

Joint Recommendation regarding the protection of reef features within the Haig Fras Special Area of Conservation under the Habitats Directive 92/43/EEC of 21 May 1992 under Article 11 and Article 18 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (the Basic Regulation).

1. Introduction

This joint recommendation contains a proposal for the regulation of fisheries activity and is initiated by the United Kingdom (UK) and submitted to the European Commission jointly by the UK [and the following Member States, France, Ireland, Spain, Portugal, Denmark and The Netherlands; being those Member States having a direct management interest affected by the joint recommendation. Denmark and Portugal do not currently fish in the vicinity of Haig Fras SAC].

The overall aim of this joint recommendation is to ensure the protection of reef structures (habitat type H1170) within the Haig Fras Special Area of Conservation Special Area of Conservation (SAC) from fisheries, thereby contributing to the obligation of restoring this habitat type to favourable condition in accordance with Article 6 of the Habitats Directive¹.

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

2. The Recommendations to be Implemented

The following recommendations are proposed for adoption:

- the exclusion of demersal towed gears and dredges to protect all Annex I reef feature within the site and an increased reporting zone around the site (see Section 8 of Annex B).

Gear Types that are banned in the closed area	Gear code Annex XI in EU Regulation No 404/2011	International Standard Classification of Fishing Gears
Beam Trawl	TBB	TBB
Bottom Trawl/Otter Trawl	OTB, OTT, PTB,TBN,TBS,TB	OTB,OTT,OT,PTB,TB
Seines	SDN, SSC, SX, SV	SB, SPR, SDN, SSC, SX, SV

¹ Council Directive 92/43/EEC, of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1992L0043:20070101:EN:PDF>

Dredges	DRB	DRB, DRH
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The coordinates of the site and management boundary are as follows:

0	50° 21' 59" N	7° 36' 44" W
1	50° 22' 36" N	7° 31' 11" W
2	50° 22' 16" N	7° 30' 11" W
3	50° 17' 55" N	7° 30' 24" W
4	50° 16' 55" N	7° 33' 14" W
5	50° 15' 21" N	7° 35' 04" W
6	50° 13' 22" N	7° 40' 25" W
7	50° 14' 21" N	7° 42' 26" W
8	50° 13' 41" N	7° 44' 26" W
9	50° 12' 12" N	7° 44' 25" W
10	50° 7' 34" N	7° 48' 03" W
11	50° 6' 01" N	7° 59' 16" W
12	50° 5' 56" N	8° 2' 09" W
13	50° 7' 20" N	8° 4' 13" W
14	50° 12' 25" N	7° 59' 23" W
15	50° 14' 04" N	7° 57' 06" W
16	50° 16' 15" N	7° 47' 04" W
17	50° 15' 14" N	7° 45' 17" W
18	50° 16' 00" N	7° 43' 47" W
19	50° 19' 02" N	7° 44' 13" W
20	50° 19' 58" N	7° 42' 42" W
21	50° 21' 59" N	7° 36' 44" W

3. Control and enforcement of the proposed fisheries management measures

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

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

- A prohibition on any bottom towed gears being deployed within the SAC.

- Establishment of a 3nm (5.556km) reporting zone around Haig Fras SAC. All fishing vessels within this area shall be required to record or report vessel positions at minimum 30minute intervals. This area shall be defined by the reporting zone and coordinates displayed in Annex E.
- A requirement for all fishing vessels entering the reporting zone to have a system for recording and reporting vessel position which meets prescribed specifications (see Section 8.2 of Annex B for minimal requirements) and is installed and operative. Any fishing vessel entering Haig Fras SAC or the reporting zone without such a system will be committing an offence.
- A requirement for all fishing vessels transiting the prohibited area carrying prohibited gears to have all prohibited gears on board lashed and stowed during transit.
- A requirement for all fishing vessels transiting the restricted area carrying prohibited gears to ensure that the speed during transit is not less than 6 knots except in the case of force majeure or adverse conditions. In such cases the master shall inform the fisheries monitoring centre of the flag member state which shall then inform the Marine Management Organisation Fisheries Monitoring Centre (MMO FMC) as soon as possible.

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

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

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Supporting Documentation

1. Introduction

1.1 General Remarks

Haig Fras was submitted to the European Commission as a possible Special Area of Conservation (SAC) in August 2008 and approved by the Commission as a Site of Community Importance (SCI) in 2009. On 31 July 2015, amendments to the boundary of the SCI were submitted by the UK Government to the Commission. These boundary changes arise from the Joint Nature Conservation Committee (JNCC) and Centre for Environment, Fisheries and Aquaculture Science (CEFAS) surveys conducted during 2011 and 2012.

Under Article 6 of the Habitats Directive, Member States have a duty to take appropriate steps to avoid the deterioration of natural habitats for which SACs have been designated. Commercial fishing has been identified as an activity which could adversely impact the integrity of the site's features and as such required to be assessed and, if necessary, managed to reduce its impact. Haig Fras SAC is currently assessed as being in unfavourable condition and has a conservation objective to restore this habitat to a favourable condition.

The overall aim of this joint recommendation is to ensure the protection of reef structures from fishing activities that could damage the feature, thereby contributing to the obligation of restoring this habitat type to favourable condition in accordance with Article 6 of the Habitats Directive.

Of Member States who have access to the area for fishing the UK, France, Ireland, Spain and The Netherlands are currently the only Member States with an active fishing interest in the site. It is the intention of the UK government (as the initiating Member State) to take forward measures in respect to fisheries activities exercised by all vessels including fishing vessels carrying the flag of other Member States of the EU.

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

1.2 Overall aim of the present proposal

The overall aim of the present proposal is to ensure adequate protection of designated reef structures from fishing activities and thereby to contribute to the obligation of achieving favourable conservation status for the habitat types H1170 in accordance with art. 6 (2) of the Habitats Directive; which states that Member States shall take appropriate steps to avoid the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated.

The Conservation Objective for the Haig Fras SAC is to restore the Annex I reef to Favourable Condition. According to advice provided by the JNCC, the UK Government's statutory scientific advisor for offshore habitats, where fishing using demersal towed gears overlaps with the feature it is considered to pose a **high risk of damage**². It is generally agreed that fishing activity with mobile bottom contacting gear has an impact on reef structures; both in terms of physical disturbance to the reef structure itself as well as to the biodiversity found at the reef³. However, it is recognised that the nature of the site's features (mainly bedrock reef rising above the surrounding seabed) currently restricts the use of mobile gears over the main reef features.

The UK is proposing to restrict fishing activity with mobile bottom contacting gears within the site as such activity could pose a risk to the restoration of the site to favourable conservation status. The content of the proposed fisheries management measures is explained in more detail in section 7 of Annex B.

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

1.3 Recommendations to be implemented

The following recommendations are proposed for adoption:

- the exclusion of demersal towed gears and dredges to protect all Annex I reef feature within the site and an increased reporting zone around the site (see Section 8 of Annex B).

² http://jncc.defra.gov.uk/PDF/HaigFras_ConservationObjectives_AdviceonOperations_4.0.pdf

³ Løkkeborg 2005, Freese et al. 1999; McConnaughey et al. 2000, Sewell and Hiscock 2005

Gear Types that would be banned within the site	Gear code Annex XI in EU Regulation No 404/2011	International Standard Classification of Fishing Gears
Beam Trawl	TBB	TBB
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2. Legal framework

2.1 Common Fisheries Policy

The Common Fisheries Policy (Regulation No 1380/2013 (The Basic Regulation) Article 11) states that Member States are empowered to adopt conservation measures not affecting fishing vessels of other Member States that are applicable to waters under their sovereignty or jurisdiction and that are necessary to comply with the obligations under Article 6 of Directive 92/43/EEC and Article 13(4) of 2008/56/EC.

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

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

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

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

2.2 Fisheries Access to the Haig Fras SAC

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

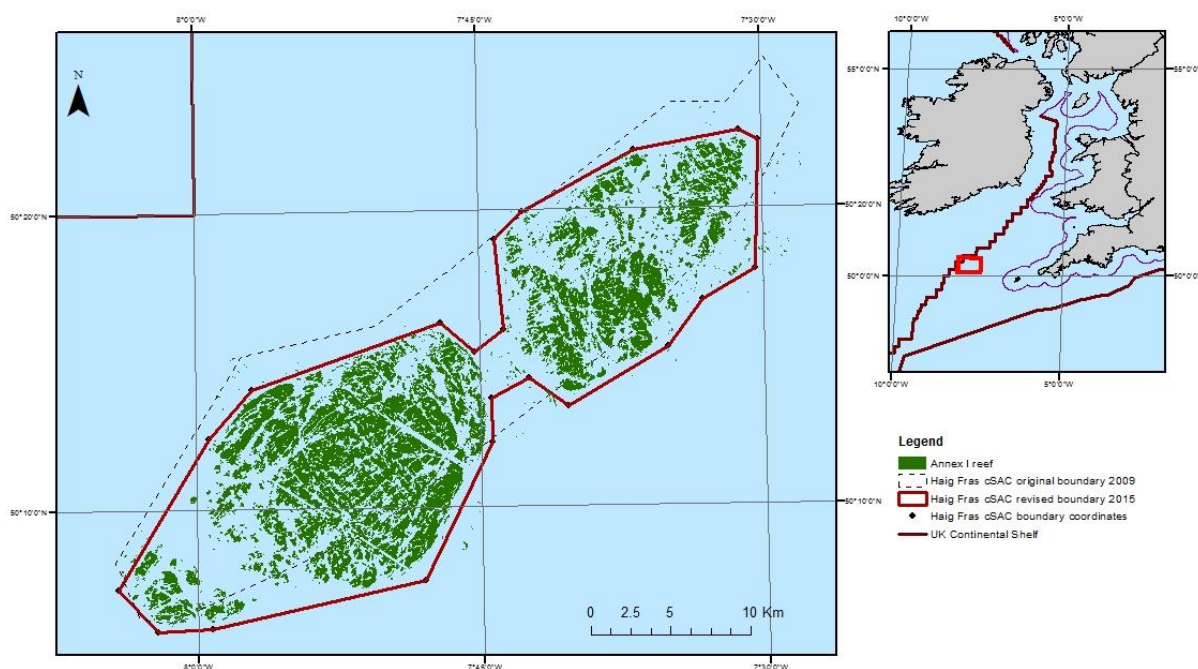
Of these Member States, UK, Ireland, France, Spain and The Netherlands have undertaken demersal trawling within the proposed management zone in the past 4 years; from 2010 to 2013 inclusive (details of activity and gear type can be found in table 2.1). The most significant activity was from French and UK vessels with lower, but substantive, levels of activity from Spanish, Irish and occasionally Dutch vessels. There was one report from a Danish vessel over this entire four year period and Danish vessels are not present any other time. Due to this it is not considered that Danish vessels are active in the site but do fish in the surrounding ICES rectangles.

2.3 Designation of the Haig Fras SAC

The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (SI 2007/1842)⁴, as amended, provide the legal basis for the designation of Natura 2000 sites in UK offshore waters. In accordance with Regulation 7 of the above Regulations, Haig Fras was submitted to the European Commission as a Candidate Special Area of Conservation (cSAC) on 31 August 2008 and adopted by the Commission as a SCI on 22 December 2009. In accordance with Article 4(4) of the Habitats Directive, Member States have a maximum of six years from the site being adopted as a SCI to implement the necessary management measures and formally designate the site as a SAC.

In July 2015, amendments to the boundary of the SCI were submitted by the UK Government to the Commission. These boundary changes arise from joint JNCC/CEFAS surveys conducted during 2011 and 2012 of the area.

Figure 1: Site boundary and July 2015 boundary revision.



World Vector Shoreline © US Defence Mapping Agency. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown Copyright). MAP NOT TO BE USED FOR NAVIGATION. © JNCC 2015. Projection WGS84 UTM 29N.

In December 2015 Haig Fras was confirmed as an SAC.

3. Process

⁴ <http://www.legislation.gov.uk/uksi/2007/1842/contents/made>

This chapter describes the process from when the initiative to protect reef structures from fisheries activities at Haig Fras was commenced at a fisheries management workshop in Rennes in November 2011 jointly by the Department for Environment Food and Rural Affairs (Defra) and the Joint Nature Conservation Committee (JNCC) until submission of fisheries management measures in form of 'A Joint Recommendation' by the UK, [France, Ireland, Spain, and The Netherlands] to the European Commission. Portugal and Denmark have access to the site but have not actively fished the site (using proposed prohibited gears) over the years analysed 2009-2013.

3.1 Stakeholder workshop

A stakeholder workshop was held in Rennes on 24 November 2011. This was undertaken as a pilot study of engaging fishermen in the design of measures. This pilot formed part of the Marine Protected Areas in the Atlantic Arc⁵ (MAIA) EU interreg IVb project. The workshop was attended by French and UK fisheries representatives. The workshop operated on the basis of emerging information of the possible revision to the boundary.

The workshop considered that management measures would only be required for benthic mobile fishing gear. The group identified three areas within the site that are not part of the reef feature, and recommended that these areas should remain open to towed gears as part of a zoned management approach, subject to further analysis of the data by JNCC and the effectiveness of a monitoring and enforcement regime. The preferred option would be a voluntary agreement, negotiated through the North West Waters Advisory Council (NWWAC), but this would be subject to confirmation that voluntary arrangements would be acceptable to the EC. The full report of the meeting is at Annex A.

3.2 Involvement of the NWWAC

In 2011, Defra set up a MPA Pilot Project Steering Group to progress the identification of fishery management measures for offshore Natura 2000 sites, including Haig Fras SAC. Representatives of the then North West Water Advisory Council (NWWAC) joined this project group in July 2011 to contribute to the preparation for the workshop outlined above.

3.3 Rationale

Haig Fras SAC is currently assessed as **moderately vulnerable** to the pressures listed below (i.e. it is both sensitive to and exposed to the pressure). Therefore to fulfil the conservation objectives for the **Annex I Reef**, the Competent Authorities for this area are advised to investigate and, if necessary,

⁵ www.maia-network.org

manage human activities within their remit such that they do not result in deterioration or disturbance of this feature through any of the following:

- **Physical damage** by physical disturbance or abrasion (demersal fishing)
- **Biological disturbance** by selective extraction of species (demersal fishing).

The offshore activity below may result in damage to the interest feature and is not subject to prior authorisation or licensing. Therefore, where fishing using demersal towed gears overlaps with the feature it is considered to pose a **high risk of damage**:

3.4 Demersal fishing

Whilst it is unlikely that demersal towed gears can affect the long-term natural distribution of granite bedrock reef features, there is some evidence to indicate that the use of bottom contacting mobile gears can impact the structure and function of the habitat and the long term survival of its associated species.

The use of towed fishing gears is likely to cause damage or death of fragile, erect species, such as sponges and corals⁶. Other species such as hydroids, anemones, bryozoans, tunicates and echinoderms may also be vulnerable⁷. Recovery is likely to be slow⁸. Where fragile, slow growing species occur, even low levels of fishing have the potential to change the structure and function of the habitats and may result in the loss of some characteristic species.

3.5 Principle

The UK Government is responsible for ensuring favourable conservation status of designated marine habitats and species in its respective Natura 2000 network and to take appropriate steps to avoid the deterioration of natural habitats and the habitats of species as well as the disturbance of the species for which the Natura 2000 site has been designated.

Based on scientific advice from JNCC, the UK has decided to protect reef structures (H1170) from physical disturbances due to mobile bottom contacting fishing activities.

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

⁶ Løkkeborg 2005, Freese et al. 1999

⁷ McConnaughey et al. 2000, Sewell and Hiscock 2005

⁸ Foden et al. 2010

1. Sound scientific basis

This proposal for fisheries management measures is based on scientific evidence and advice, and takes all relevant information into account. JNCC has provided scientific advice in relation to the principles and methods pursued in the present proposal. The proposal has also been reviewed by CEFAS. The advice from CEFAS was that excluding mobile demersal fishing activity from all areas of the Haig Fras SAC was likely to facilitate the most significant contribution towards recovery of the Annex I reef features to favourable condition.

2. Stakeholder involvement

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

3.6 Proposal scope

Haig Fras SAC is located in the *Western English Channel and Celtic Sea* Regional Sea, and represents deep circalittoral reef with low topographic complexity in a fully saline environment. This reef is the only substantial non-coastal area of hard bedrock reef known to occur in this Regional Sea. Energy levels are moderate at this site. Available evidence indicates that demersal fishing activity, including static gear types, such as gillnets and tangle nets, occurs within the site (CNP MEM, 2008; MFA, 2008; NFFO, 2008). Evidence of static fishing was also further observed in a number of locations on the northern regions of both main outcrop areas, as well as indication of mobile fishing activity through the central region⁹.

The management boundary of Haig Fras SAC encompasses the entirety of the site providing the area necessary to ensure protection of the Annex I habitat. Coordinate points have been positioned as close to the edge of the interest features as possible, rather than being located at the nearest whole degree or minute point. The boundary also includes a margin to allow for mobile gear on the seabed being at some distance from the location of the vessel at the sea surface. The habitat feature was

⁹ Barrio Froján *et al.*, 2015

drawn from interpolated data from British Geological Survey¹⁰ and the presence of the reef was confirmed by survey conducted by Rees in 2000 over a portion of the feature.

Following further survey by CEFAS and JNCC in March 2011 and February 2012, multibeam and backscatter acoustic data were collected along with video and still groundtruthing imagery. Based on these data, an updated habitat map has been produced for the site¹¹.

As a result of new surveys, JNCC proposed a revised site boundary that more closely corresponds to the distribution of the features.

3.7 Restriction of fisheries within the site

The proposed management measure prohibits the use of demersal towed across the entirety of the Annex I reef feature with an appropriate buffer zone (see Figure 24 Annex B). This will be enforced by the control and monitoring measures described in section 8 of Annex B.

