b> |

(\*) BT2 = Bean Trawls – 80-119mm mesh size

(\*\*) TR2 = Demersal Trawls – 70-99mm mesh size

Please refer to the Non-UK Fishery statistics data for a full summary of activity.





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