List of Annexes:

Annex A – Meeting note from workshop

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

Annex C – Map of UK marine Natura 2000 network

Annex D – Haig Fras SAC prohibited area for bottom towed gears

Annex E – Map and coordinates for Haig Fras SAC reporting zone with increased reporting

Annex F – Topographical make-up of proposed "corridors"

Annex G – References

¹⁰ Graham *et al.*, 2001

¹¹ Barrio Froján *et al.*, 2015



Haig Fras Site of Community Importance (SCI) MAIA¹ Fisheries Management Workshops Minutes

24 November 2011 – Conseil Regional, 283, avenue du Général Patton, 35 711 Rennes
Cedex, France

JNCC - 22 December 2011

Twenty people attended the MAIA Haig Fras management workshop including five French fisheries representatives, one Cornish fisherman and a UK fisheries representative.

A series of presentations were given by Defra and JNCC regarding the Haig Fras SCI², its relation to the recommended Greater Haig Fras Marine Conservation Zone (rMCZ), and fishing activities³ around the site⁴. Following the explanation of the two different MPA processes, it was emphasized by fisheries representatives that fishers will not want to re-discuss management measures for both the Haig Fras SCI and the recommended Greater Haig Fras MCZ in a few years time when the MCZs have been forwarded. There was concern that this would lead to present discussions being annulled.

JNCC and Defra highlighted that there is a legal requirement under the Habitats Directive to put in place management for Natura 2000 sites within six years of notification to the Commission, hence the need to begin discussions now. Defra noted the remarks about MCZ selection and management made by the fishery representatives of the UK and France and relayed the fact that no decision has yet been taken on whether to designate the rMCZs and further analysis and consultation will be required before any decision is taken on the site.

JNCC presented new information showing initial maps of multibeam bathymetry and backscatter images of Haig Fras (from a survey conducted January 2011). This has provided more precise information on the location of the reef features. The site boundary is likely to need to be amended to include all the reef areas within the site and exclude as much 'non-reef' area as possible. When the full report from the survey is complete, a slightly amended site boundary will be recommended by JNCC to Defra. The fishermen and fisheries representatives present confirmed that the new information agreed with their perception of the location of the reef features and with the pattern of fishing shown by Vessel Monitoring System (VMS) data.

It was noted that there are some complex problems involved in identifying MPAs with lack of extensive ground truthed data; lack of detailed activity data; and projection estimates regarding static gear fishing.

¹ Marine Protected Areas in the Atlantic Arc (MAIA) EU Interreg IVb project – www.maia-network.org.

² Refer to JNCC Haig Fras SCI summary description of the site and conservation objectives and full site selection document and Conservation objectives and advice on operations document provided before the meeting and the complete version which can be found here - <http://jncc.defra.gov.uk/page-4534>.

³ Refer to JNCC's Haig Fras SCI description of known fishing activity in the period 2006 to 2009 document provided before the meeting.

⁴ Presentations available upon request

It was agreed that more sharing of information and methods (notably on activity data calculation and use) between French and UK authorities would take place as a learning process.

ACTION: JNCC to share risk assessment methodologies with relevant French officials.

JNCC presented management advice for fisheries on the features occurring in Haig Fras. They advised that the use of towed gears over the reef features is not compatible with the conservation objective to restore the features to favourable condition. Towed gear use on sediment areas adjacent to the reef is unlikely to have a significant effect on the reef features, and therefore may not need additional management within the SCI. Static gears are not believed to be damaging at low or moderate levels of effort, but may need to be managed if effort is at high levels. It is not currently possible to define precisely what constitutes a high level of fishing with static gears.

The Comité National des Pêches Maritimes et des Elevages Marins (CNPMM) [French fisheries committee] presented French fishing activity relevant to the site (based on two Ifremer analysis on 2005-2007 and 2008-2009 data sets), and their interaction with JNCC at the time of Haig Fras Special Area of Conservation (SAC) consultation (2008).

Subsequently, UK and non-UK fishing information was provided:

- It was confirmed that Potting activity does not happen within the site,
- Netting activity (gillnetting, trammel and some longline) occurs on the reef features;
- Due to topography constraints, trawling activity only occurs in between the reef features and around the edge of the site. It was further noted that trawling activity does not take place where netting activity occurs, helping to avoid conflict between the different industries;
- It was clarified that netting activity on the site is effectively limited by restrictions of space, tide and distance from fishing ports. A maximum of three vessels are able to fish on the site at any one time and fishing is only possible on neap or weak tides (two weeks per month). Netting activity on the site is therefore unlikely to be considered high and is not expected to increase significantly above present levels.

It was agreed that more detailed information on the level of static fishing activity that can occur without damage to the reef will be required in order to establish the level of static gear fishing that will be acceptable on reef features. It was proposed that the approximate intensity of netting activity currently occurring on the site could be quantified i.e. kilometres of net per days fishing per unit effort by the three vessels able to fish on the site. This would help to quantify what levels of activity are considered low/moderate and compatible with the conservation objectives.

The Marine Management Organisation (MMO) presented the possible options for management measures⁵ within the site. No further options were proposed by those present.

Management measure options discussed

1. A voluntary arrangement to restrict damaging fishing

This option was put forward as a possibility as the nature of the reef leads to a natural segregation of activities occurring on the site: low level of static gear on the reef feature and mobile gear on sedimentary substrates around the reef features. Additionally, since pelagic activities do not damage the reef features, a voluntary agreement would satisfy the conservation objectives.

The MMO emphasised that voluntary measures, if they are to be considered, must be robust and able to demonstrate that they can protect the sensitive reef features in the site. Defra

⁵ Refer to Haig Fras SCI possible Common Fisheries Policy (CFP) management measures document provided before the meeting.

noted that the European Commission (EC) is unlikely to consider voluntary measures to be sufficient to provide certainty of protection. The department of French Marine Fisheries and Aquaculture noted that the EC does not have a definitive position on this matter: there is an opportunity to propose voluntary measures. It was agreed to consider this subject with the Commission. Furthermore, it was agreed that additional discussions would be needed given the lack of presence at the workshop from Spanish and Irish fishing interests. The North West Waters Regional Advisory Council (NWWRAC) was proposed as a forum through which a voluntary agreement could be reached.

2. No fishing

This option was dismissed since the level of static gear fishing occurring on the site was deemed to be at low levels and pelagic fishing activity would not damage the reef features within the site. Prohibition of all fishing would put an unnecessary restriction on activities that are not considered to be damaging.

3. No fishing except pelagic

This was dismissed since the level of static gear fishing occurring on the site was deemed to be at a low level. Prohibition of static gears would put an unnecessary restriction on activities that are not considered to be damaging the reef features at present.

4. No fishing except pelagic and static demersal

This option was not taken forward since it was agreed that management boundaries could, providing there was effective monitoring and enforcement, be drawn to enable mobile fishing to continue in the sediment areas of the site (based on new data on location of reefs within the site).

5. No additional management

It was suggested that the nature of the site, which precludes use of mobile gears on the reef features and restricts static gear effort to low or moderate levels, may make further management of fishing unnecessary. However, it is possible that the Commission would not consider this sufficient to provide certainty of protection. This option was not discussed further in the meeting but it has not been dismissed.

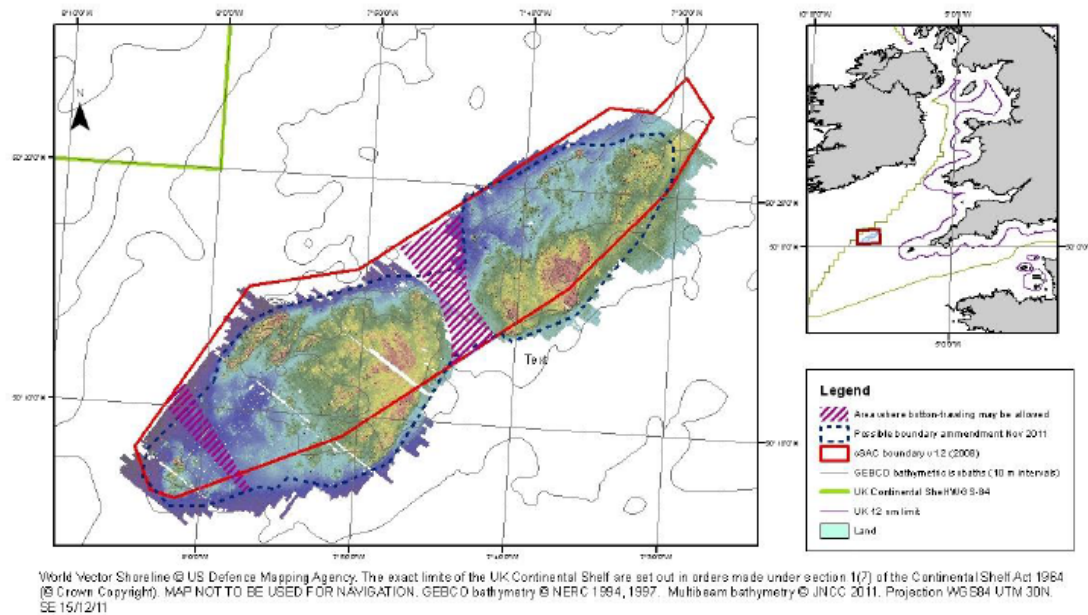
6. Zoned management

Given the above, this option was explored in more detail. There are three areas within the current SCI boundary where mobile fishing gear is currently used on what is believed to be sedimentary seabed (refer to figure 1 for more detail – the third area is in the very north-east corner of the site where new data is not yet available) and it is likely that a zoned management approach could be taken to allow such activity to continue. JNCC will examine the newly available detailed VMS and multibeam survey data to assess the potential impacts of fishing in these areas and whether it is possible to identify permitted fishing areas with sufficient margins to ensure protection of the reef. It was agreed that this option would need to be discussed with the NWWRAC.

ACTION: Present conclusions from this meeting to the NWWRAC.

ACTION: MMO to provide JNCC with Point Data (unprocessed VMS data [filtered for speed] showing actual vessel locations) so JNCC can re-examine detailed VMS data in relation to the new survey data.

Figure 1: Map of Haig Fras with possible differential fisheries management boundaries discussed and possible boundary adjustments following new multibeam bathymetry and backscatter data



Summary

The workshop considered that management measures would only be required for benthic mobile fishing gear. The group identified three areas within the site that are not part of the reef feature, and recommended that these areas should remain open to towed gears as part of a zoned management approach (subject to further analysis of the data by JNCC, see figure 1) and the effectiveness of a monitoring and enforcement regime. The preferred option would be a voluntary agreement (negotiated through the NWWRAC) but this would be subject to confirmation that voluntary arrangements would be acceptable to the EC. UK government hope to propose management measures for Haig Fras, Stanton Banks and Dogger Bank SACs before the end of 2012.

All present agreed that discussions were useful and all were pleased with the outcome. The presence of more fishers would have been beneficial and this may have been achieved by locating the meeting in a relevant fishing port such as Concarneau or Le Guilvenec. Furthermore, it was noted that simpler and more concise preparatory documents would have been beneficial with maps with legends that fishermen can use.

Annex 1

Attendees

Charlotte Johnston	Joint Nature Conservation Committee (JNCC)
Franck Evrat	North West Waters Regional Advisory Council (NWWRAC) representative - ANOP/FROM Brittany
John Clorley	Department for Environment Food and Rural Affairs (Defra)
Johnny Murt	JNCC
Lucile Toulhoat	Comité National des Pêches Maritimes et des Elevages Marins (CNPMEM)
Mark Tasker	JNCC
Michael McLeod	Scottish Government (Marine Scotland)
Neil Wellum	Marine Management Organisation (MMO)
Paul Trebilcock	Cornish Fish Producers Organisation (CFPO) / National Federation of Fishermen's Organisations (NFFO)
Jane Goodwin	Defra
Simon Porter	UK Fishermen
Solenne LeGuennec	la Fédération des Comités des Pêches Maritimes du Finistère (FCPM29)
Sophie Elliott	JNCC
Sophie LeCerf	Comité Regional des Pêches Maritimes et des Elevages Marins (CRPMEM) – Brittany
Stephanie Tachouires	Agence des aires marines protégées (AAMP) – MAIA Partner
Thomas Bouyer	Department of French Marine Fisheries and Aquaculture
Tom Blasdale	JNCC
Violaine Merrien	CRPMEM – Brittany

Appologies

Rob Banning	Pelagic Regional Advisory Council (PRAC)
Caroline Gamblin	CNPMEM
Dale Rodmell	NFFO
Jesús Lourido	Puerto de Celeiro – Spain
John Walsh	UK Fisher
Patrick Berthou	Ifremer
Paul Connolly	Marine Institute – Ireland
Phil Mitchell	UK Fisher
Sean Porter	UK Fisher

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

The Commission has issued guidance on a consistent approach to requests for fisheries management measures under the Common Fisheries Policy¹². Accordingly, this document provides the scientific and technical information required to support a formal request to the Commission for fisheries regulation under the Common fisheries Policy.

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

The granite exposure known as Haig Fras measures about 45 km by 15 km and protrudes above the surrounding sediment as a rock platform. The main shoal pinnacle arises to within 38 m of the sea surface and measures less than 1 km across. Survey undertaken by Rees in 2000 and JNCC/Cefas in 2011/12 over the platform area as well as the shoal showed that distinct biotopes were associated with both the rock habitat and the sediment ‘pockets’ which occur on the platform area. Around the base of the shoal, boulders and cobbles partially embedded in sediment provide a complex habitat.

Most of the rocky reef throughout the complex is observed to be made up of the A4.212 biotope, being dominated by *Caryophyllia smithii* and sponges, in an apparently low to moderate energy environment. The brachiopod *Novocrania anomala* was also present, sometimes in very high densities (Barrio Froján *et al.*, 2015). On the uppermost parts of the Haig Fras shoal, the exposed bedrock in this higher energy environment is dominated by the jewel anemone *Corynactis viridis*. This region also supports encrusting sponges and bryozoans, as well as mobile fauna such as the sea urchin *Echinus esculentus* and gastropod mollusc *Calliostoma* spp. (see Plate 1). At the shallow depths ~50 m, small patches of encrusting pink coralline algae were observed, indicating that the peak of the shoal protrudes into the photic zone (Rees, 2000). There were also species observed characteristic of biotope A4.132, such as *Corynactis viridis* and a mixed turf of crisiids, *Bugula*, *Scrupocellaria*, and *Cellaria* on moderately tide-swept exposed circalittoral rock (Barrio Froján *et al.*, 2015). At depths of between 60 m and 70 m, the shoal bedrock is slightly covered in silt and is not widely colonised except by cup corals *Caryophyllia smithii* (which are abundant) and a few mobile species such as the urchin *Echinus esculentus*, *Calliostoma* spp. and crinoids (*Antedon* spp.) (see Plate 2). High numbers of cup corals were also seen on parts of the rock platform away from the shoal (Rees, 2000). At the base of the shoal, the rock was covered with a thin layer of fine calcareous sand and mud and supported cup sponges, erect branching sponges, *Caryophyllia smithii* (although in lower numbers than shallower parts of the shoal) and crinoids (Rees, 2000). The boulders and cobbles around the base of the shoal supported encrusting sponge, *Caryophyllia smithii* and crinoids in low numbers; brittlestars, squat lobster (*Munida* spp.) and the ross coral *Pentapora foliacea* (now *Pentapora fascialis*) were also present (see Plate 3) (Rees, 2000).

Analysis by Cefas suggest that the rocky reef bedrock feature of the central and North West sections of Haig Fras complex extends weakly into the ~ 3 km wide area between them, where some minor exposures of bedrock of low elevation (<30 cm) were seen. Most of the rock habitat here comprises cobble and boulder reef which appears to be subject to a degree of scour and was dusted with a fine layer of silt, surrounded by coarse sediment mosaic. Some sponges are found amongst the boulders,

¹² http://ec.europa.eu/environment/nature/natura2000/marine/docs/fish_measures.pdf

but not present in sufficient density to be considered as 'deep-sea sponge aggregations' or 'fragile sponge and anthozoan communities'. The mixed sediment that characterised surficial sediments in the central area appear to have a relatively high mud content and are considered to form a (< 1 m thick) veneer over underlying bedrock.

2 Scientific rationale for the site's selection in accordance with the information provided in the Natura 2000 data form. Intrinsic value of its features. Specific conservation objectives

2.1 Representativity

Haig Fras SAC is located in the 'Western English Channel and Celtic Sea' Regional Sea, and represents deep circalittoral reef with low topographic complexity in a fully saline environment. Energy levels are moderate at this site. The faunal communities are representative of species colonising aphotic, hard marine substrata as well as a number of peaks showing communities representative of photic environments. Four distinct faunal biotopes were observed by Rees (2000): i) a biotope dominated by jewel anemone *Corynactis viridis* on rock, ii) a biotope dominated by Devonshire cup coral *Caryophyllia smithii* on rock, iii) a biotope characterised by cup sponges and erect branching sponges on rock and iv) a complex community with red encrusting sponge, Devonshire cup coral *Caryophyllia smithii* and featherstars on boulders; the bryozoan *Pentapora foliacea* (now *Pentapora fascialis*), squat lobster *Munida* sp. and brittlestars are also common. Many of the species identified by Rees (2000) are invertebrate specialists of hard marine substrates. This has since been confirmed by Barrio Froján *et al.* (2015), ascribing 4 distinct regions representing biotopes associated with: A4.1 (high energy circalittoral rock), A4.2 (moderate energy circalittoral rock), A5.15 or A5.45 (deep circalittoral coarse or mixed sediment) and A5.27 (deep circalittoral sand).

The degree of representativity gives a measure of 'how typical' a habitat type is.

A : excellent representativity

B : good representativity

C : significant representativity

The grade for the Haig Fras SAC annex I reef feature is A.

2.2 Area of habitat

The Annex I reef feature within the site is approximately 175 km² / 17,520 hectares. This new value is roughly half the 35,650 hectares (estimated by Graham *et al.*, 2001) as the previous value was derived from a generic flat mapped extent, and so the information we have now is significantly more detailed. An estimate of the entire Annex I reef resource (bedrock, cobble and biogenic reef) in UK

waters is 11,522,700 hectares¹³. This total extent figure gives the following thresholds for the grades of this criterion¹⁴:

A – extents between 5,723,600 and 858,540 ha (15-100% of total resource)

B – extents between 858,540 and 114,472 ha (2-15% of total resource)

C – extents less than 114,472 ha (0-2% of total resource)

This site's feature therefore falls within the '0-2%' bracket for Area of Habitat and is graded C.

2.3 Conservation of structure and functions

Degree of conservation of structure:

Available evidence indicates that there is demersal fishing activity within the site, particularly static gear types such as gillnets and tangle nets (CNPMM, 2008; MFA, 2008; NFFO, 2008). Evidence of static fishing was also further observed in a number of locations on the northern regions of both main outcrop areas, as well as indication of mobile fishing activity through the central region (Barrio Froján *et al.*, 2015). However, as the interest feature at Haig Fras is largely intact (Rees, 2000), the grading is II: structure well conserved

Degree of conservation of functions:

The prospects of this feature to maintain its structure in the future (taking into account unfavourable influences and reasonable conservation effort) are good, since the basic physical structure is resilient to mechanical impacts and the reef is isolated from terrestrial sources of pollution. A mechanism is available through the European Commission's Common Fisheries Policy regulations to modify fishing activity in the area if this is deemed to be necessary. The laying of submarine cables and pipelines in and adjacent to SACs also requires regulatory consent. The grading is I: excellent prospects.

Restoration possibilities:

Restoration of the biological communities at Haig Fras would be possible accepting that restoration methods in the offshore area focus on the removal of impacts, which should allow recovery where the habitat has not been removed. It is likely that a similar community to that present now would develop if activities causing damage were removed. The grade is II: restoration possible with average effort.

Overall grade:

Due to the second sub-criterion of this criterion being graded I: excellent prospects, the overall grading is A: excellent conservation (regardless of the other two sub-criteria).

¹³ JNCC 2013

¹⁴ CEC, 1995

2.4 Global assessment

Given the above gradings, and that the feature is unique in the south west UK offshore area, the Global Assessment grade is A (i.e. Site is an outstanding example of Annex I reef habitat in a European context (see Table 1).

Table 1: Summary of site assessment criteria scores.

Area of Habitat	Representativity	Relative surface	Structure and function	Global assessment
Haig Fras	A	C	A	A

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

The current boundary for Haig Fras SAC has been defined using JNCC's marine SAC boundary definition guidelines¹⁵¹⁶ and information provided during public consultation on this site in 2007-2008. The boundary is a simple polygon enclosing the minimum area necessary to ensure protection of the Annex I habitat. Coordinate points have been positioned as close to the edge of the interest features as possible, rather than being located at the nearest whole degree or minute point. The boundary includes a margin to allow for mobile gear on the seabed being at some distance from the location of a vessel at the sea surface. The maximum depth of water around the feature is 110 m; therefore, assuming a ratio of 3:1 fishing warp length to depth, the proposed boundary is defined to include a buffer of 330 m from the reef. The habitat feature was drawn from interpolated data from British Geological Survey¹⁷ and the presence of reef was confirmed by survey conducted by Rees in 2000 over a portion of the feature.

Following further survey by a Cefas/JNCC in March 2011, multibeam and backscatter acoustic data were collected along with video and still groundtruthing imagery. A further area in the centre of the site (missed during the March survey) was subsequently surveyed by a Cefas/JNCC cruise in February 2012 collecting multibeam, backscatter and video data, creating a complete picture of the site. These two survey's data were interpreted by Cefas to illustrate areas of Annex I habitat.

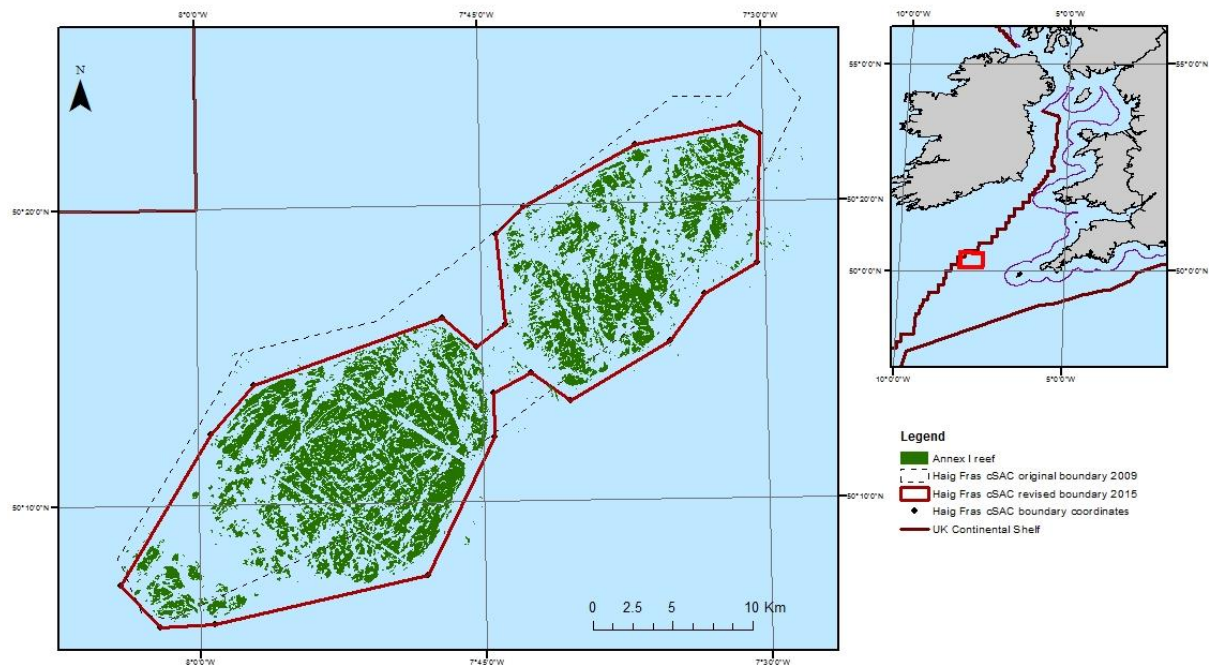
As a result of these new surveys, JNCC submitted a revised site boundary on 31 July 2015 to the Commission that more closely corresponds to the distribution of the features (see figure 1). Management measures will be aligned to the proposed revised boundary.

¹⁵ JNCC, 2012a

¹⁶ These were agreed by the Joint Nature Conservation Committee and modified subsequent to public consultation in 2003

¹⁷ Graham *et al.*, 2001

Figure 2: Site boundary and July 2015 boundary revision.



World Vector Shoreline © US Defence Mapping Agency. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown Copyright). MAP NOT TO BE USED FOR NAVIGATION. © JNCC 2015. Projection WGS84 UTM 29N.

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

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

Whilst it is unlikely that demersal towed gears can affect the long-term natural distribution of granite bedrock reef features, there is some evidence to indicate that the use of bottom contacting mobile gears can impact the structure and function of the habitat and the long term survival of its associated species.

The use of towed fishing gears is likely to cause damage or death of fragile, erect species, such as sponges and corals¹⁸. Other species such as hydroids, anemones, bryozoans, tunicates and echinoderms may also be vulnerable¹⁹. Recovery is likely to be slow²⁰. Where fragile, slow growing species occur, even low levels of fishing have the potential to change the structure and function of the habitats and may result in the loss of some characteristic species.

¹⁸ Løkkeborg 2005, Freese et al. 1999

¹⁹ McConnaughey et al. 2000, Sewell and Hiscock 2005

²⁰ Foden et al. 2010

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

The nature of the site (distance from ports and strong tides) restricts static gear effort to low or moderate levels. It is unlikely that this intensity of demersal static gear activity will affect the long-term natural distribution of granite bedrock reef features or the structure and function of the habitat and long term survival of its associated species.

Mechanical impacts of static gear (e.g. weights and anchors hitting the seabed, hauling gear over seabed, rubbing / entangling effect of ropes) can damage some species²¹. Other species appear to be resilient to individual fishing operations but the effects of high fishing intensity are unknown²². The individual impact of a single fishing operation may be slight but cumulative damage may be significant and recovery is expected to be slow²³. When fishing intensity is low or moderate, the degree of modification is expected to be low. There is risk that cumulative effects from ongoing fishing may result in increasing levels of modification.

4.3 Other Human activities

There is a lack of detailed information on levels of exposure to human activities and their ecological impact on the feature at this site. Further information will be required to assess and monitor favourable condition of Annex 1 reef of this offshore SAC.

The United Kingdom Cable Protection Committee (UKCPC) notes that the transatlantic cable known as TAT 14 passes through less than 2km of the SAC at the northern boundary at two points. As the cable covers such a small area of the feature, it is unlikely to impair the feature's overall structure and function. Therefore, it is not considered to expose the feature to physical loss through obstruction²⁴.

The reef features found within Haig Fras SAC are sensitive to further pressures outlined within table 1 of Haig Fras SAC SAD (2012).

5 Fleet activity in the area and in the region, distribution of fleets (by nation, gear, and species), and information on target and bycatch species over 4 years from 2010 to 2013 inclusive.

5.1 Validity of data

In the section below relevant fleet statistics for the years 2010- 2013 are provided as requested by the European Commission guidance. The UK, as the initiating Member State, analysed fishing from Member States active in the area of Haig Fras SAC over a four year period. This approach is consistent with other management proposals methodology across Member States. A four year

²¹ Eno et al. 1996

²² Eno et al. 2001

²³ Eno et al. 2001, Foden et al., 2010

²⁴ JNCC, 2012b

dataset is considered to be representative of the contemporary fisheries carried out in the area and thus valid for the purposes of underpinning the current proposal.

Overall, the fisheries have been changing since early 2000s as a result of changes in fishing conditions, e.g. fuel process and the introduction of ITQ systems in various forms. Fishing fleets have been reduced in number of vessels and fishing effort has decreased. Fishing opportunities are dictated by stock status, market conditions, fuel process and technological opportunities. In addition policy decisions on alternative use of the marine habitat, sustainable exploitation and environmental policies will influence fishing opportunities.

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

From the raw VMS reports (“pings”), it is evident that some French vessels ping every hour and not every two hours like all other vessels. The data concerning the amount of French vessels will be accurate but their effort through pings may be distorted. To maintain consistency across all vessels and Member States of use of data, the information on French vessels has been displayed how it was received into the MMO FMC therefore has not been extrapolated to reflect possible one hour vessel pings as this could alter the validity of the data further. To establish which vessels specifically are over reporting would require additional information. Therefore, please consider that the information regarding French vessels will include a proportion of vessels that have over reported on their location i.e. provided a VMS ping every hour rather than every 2 hours.

5.1.1 Data analysis

Data presented has been analysed by applying the standard methodology used to identify whether or not vessels have been active in a specified spatial area to the information. VMS reports (“pings”) were used to indicate vessel fishing activity based on the speed of the vessel as reported within the VMS message. Each ping was classified as indicative of fishing activity taking place if the speed is greater than or equal to 0 knot and less than or equal to 6 knots.

Each VMS ping received from a vessel in ICES statistical rectangles 29E1 and 29E2 (the ICES rectangles that sit across the site) has been extracted from the UK VMS system, (each ping will hold the following information, the vessel identity (CFR) number, position and speed and the date and time of that ping). These fishing pings from the rectangle(s) concerned are then processed in GIS software to identify whether the position was inside or outside the Haig Fras SAC or the proposed management areas. This provides a proportion of pings falling within the area for the vessels of each Member State.

This proportion was then applied to landings data to allow estimates of landings value and quantity derived from within the Haig Fras SAC or proposed management areas by non-UK vessels. Landings values and quantities for UK vessels were derived from UK statistical data held by the Marine Management Organisation. Landings values and quantities for non-UK vessels were derived from the Scientific, Technical and Economic Committee for Fisheries (STECF)²⁵.

²⁵ <http://stecf.jrc.ec.europa.eu/index.html>

5.1.2 Data limitations

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

1. Data are only available from vessels that are required to carry VMS systems (i.e. vessels 15 metres and above in length). As such their pattern of activity may differ from other parts of the fleet.
2. The speed thresholds (0-6knots) used to make assumptions as to whether a vessel is fishing or not only provide indications, not definitive proof of fishing and have been applied across all gear types.
3. The proportion of activity inside an area is based on the number of pings as opposed to actual fishing time.
4. The analysis of VMS data indicates that there is some low level activity within the Haig Fras SAC by vessels from the Netherlands, however, as there are no corresponding landings reported in the ICES rectangles 29E1 or 29E2 in the STECF they have not been included in the analysis.

5.2 Fleet activity by state

From 2010 to 2013 vessels from 4 Member States were active within and around the Haig Fras SAC (see table 1). Of these, the most significant activity was from French and UK vessels, with lower, but substantive, levels of activity from Spanish and Irish vessels (see table 1).

Table 2: Number of vessels and pings (0-6knots) associated with Haig Fras SAC by year and Member State.

Nationality		2010	2011	2012	2013
		Total	Total	Total	Total
Spain	Number of vessels	1	1	2	0
	Number of pings	55	26	70	0
France*	Number of vessels	27	25	27	38
	Number of pings	448	399	381	706
Ireland	Number of vessels	8	13	12	8
	Number of pings	10	29	26	13
UK	Number of vessels	7	5	7	4
	Number of pings	826	293	582	770

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

5.3 Fleet activity by gear (fishing days, effort)

5.4 Landings values

As shown in Tables 2.1 and 2.2 the gear groups of major importance in terms of effort (tonnage) and economic importance (value) include (1) Beam Trawls directed at demersal fish (flatfish), (2) Otter board bottom trawls for demersal fish, (3) otter board bottom trawls for demersal and semi pelagic fish. Fishing for these species occurs in the Southern Irish Sea, Celtic Sea and North East Atlantic.

The fisheries data for 2010 – 2013 inclusive in Haig Fras SAC involve similar gear types but only two groups are of major importance regarding effort and four regarding value as can be seen in Table 2.2. Bottom trawls and demersal trawls of 120mm mesh size or over produce the highest effort and values of all the gear types of use. Demersal trawls of 70 – 99mm mesh size, Otter trawls, dredge and beam trawls also take place within the Haig Fras SAC but with much lower levels of effort and landings value.

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

Member State	Vessel Size	Gear Code	Activity (Tonnes) in ICES Rectangles 29E1 & 29E2				Activity (Tonnes) estimated as from within the SAC based on maximum VMS activity in 2010 – 2013			
			2010.00	2011.00	2012.00	2013	2010.00	2011.00	2012.00	2013.00
SPAIN	Over 15m in length	TR1*	0.00	0.00	305.15	Not supplied	0.00	0.00	86.91	TBC
		TR2**	0.00	0.00	11.99		0.00	0.00	3.41	TBC
		Otter Trawl	0.00	0.00	2.56		0.00	0.00	0.73	TBC
		29E1&2 Total	0.00	0.00	319.70		0.00	0.00	91.05	TBC
FRANCE	0 to 15m in length	Beam Trawls	0.00	6.63	0.35	Not supplied - Please refer to 2013 figures within SAC section	0.00	0.45	0.02	0.00
		Bottom Trawls	0.00	13.83	2.83		0.00	0.93	0.19	0.00
		Dredge	0.00	1.98	12.30		0.00	0.13	0.83	0.00
	Over 15m in length	Anchored Seines	NS	NS	NS		0.00	2.45	35.04	32.35
		Beam Trawls	NS	NS	NS		0.00	0.79	0.00	0.00
		Bottom Trawls	0.00	2153.19	2193.56		34.73	1453.68	1665.49	2158.10
		Dredge	0.00	4.20	3.92		0.00	4.40	0.74	0.00
	29E1&2 Total	0.00	2179.83	2212.96	34.73		1462.83	1702.31	2190.45	
IRELAND	0 to 15m in length	TR1	2.07	10.20	0.00	Not supplied - Please refer to 2013 figures within SAC section	0.06	0.28	0.00	0.00
		TR2	1.72	0.00	0.00		0.05	0.00	0.00	0.00
	Over 15m in length	Beam Trawls	19.27	17.86	10.23		20.76	19.16	11.27	94.50
		TR1	708.66	588.07	413.79		17.07	4.15	8.58	32.92
		TR2	13.84	30.30	49.55		37.94	23.59	19.85	127.42
		29E1&2 Total:	745.56	646.43	473.57					
UK	0 to 15m in length	Gill nets and entangling nets	11.00	30.00	29.00	22.00	1.8 tonnes (based on an estimated annual average)			
		Trawls	0.00	0.00	0.00	0.00				
	Over 15m in length	Gill nets and entangling nets	169.00	233.00	263.00	329.00	51.4 tonnes (based on an estimated annual average)			
		Trawls	315.00	279.00	478.00	307.00				

		29E1&2 Total	495.00	542.00	770.00	658.00	53.2 tonnes (based on an estimated annual average)
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TR1* = Demersal Trawls 120mm mesh size or above

TR2** = Demersal Trawls 70 - 99mm mesh size

NS = Not supplied

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

Member State	Vessel Size	Gear Code	Activity (£) in ICES Rectangles 29E1 & 29E2				Activity (£) estimated as from within the SAC based on maximum VMS activity in 2010-2013			
			2010	2011	2012	2013	2010	2011	2012	2013
SPAIN	Over 15m in length	TR1*	£0	£0	£815,457	Not supplied	£0	£0	£232,251	TBC
		TR2**	£0	£0	£31,810		£0	£0	£9,060	TBC
		Otter Trawl	£0	£0	£5,535		£0	£0	£1,576	TBC
		29E1&2 Total	£0	£0	£852,802		£0	£0	£242,887	TBC
FRANCE	0 to 15m in length	Beam Trawls	£0	£24,412	£4,117	Not supplied - Please refer to 2013 figures within SAC section	£0	£106	£18	£0
		Bottom Trawls					£0	£0	£0	£0
		Dredge	£0	£5,877	£1,902		£0	£26	£8	£0
	Over 15m in length	Anchored Seines	NS	NS	NS		£0	£12,900	£42,748	£49,471
		Beam Trawls	NS	NS	NS		£0	£3,687	£0	£0
		Bottom Trawl	£0	£1,482,281	£1,351,906		£106,286	£3,045,880	£3,061,921	£4,475,175
		Dredge	£0	£14,055	£3,995		£0	£13,904	£2,110	£0
		29E1&2 Total	£0	£1,526,625	£1,361,920		£106,286	£3,076,503	£3,106,805	£4,524,646
IRELAND	0 to 15m in length	TR1	£4,391	£31,220	£0	Not supplied - Please refer to 2013 figures within SAC section	£121	£863	£0	£0
		TR2	£3,583	£0	£0		£99	£0	£0	£0
	Over 15m in length	Beam Trawls	£54,646	£49,854	£25,118		£39,542	£38,368	£19,087	£172,960
		TR1	£1,539,931	£1,950,983	£1,049,076		£19,733	£4,293	£9,847	£37,248
		TR2	£30,036	£127,261	£133,319		£59,495	£43,524	£28,934	£210,208
		29E1&2 Total:	£1,632,587	£2,159,318	£1,207,513					
UK	0 to 15m in length	Gill nets and entangling nets	£42,397	£133,774	£82,535	£50,532	£0.1mn (based on an estimated annual average)			
		Trawls	£0	£0	£0	£0				
	Over 15m in length	Gill nets and entangling nets	£472,727	£620,128	£523,767	£741,671	£0.12mn (based on an estimated annual average)			
		Trawls	£921,803	£902,727	£1,516,549	£808,553				

		29E1&2 Total	£1,436,927	£1,656,629	£2,122,851	£1,600,755	
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TR1* = Demersal Trawls 120mm mesh size or above

TR2** = Demersal Trawls 70 - 99mm mesh size

NS= Not supplied

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5.5 Annual variation in fishing activity

Over the years analysed (2010-2013), the total volume of vessels fishing in the SAC are 162 from other Member States and 23 from the UK, making a total of 185. Vessels have been counted more than once if they enter the SAC in separate years. See Table 1.

Numbers of French (25 to 27) vessels fishing within the SAC remained stable through 2010-2012, and then increased to 38 in 2013, while the Spanish numbers dropped to 0 in 2013 from 2 the previous year. The number of Irish vessels increased from 8 in 2010 to 13 and 12 in 2011 and 2012 before declining back to 8 in 2013.

The UK fishing fleet within this SAC has been steadily declining, from 7 in 2010 to 4 in 2013. Although the volume pings have increased in the last three years.

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

Fishing effort within the SAC was more variable than number of vessels fishing in the same area. The volume of pings from the UK and French increased in 2013 from the previous year, whereas the Irish and Spanish volume decreased (see Table 1). Danish pelagic activity occurs through ICES area VIIg and this predominately pair seines but there is no activity recorded in Haig Fras SAC or in its proposed reporting zone.

As we are still unable to extrapolate a clear figure of pings by the French we have to assume that their activity is still high as they have the highest number of vessels operating in the area (see validity of data section 5.1)

The values (£) and landings (tonnes) effort taken within the SAC vary between each member state. UK estimate an annual average of 53.2 tonnes taken from their fleet, whereas in 2012 the tonnes taken from each Member State was 91.05 from Spain, 149.12 from France and 13.09 from Ireland. UK estimate an annual average of £120,000 taken from their fleet, whereas in 2012 the value (£) taken from each member state was £242,887 from Spain, £5,929 from France and £33,387 from Ireland.

Static gear activity (from landings data) in the area of Haig Fras SAC is considered to be low to moderate (mainly from netting). However, the static gear data is at ICES rectangle level and is not attributed to landings taken directly from the site. VMS analysis shows very few static gear registered vessels operating in the site.

Figure 3: VMS reports indicating all fishing activity in Haig Fras SAC 2010 by Nationality

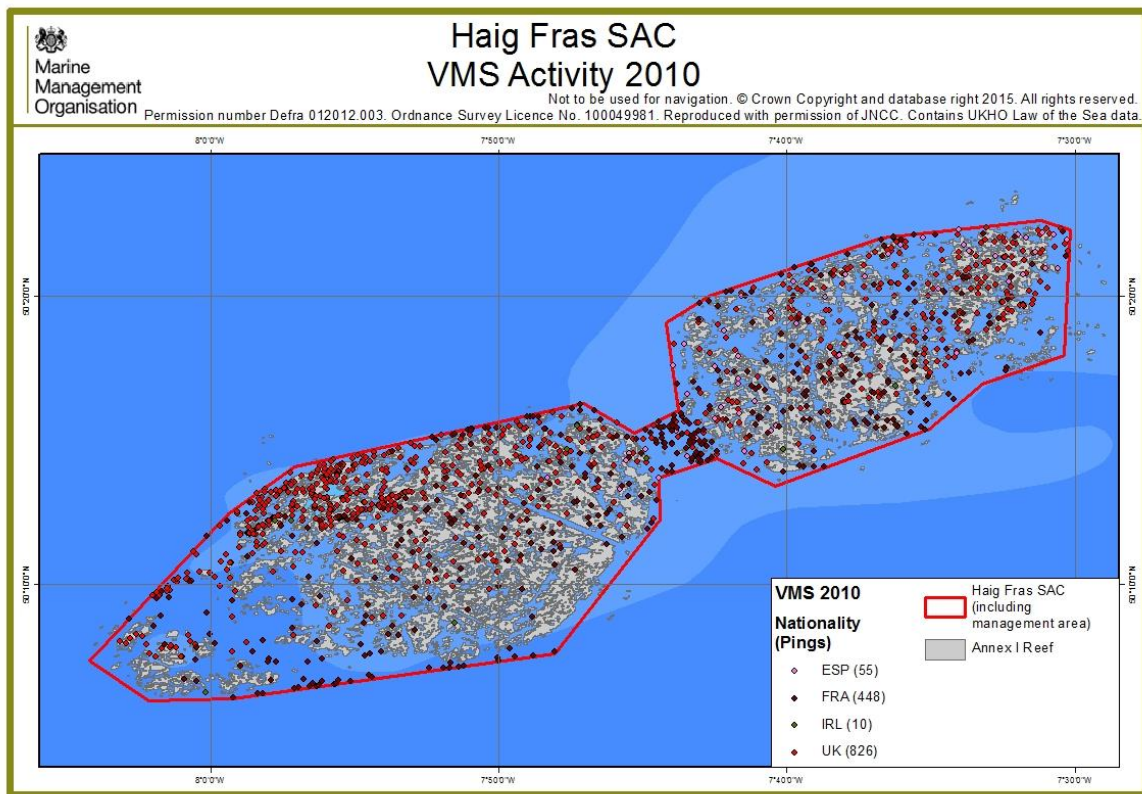


Figure 4: VMS reports indicating all fishing activity in Haig Fras SAC 2011 by Nationality

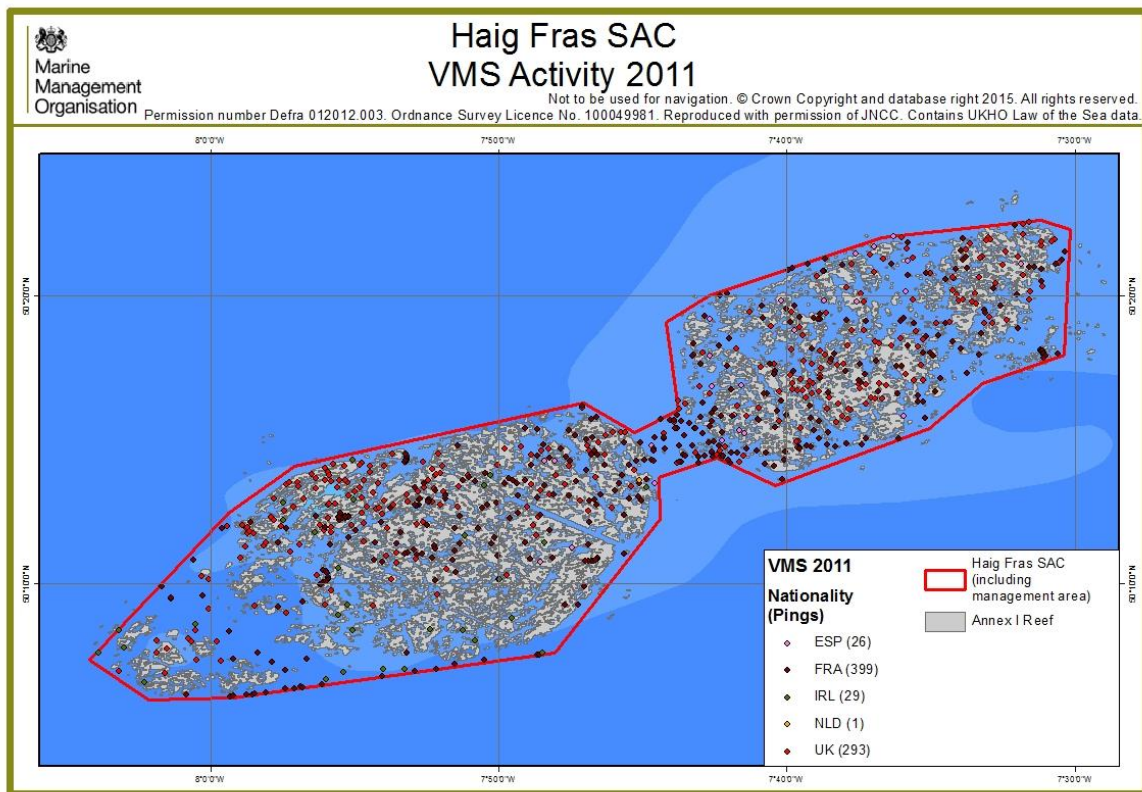


Figure 5: VMS reports indicating all fishing activity in Haig Fras SAC 2012 by Nationality

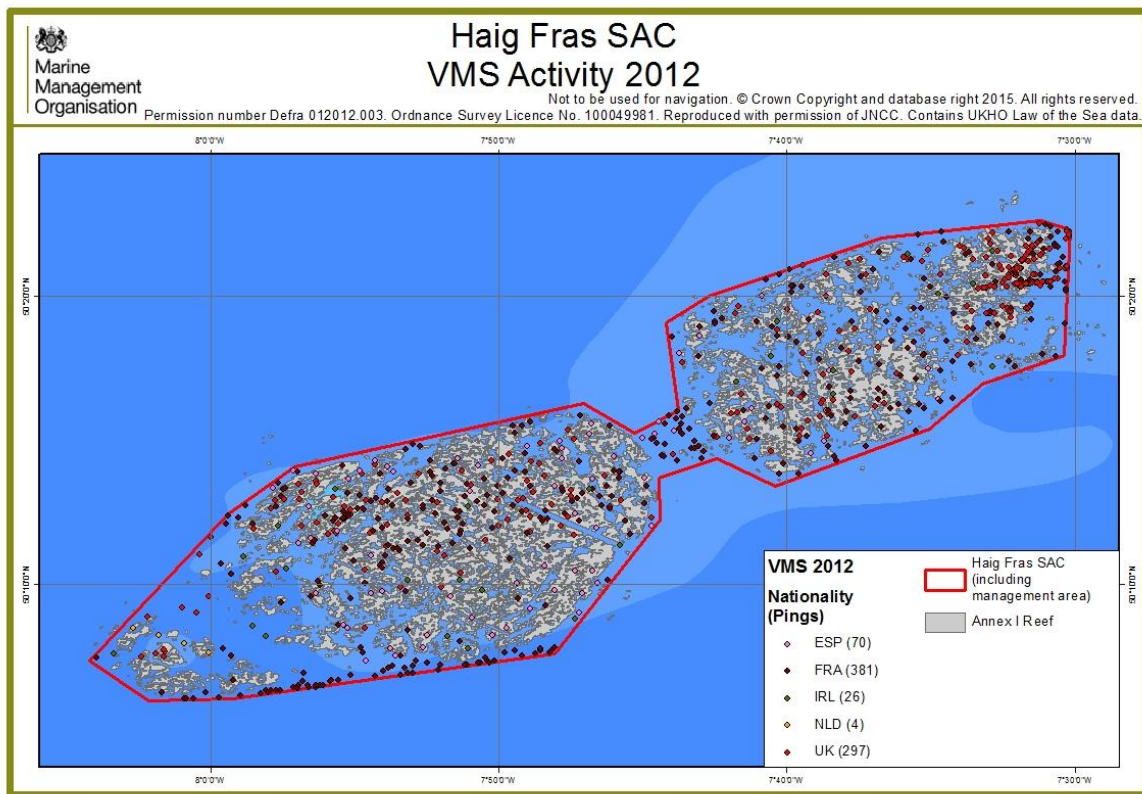
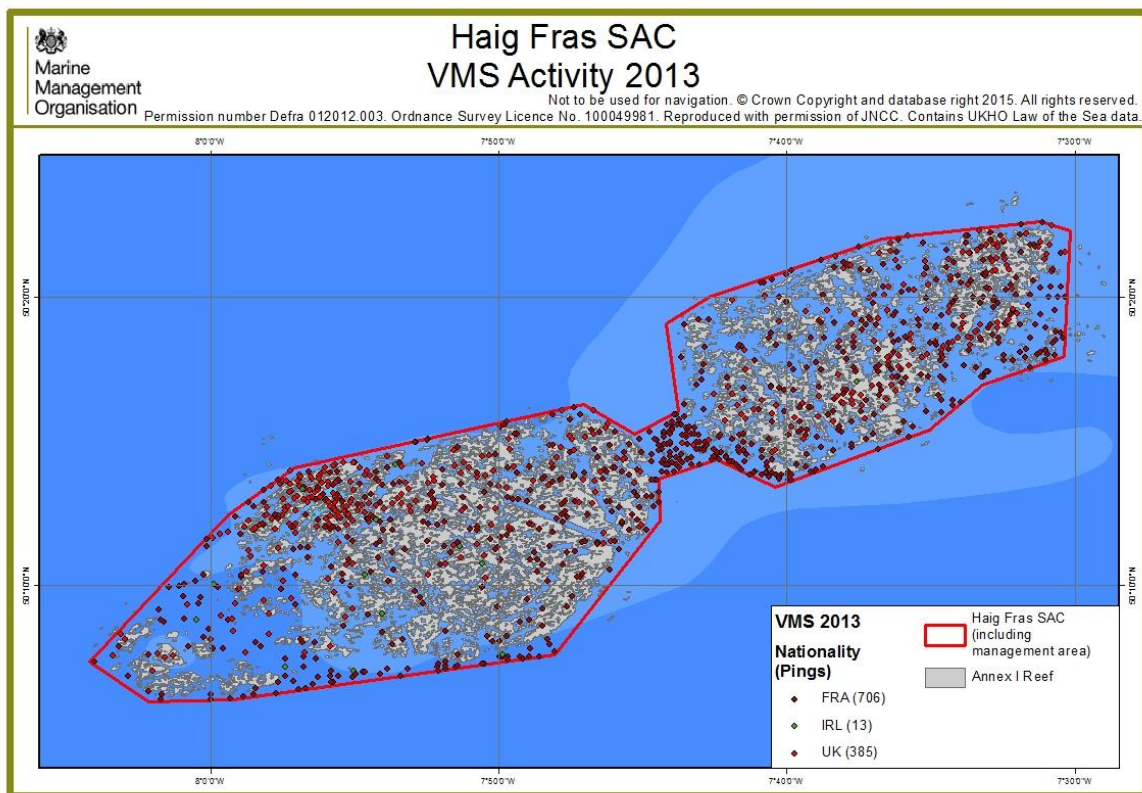


Figure 6: VMS reports indicating all fishing activity in Haig Fras SAC 2013 by Nationality



5.6 Fleet activity by gear group – Geographical distribution

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

Figure 7: VMS reports indicating French demersal /non demersal towed fishing activity in Haig Fras SAC 2010

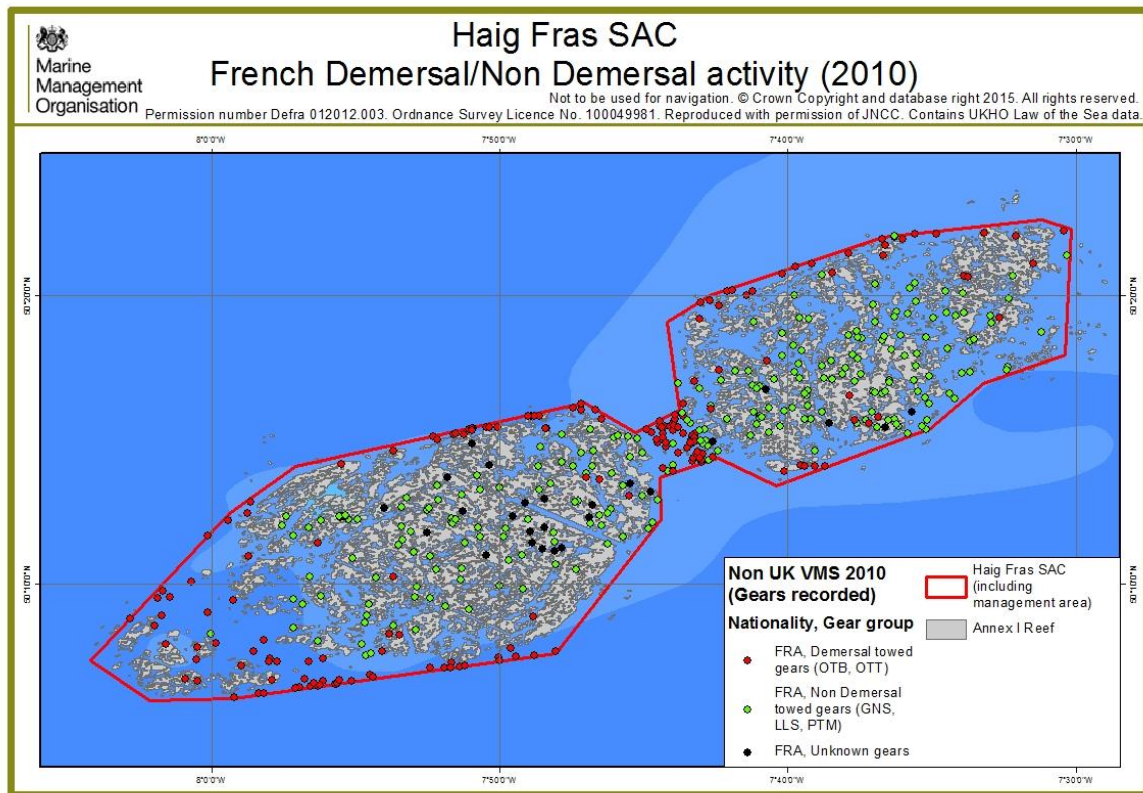


Figure 8: VMS reports indicating Irish demersal /non demersal towed fishing activity in Haig Fras SAC 2010

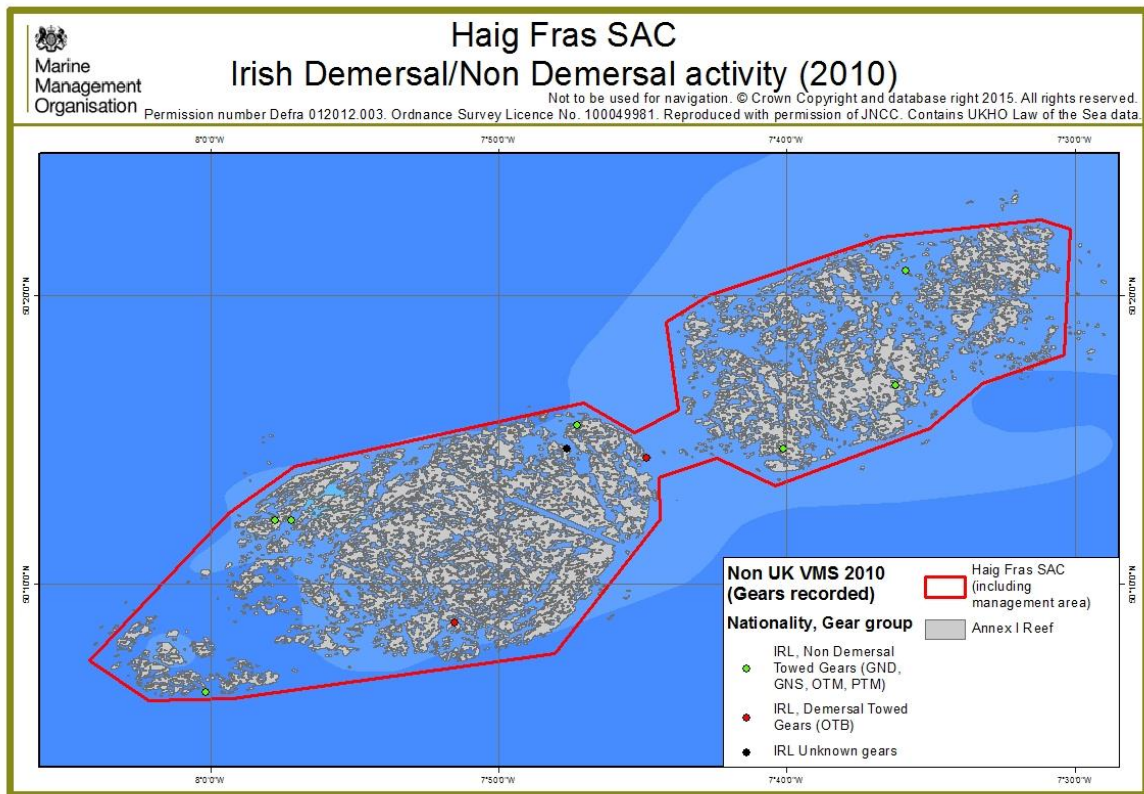


Figure 9: VMS reports indicating Spanish demersal /non demersal towed fishing activity in Haig Fras SAC 2010

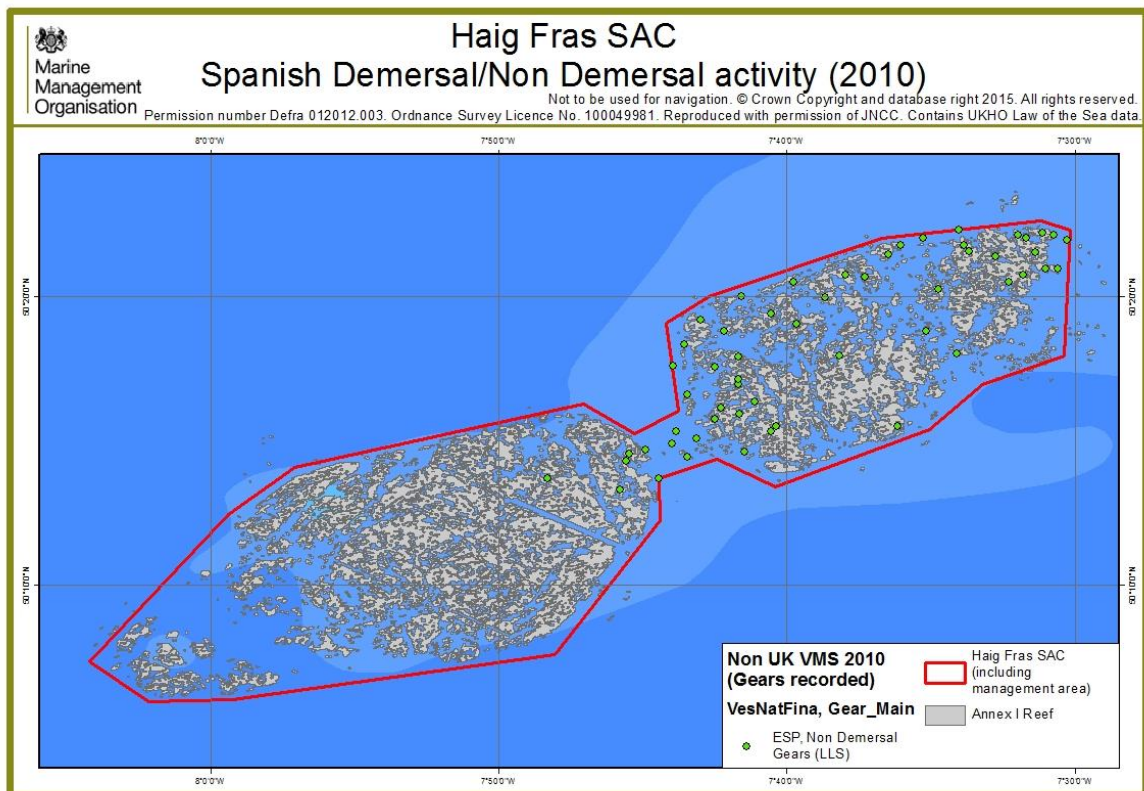


Figure 10: VMS reports indicating UK demersal /non demersal towed fishing activity in Haig Fras SAC 2010

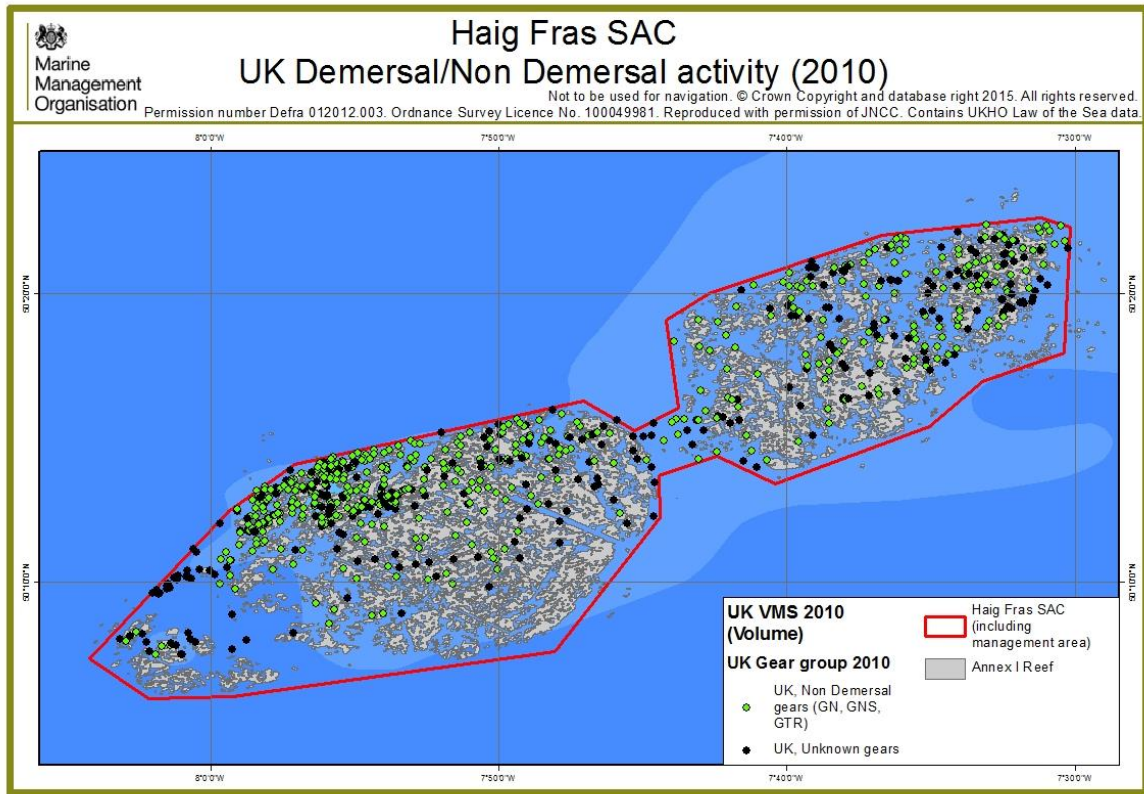


Figure 11: VMS reports indicating Dutch demersal/non demersal towed fishing activity in Haig Fras SAC 2011

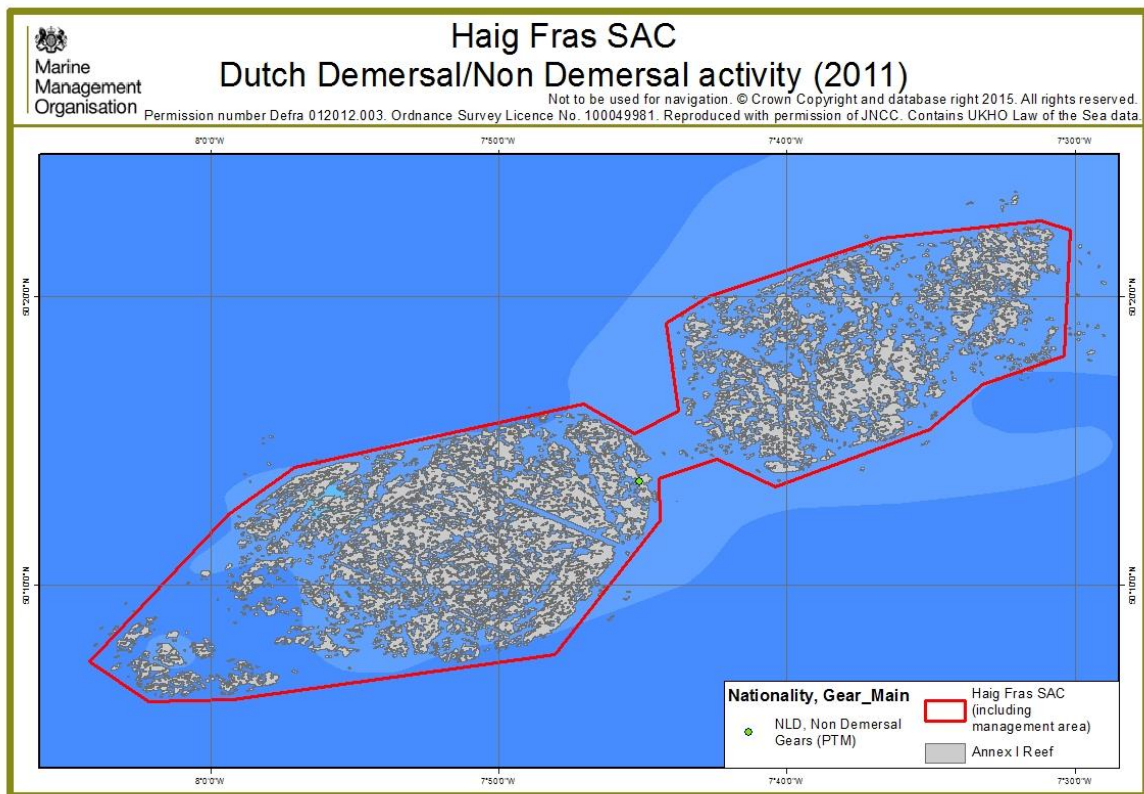


Figure 12: VMS reports indicating French demersal /non demersal towed fishing activity in Haig Fras SAC 2011

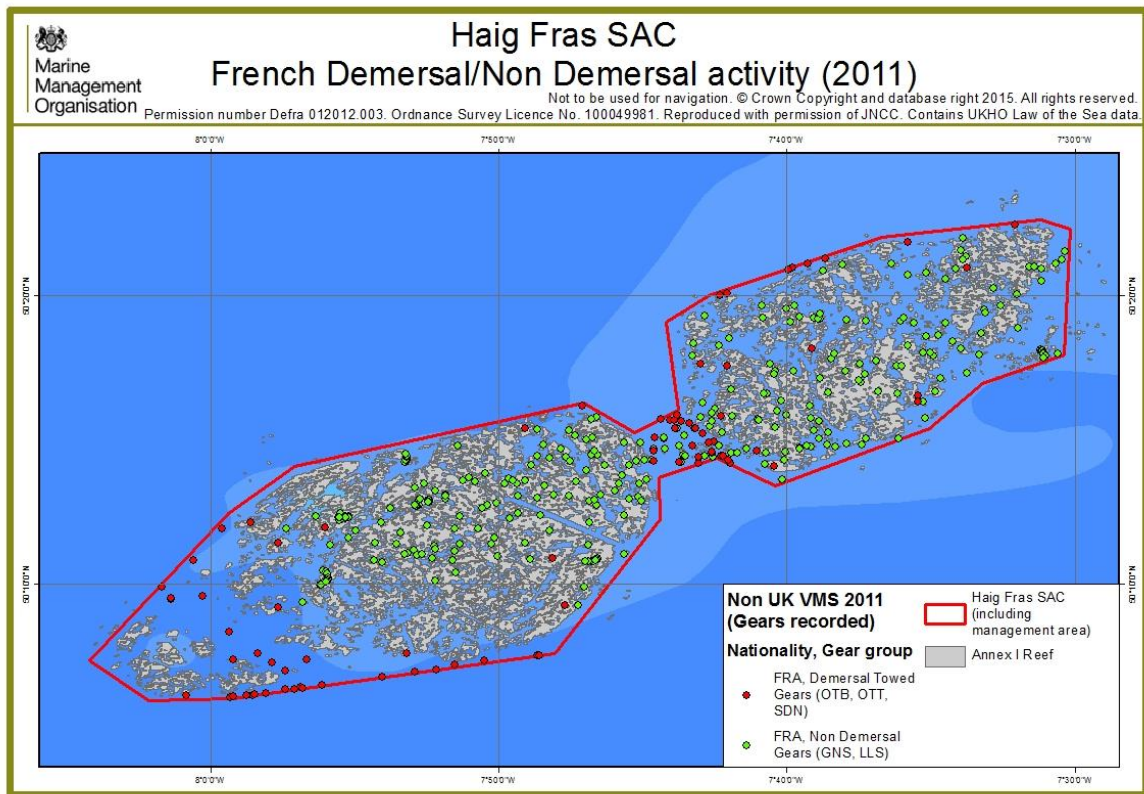


Figure 13: VMS reports indicating Irish demersal /non demersal towed fishing activity in Haig Fras SAC 2011

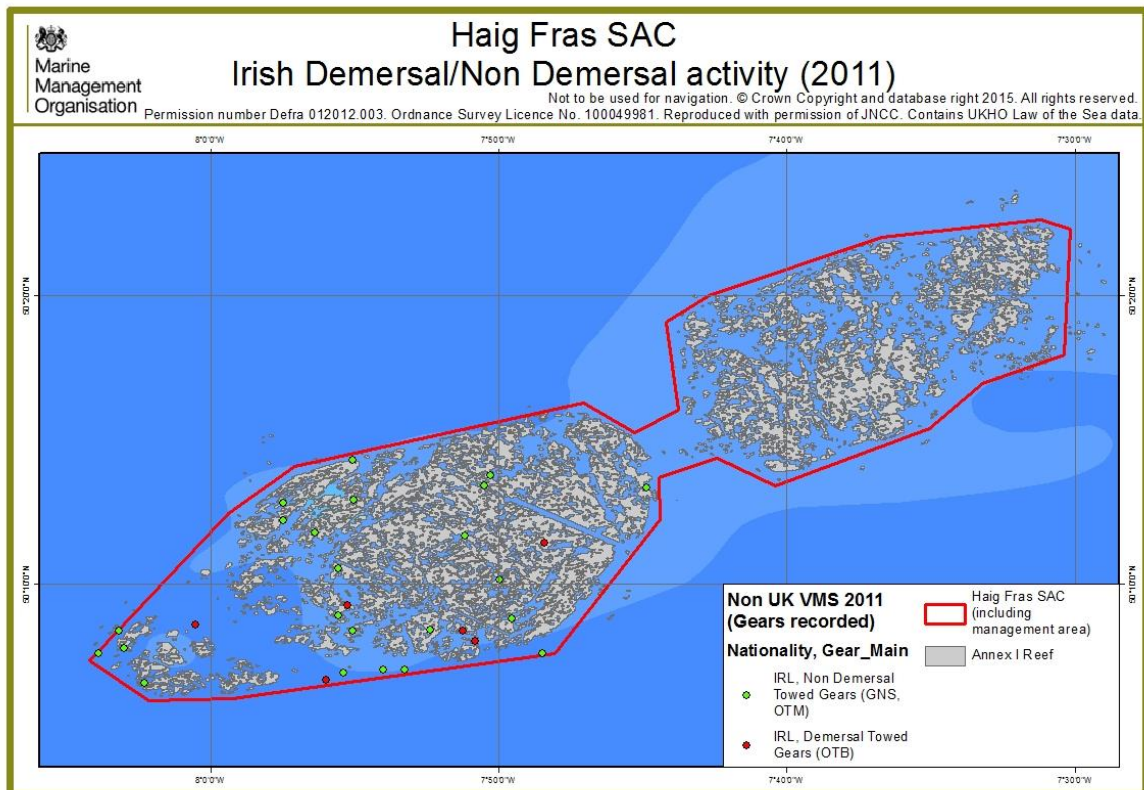


Figure 14: VMS reports indicating Spanish demersal /non demersal towed fishing activity in Haig Fras SAC 2011

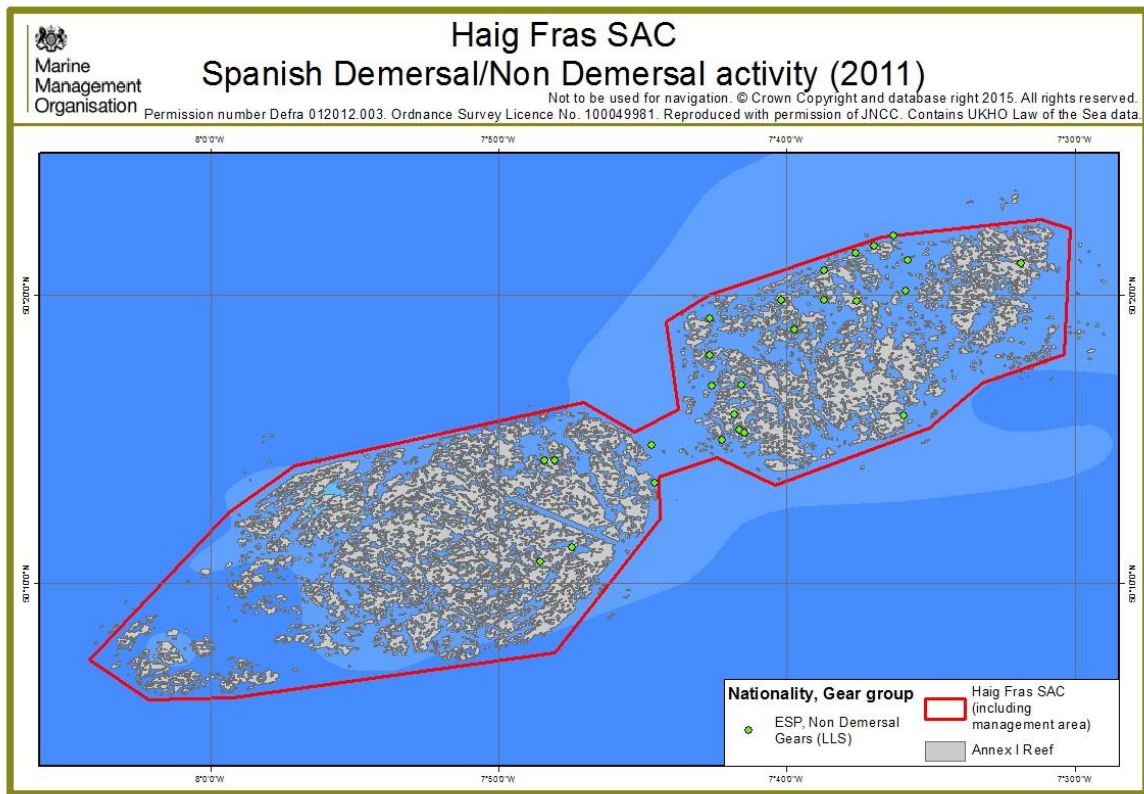


Figure 15: VMS reports indicating UK demersal /non demersal towed fishing activity in Haig Fras SAC 2011

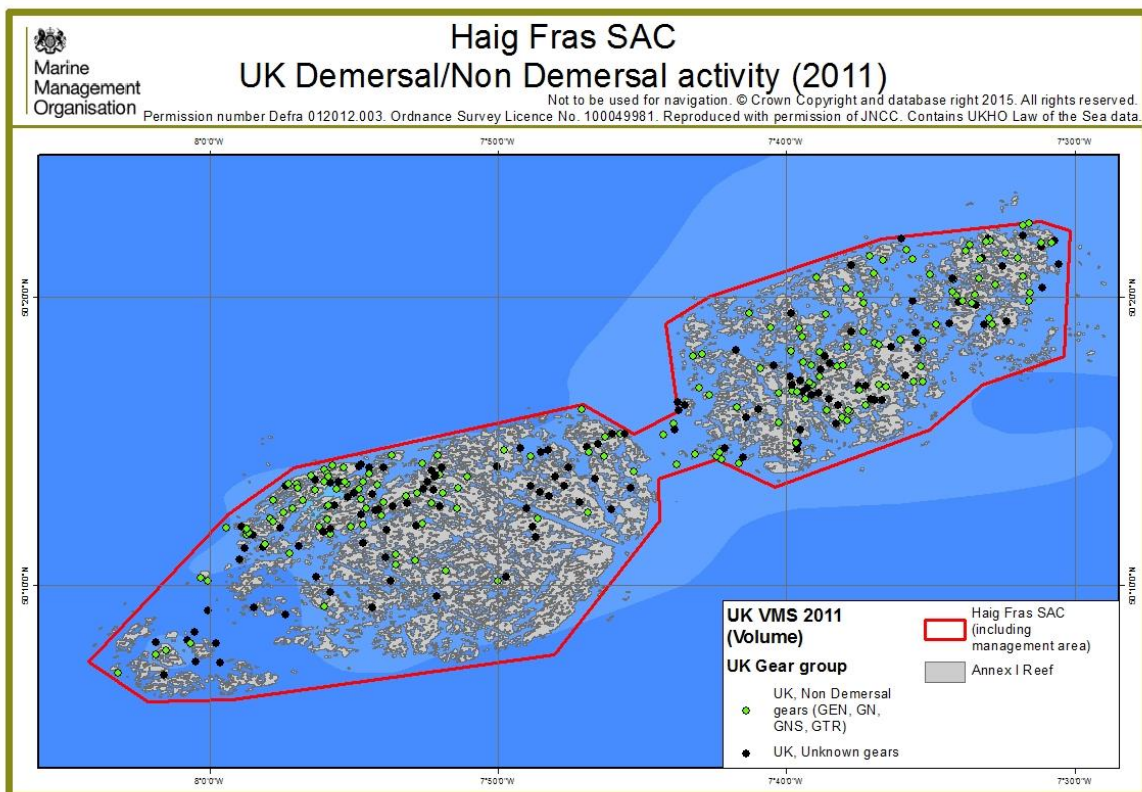


Figure 16: VMS reports indicating Dutch demersal/non demersal towed fishing activity in Haig Fras SAC 2012

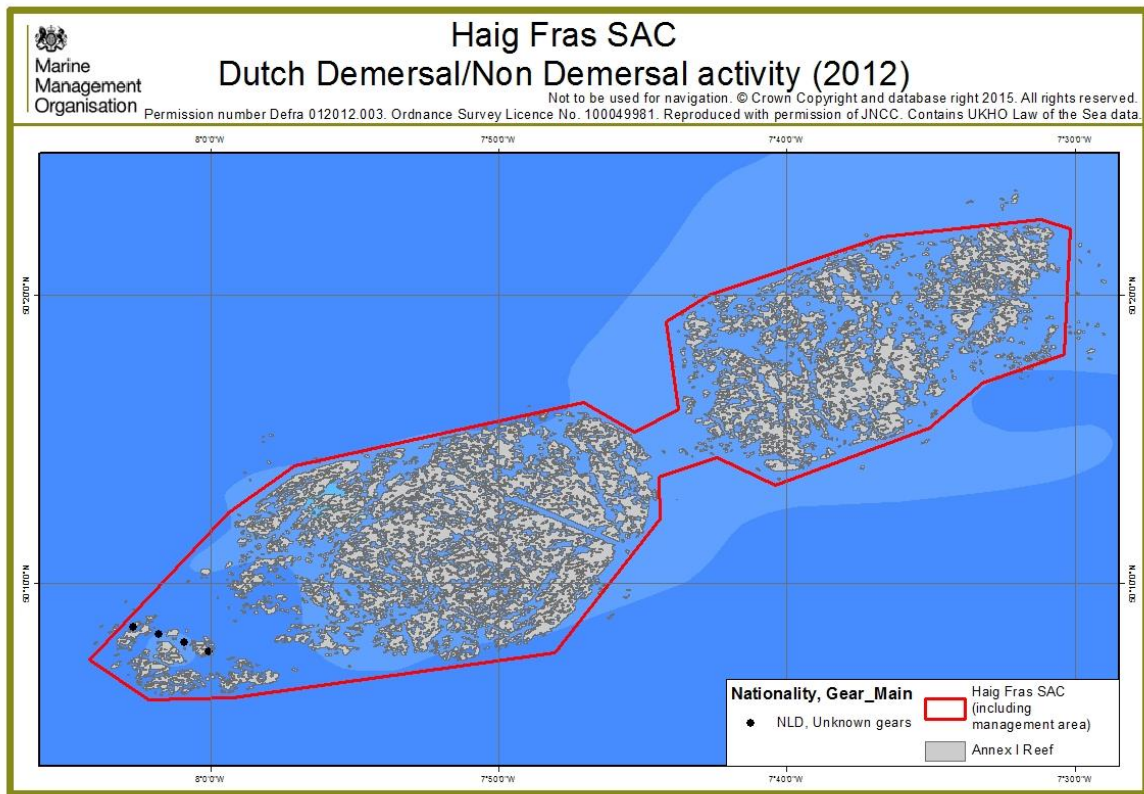


Figure 17: VMS reports indicating French demersal /non demersal towed fishing activity in Haig Fras SAC 2012

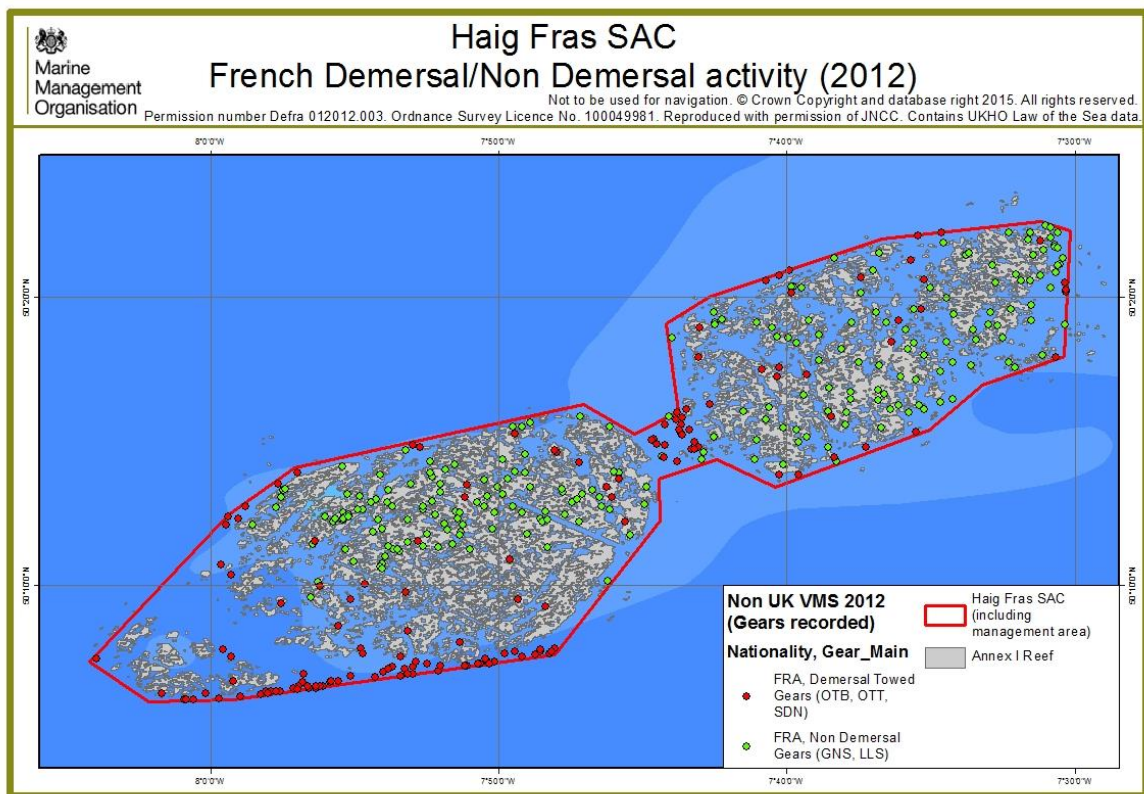


Figure 18: VMS reports indicating Irish demersal /non demersal towed fishing activity in Haig Fras SAC 2012

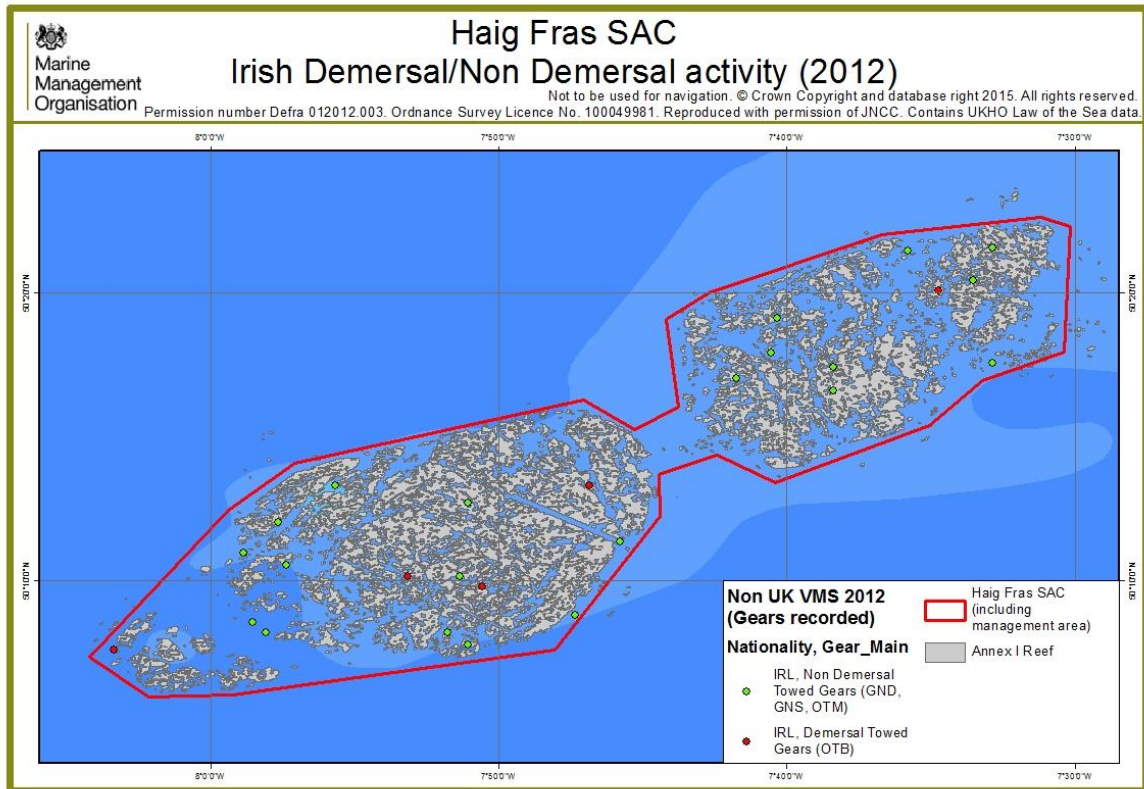


Figure 19: VMS reports indicating Spanish demersal /non demersal towed fishing activity in Haig Fras SAC 2012

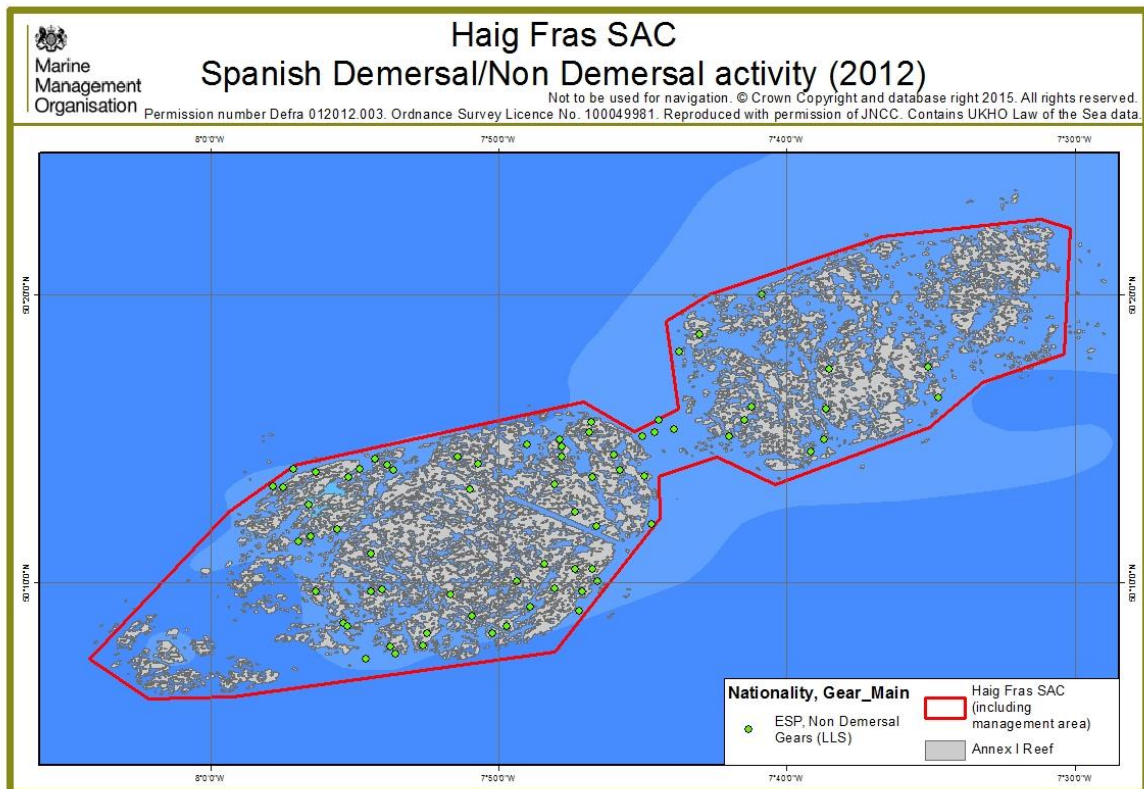


Figure 20: VMS reports indicating UK demersal /non demersal towed fishing activity in Haig Fras SAC 2012

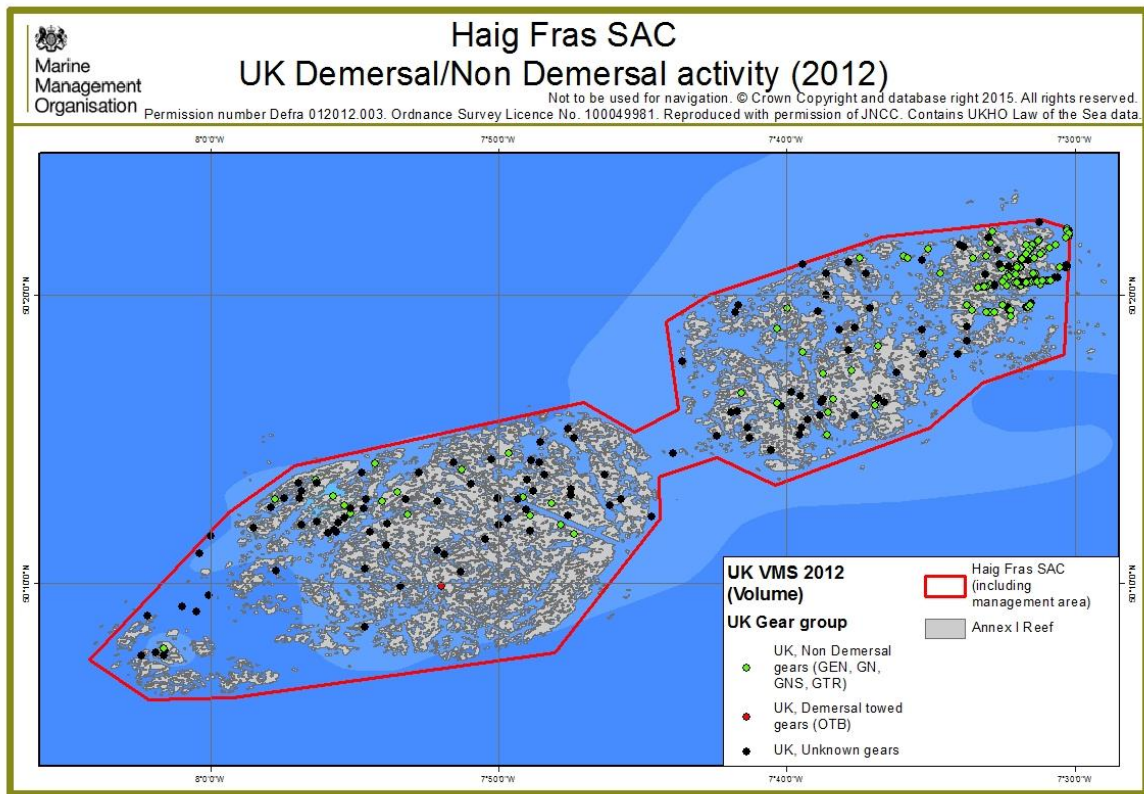


Figure 21: VMS reports indicating French demersal/non demersal towed fishing activity in Haig Fras SAC 2013

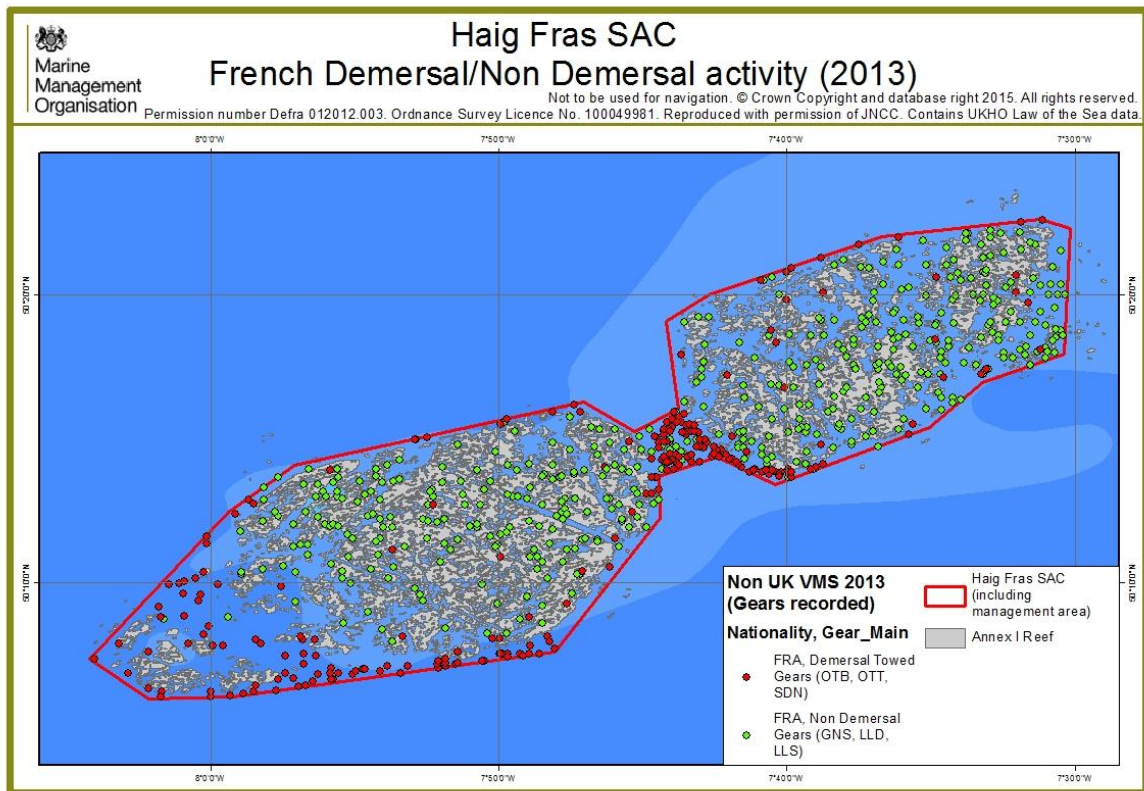


Figure 22: VMS reports indicating Irish demersal/non demersal towed fishing activity in Haig Fras SAC2013

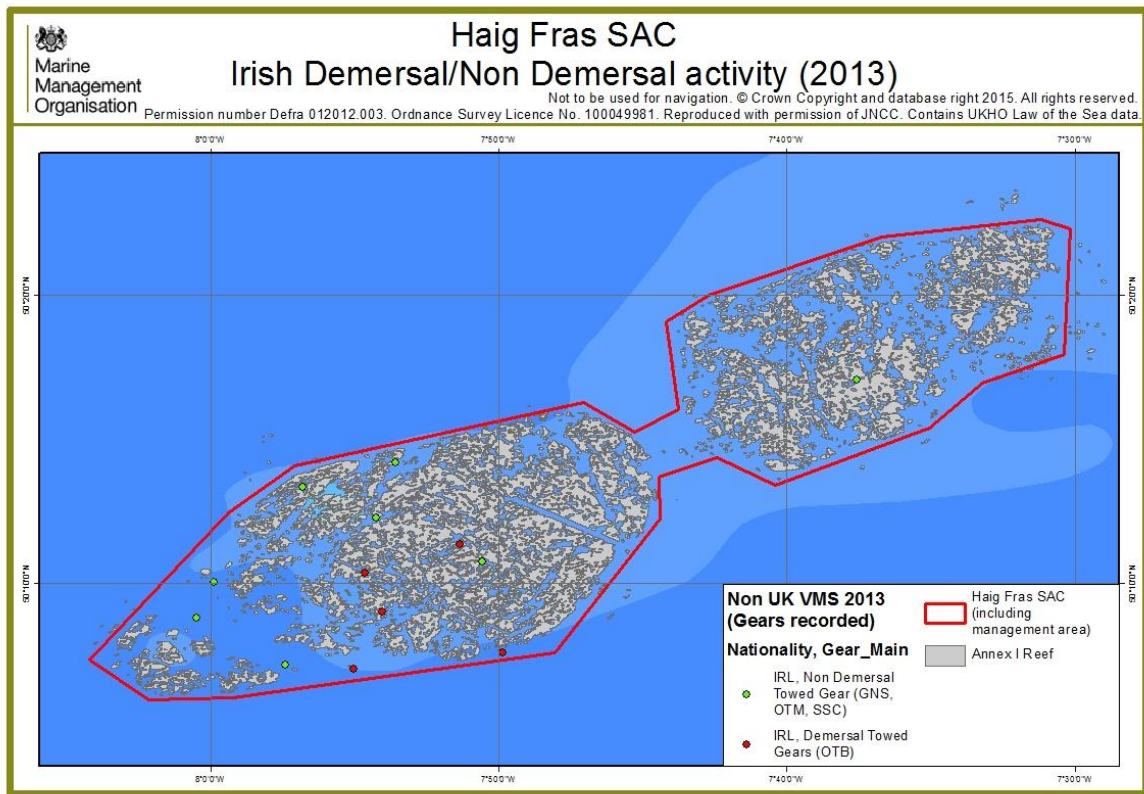
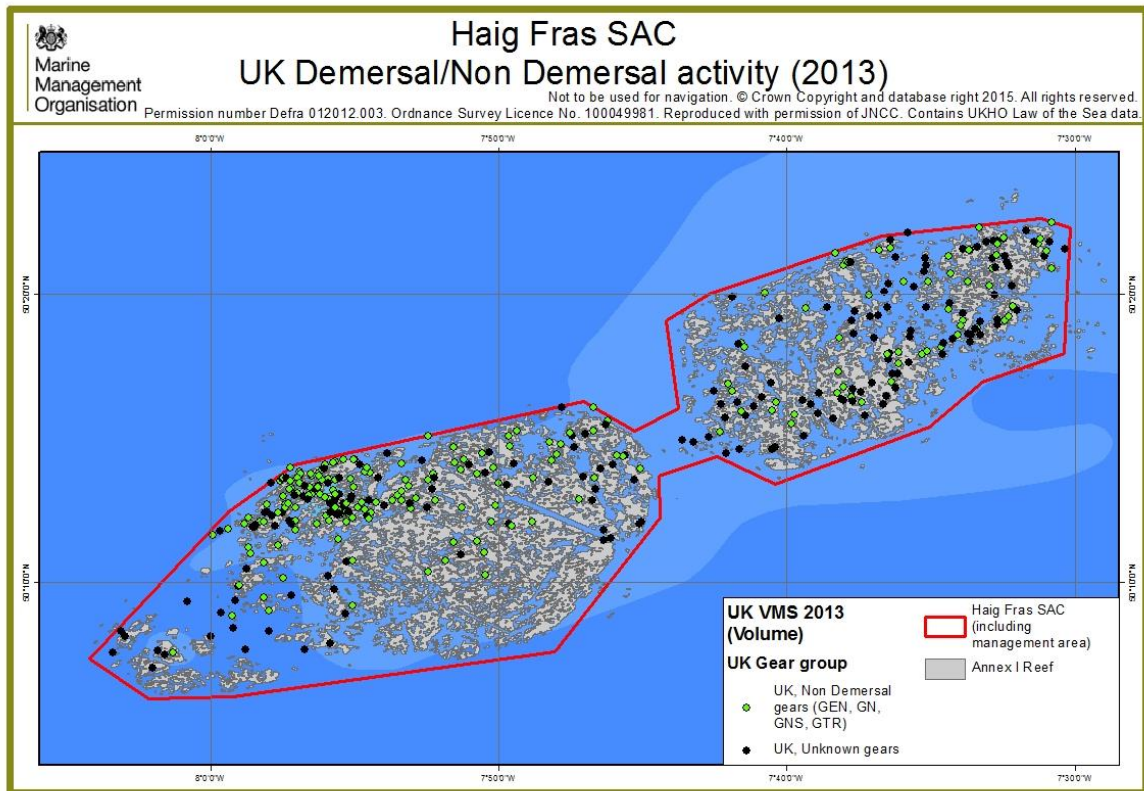


Figure 23: VMS reports indicating UK demersal/non demersal towed fishing activity in Haig Fras SAC 2013



5.7 By-catch

The flatfish fisheries (beam and bottom otter board trawl) include a number of other species as by-catches (e.g. cod, lemon sole). Where these species are landed these are included in the total gross landing value statistics. There are bycatches that are not landed and there are no current systematic statistics available for these components of the catches. With the introduction of Common Fisheries Policy (CFP) reform, which includes a discards ban (on certain vessels/within certain circumstances), it could become possible in the future to collate information on bycatch that could contribute to the overall catch and landings statistics in certain areas. A ban on demersal fish discards will be introduced by the end of 2015, following a discard ban on pelagic fish introduced at the end of 2014, with a ban on discarding all other species by 2016.²⁶

²⁶ http://ec.europa.eu/fisheries/reform/docs/discards_en.pdf

6 Seasonal trends in fisheries over 4 years 2010 to 2013 inclusive

Chart 6.1: Seasonal fishing activity (all gears) in Haig Fras SAC

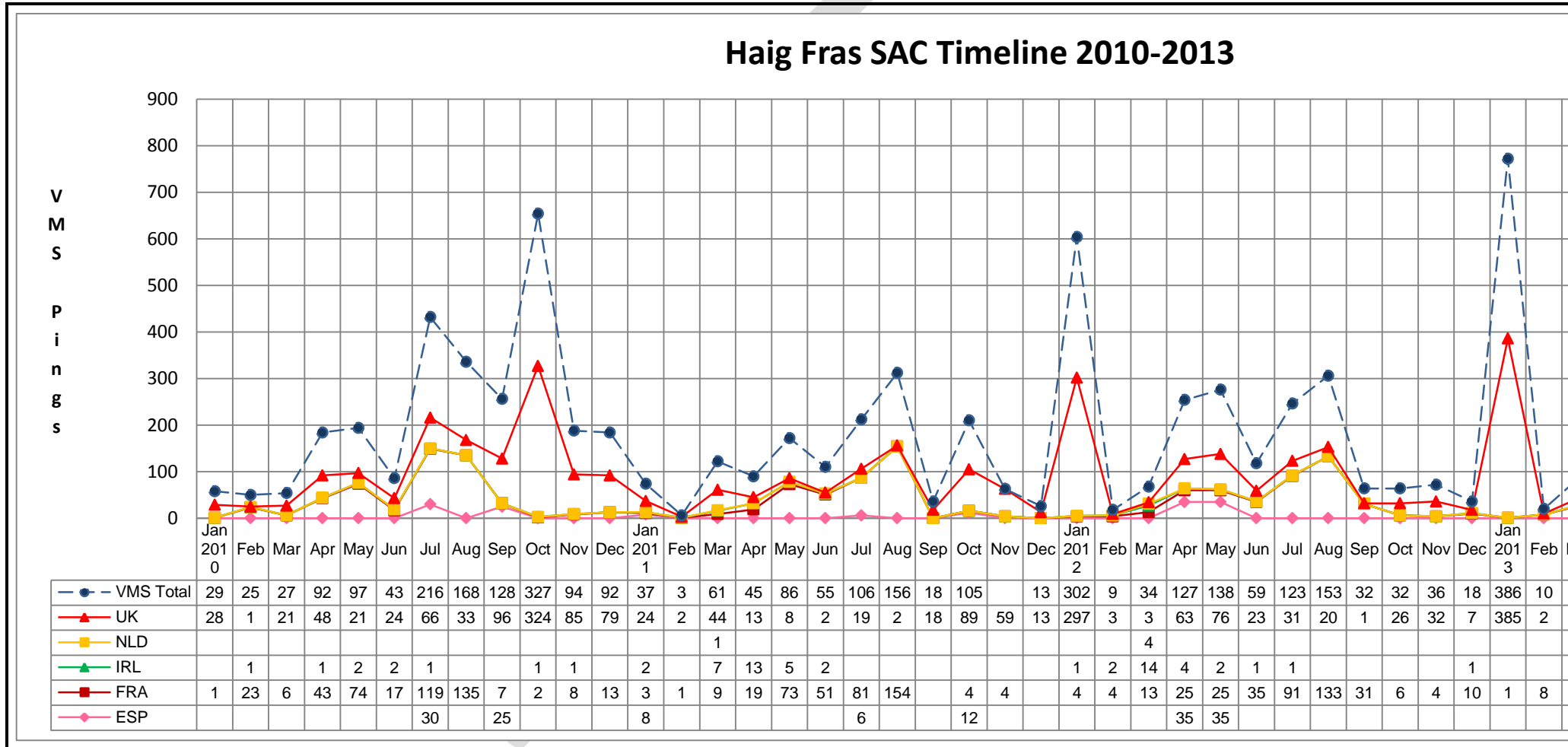
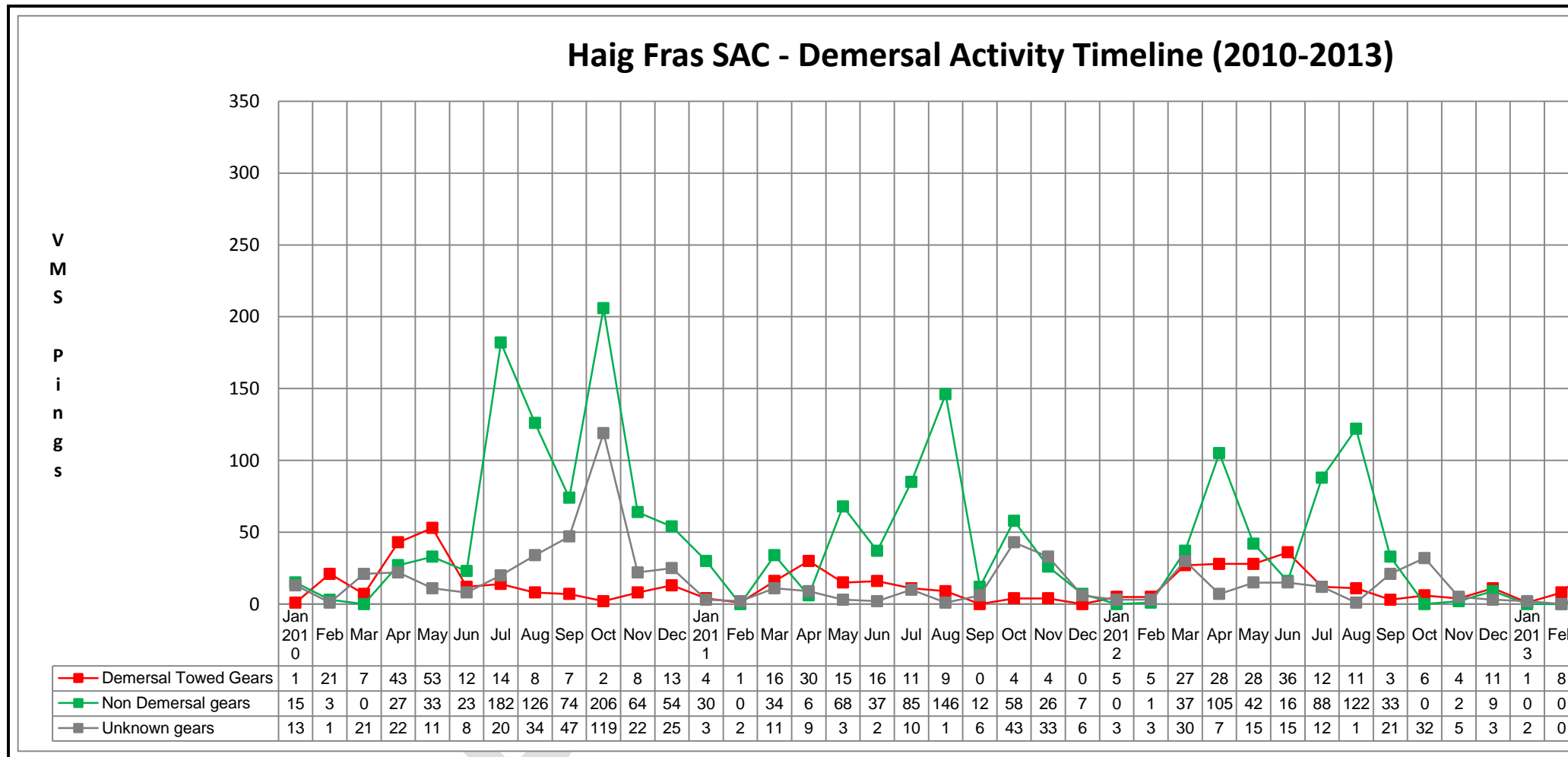


Chart 6.2: Seasonal fishing activity (demersal towed gear) in Haig Fras SAC



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

7.1 Options for fisheries management

A range of management options may be considered, including:

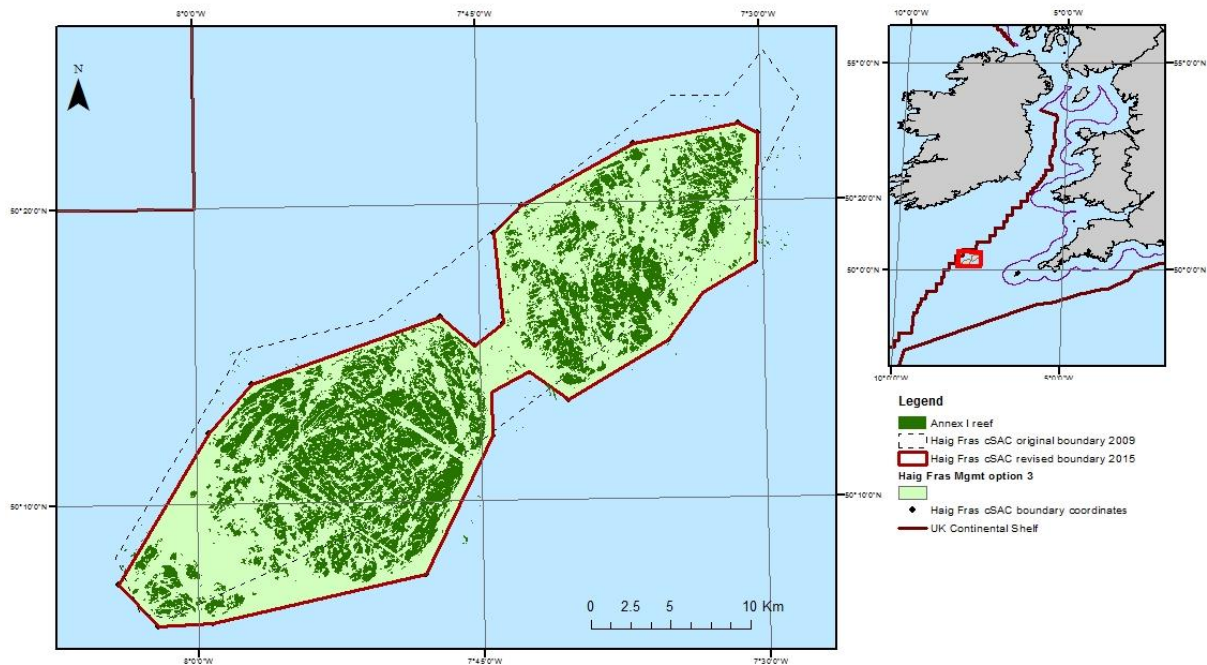
- no additional management required
- full site prohibition

Activity	Management options
Bottom contacting mobile gear	<p>Option 1. No additional management: The nature of the site's features (mainly bedrock reef rising above the surrounding seabed) currently precludes use of mobile gears over the main reef features. There are a few small patches of stony reef between and adjacent to the main reef features which may be accessible to trawling and there is therefore a risk of localised damage to the structure and function of reef communities in these areas. However, the affected patches represents only a very small proportion of the feature area (<1%) so it is unlikely that any potential impact would constitute a significant effect on the reef feature as a whole.</p> <p>Although current fishing activity would not be considered to have a significant impact on the site's integrity, there is risk that this option may not provide sufficient certainty of long term protection to satisfy the requirements of the Habitats Directive.</p> <p>Option 2. Full site prohibition: Exclusion of demersal towed gears across the entire area of the draft revised boundary (see section 3) would minimise the risk of damage to the feature. This option would represent the lowest possible risk to achieving favourable condition as all Annex I reef feature within the site will be subject to protection.</p> <p>The area proposed for closure under this option is illustrated in figure 24 and coordinates listed in Annex D.</p>
Bottom contacting static gear	<p>No additional management: The best available evidence indicates that static gear fishing at this level would not be detrimental to the condition of the site's features and therefore would not require further management. If further research/monitoring indicates that these gears are having an adverse impact on the feature's condition, additional management measures may need to be considered in the future.</p>

To distinguish between reduce and remove management options for bottom contacting mobile gear, a map is provided here for illustrative purposes. The examples illustrated here are based on JNCC's

current draft boundary (April 2013) and identify potential differences between site and feature²⁷ management boundary options.

Figure 24: Area to be closed to bottom contacting towed gears under management option 2



World Vector Shoreline © US Defence Mapping Agency. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown Copyright). MAP NOT TO BE USED FOR NAVIGATION. © JNCC 2015. Projection WGS84 UTM 29N.

7.2 Proposed management option

Exclusion of demersal towed gears across the entire SAC (see section 3) is the proposed management option (option 2 described in section 7.1). This option will prohibit the use of demersal towed gear over the entirety of the SAC and therefore also the entire Annex I reef feature. This option reduces the risk of damage to the feature to the lowest possible level and represents the lowest possible risk to achieving favourable condition. Transit over the SAC is still permitted with gear stowed as per the proposed regulation (refer to section 8.3 Annex B).

The area proposed for closure under this option is illustrated in figure 24 and coordinates listed in Annex D.

The UK had initially considered implementing a zoned management approach, excluding demersal towed gears over the three main areas of bedrock reef whilst allowing fishing to continue in “corridors” between the features. Whilst this option would have reduced the risk to achieving favourable condition it would not have entirely eliminated it. This option had been discussed at the workshop held in November 2011 when only limited data existed for the site. Since that time further

²⁷ Areas of non-reef habitat identified at Haig Fras MAIA management workshop 2011

understanding of the reef extent has improved confidence of H1170 distribution within the site. This is demonstrated in Figure A and Figure B in Annex F.

Allowing the previously discussed “corridors” to remain open to fishing by demersal towed gears may impact the small patches of H1170 contained within them and the UK is of the view that all Annex 1 reef must be protected within the site. Furthermore, keeping even a part of the previously discussed “corridors” open to demersal towed fishing was not deemed practically enforceable and as such would pose a risk of restricted gears making contact with the H1170 feature. From the current information available on the site there does not exist an area of at least 1nm wide to allow fishing to continue without prohibited gears making contact with identified reef features. For enforcement and surveillance purposes a channel at least 1nm wide with increased reporting at 10 minutes would be required.

In order to minimise the risk of damage to all Annex I reef feature within the site and ensure the best possible circumstances for achieving favourable condition, full site prohibition was chosen as the preferred management option.

7.3 Other fisheries measures which apply to the site

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

Regulation 494/2002 contains the following measures:

- Catch composition rules requiring the maximum allowed proportion of hake in a total catch for gear types.
- Gear specification requirements, including twine thickness and mesh sizes for various gear types.
- Within a specified area²⁸ (which encompass Haig Fras SAC), it is prohibited to use any fixed gear of mesh size less than 120mm.
- Within a specified area (which encompass Haig Fras SAC), it is prohibited to use any towed net of mesh range 55 to 99mm, except for east of 7° 30'W where beam trawls of mesh range 55 to 99mm may be deployed from April to October.

²⁸ As defined by article 5, paragraph 1(a) of Commission Regulation (EC) 494/2002 of 19 March 2002 establishing additional technical measures for the recovery of the stock of hake in ICES sub-areas III, IV, V, VI and VII and ICES divisions VIII a, b d,e

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

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

The proposed control, enforcement and compliance regime for Haig Fras SAC consists of a combination of at sea surveillance (surface and aerial) and remote monitoring of vessel position through the establishment of an alert zone outside of Haig Fras SAC; such a regime would be in line with future control and enforcement challenges of the CFP.

8.1.1 Surface and aerial surveillance

Surface and aerial surveillance of Haig Fras SAC will be continued under the existing surveillance plan for the Celtic Sea and South West Approaches. This surveillance plan will coordinate the surface (fisheries protection vessels) and aerial surveillance capacity of the UK.

8.1.2 Reporting Zone

Remote monitoring and surface surveillance will also be put in place, targeting Haig Fras SAC in accordance with the MMO'S risk-based MPA management plans.

EU fishing vessels over 12m in length are only required to report, through satellite, every two hours. Reports can be viewed in real time (by the flag Member State and Coastal Member States FMC) but this reporting frequency would allow vessels to cross the prohibited area of the SAC without being identified between the two hourly reporting times. The creation of an increased reporting zone located around the Haig Fras SAC would ensure that vessels in the vicinity could be identified. These vessels would still be allowed to fish in the reporting zone and increased reporting would provide detailed information on the vessels location in proximity to the prohibited fishing zone within the Haig Fras SAC boundaries. Vessels would also be allowed to transit the area and the increased reporting would allow the MMO FMC to distinguish between those fishing and those not.

Geofences²⁹ can be set up on a VMS device which would be triggered if a vessel enters the reporting zone. The geofence which will be established for Haig Fras SAC would activate on entry of a vessel. It may be possible to increase the frequency of satellite reporting, although this could be considered to be expensive and the cost would be borne by the fishing vessels.

Fishing will not be prohibited in the reporting zone and increased reporting would apply to all vessels entering the site and reporting zone (all vessels and all gears).

8.2 Vessel position and gear deployment monitoring

Monitoring of vessel position is integral to the preferred control, enforcement and compliance plan. In order to improve monitoring and compliance, fishing vessels within Haig Fras SAC and the reporting zone should be required to carry a system capable of:

- Recording high frequency position reports (one report at a minimum 30 minute interval) when within the prohibited area or reporting zone around Haig Fras SAC

²⁹ A Geofence is a spatial virtual barrier. Programs that incorporate geo-fencing allow an administrator to set up triggers such as increased reporting so when a device enters (or exits) the boundaries defined by the administrator it performs the trigger and if required a text message or email alert.

- Transmitting position reports via GPRS/GSM ³⁰(when available)
- When GPRS/GSM signal is not available: storing positions and forwarding when the signal is available
- Transmitting an email and/or text message alert via GPRS/GSM (when signal available) to the flag state and MMO FMC when the vessel enters the reporting zone for Haig Fras SAC
- High frequency reporting would end when a vessel leaves the reporting area around Haig Fras SAC

Mobile network signal is not currently available in the Haig Fras area; enforcement action using this system will therefore be retrospective. An enforcement protocol, based on compliance risk, will be developed to prioritise deployment of at-sea enforcement capabilities.

In the UK, vessels which are fitted with a VMS+ device can meet all the above system requirements. The VMS+ device is also capable of transmitting increased reporting either through satellite or GPRS/GSM. There is also development work on another device known as I-VMS (inshore vessel monitoring system), which although designed primarily for the English inshore fleet (those vessels under 12m in length), can also meet the above requirements. The requirements proposed will allow other Member States to report depending on the VMS technology that they currently have available to them either through GPRS/GSM or satellite. Some upgrades to vessels systems may be required.

8.3 Key provisions to include in EC regulation to manage Haig Fras SAC

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

- A prohibition on any bottom towed gears being deployed within the SAC.
- Establishment of a 3nm (5.556km) reporting zone around Haig Fras SAC. All fishing vessels within this area shall be required to record or report vessel positions at minimum 30minute intervals. This area shall be defined by the reporting zone and coordinates displayed in Annex E.
- A requirement for all fishing vessels entering the reporting zone to have a system for recording and reporting vessel position which meets prescribed specifications (see Section 8.2 for minimal requirements) and is installed and operative. Any fishing vessel entering Haig Fras SAC or the reporting zone without such a system will be committing an offence.
- A requirement for all fishing vessels transiting the restricted area carrying prohibited gears to have all prohibited gears on board lashed and stowed during transit.
- A requirement for all fishing vessels transiting the restricted area carrying prohibited gears to ensure that the speed during transit is not less than 6 knots except in the case of force majeure or adverse conditions. In such cases the master shall immediately inform the fisheries monitoring centre of the flag member state which shall then inform the MMO FMC.

The proposal on which gears types to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011. In general prohibited gears types are towed gears with bottom contact. Formulation of the regulation requires clear and precise definitions which distinguish allowed gear types from prohibited gear types. This includes, for trawls which can be operated both with and

³⁰ General Packet Radio System (GPRS) and Global System for Mobile communications (GSM): These are types of mobile phone technology which meet European telecommunications standards.

without bottom contact, distinguishing between these different gear riggings (if such a distinction is not feasible these gear types should be prohibited).

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

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

The Joint Nature Conservation Committee (JNCC) is currently leading a research and development programme to develop an integrated system of monitoring for marine biodiversity across all UK waters. The programme aims to provide a coherent framework for biodiversity monitoring to meet the requirements of existing and future monitoring and assessment obligations including those under the Marine Strategy Framework Directive, Habitats and Birds Directives and the OSPAR Convention. Monitoring and assessment of protected sites constituting the UK network of Marine Protected Areas, including Natura 2000 sites, will be an integral part of this programme.

Monitoring within Natura sites in UK offshore waters will be based on the principles outlined in the JNCC's Common Standards Monitoring Guidance (JNCC 2003), which aim to:

- enable assessment of the degree to which current conservation measures are proving effective in achieving the conservation objectives;
- support the assessment of Favourable Conservation Status for relevant features and identify priorities for future action, and
- enable Government to undertake its national and international assessment and reporting commitments in relation to designated sites and help identify any areas of shortfall in implementation.

Ongoing work to develop monitoring options advice for Governments to meet these requirements for Natura 2000 sites will include:

- identification of a set of measurable characteristics, attributes or indicators that describe the condition of the feature either directly or indirectly, including elements which relate to habitat extent, structure, function, and typical species;
- setting of broad targets or target ranges for each of these attributes corresponding to favourable feature condition;
- identification of appropriate sampling methods and levels of sampling required to provide the statistical power necessary to detect change, and
- development of a programme of surveys which can support assessment and reporting obligations under the Habitats Directive but also take into account the expected rate of response of features to management and that changes in condition may in some cases be inferred from the assessment of sites with similar characteristics and knowledge of the presence/absence of pressures to which the features are considered sensitive.

10 Coordination with neighbouring Member States as appropriate

[To be completed following consultation]

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

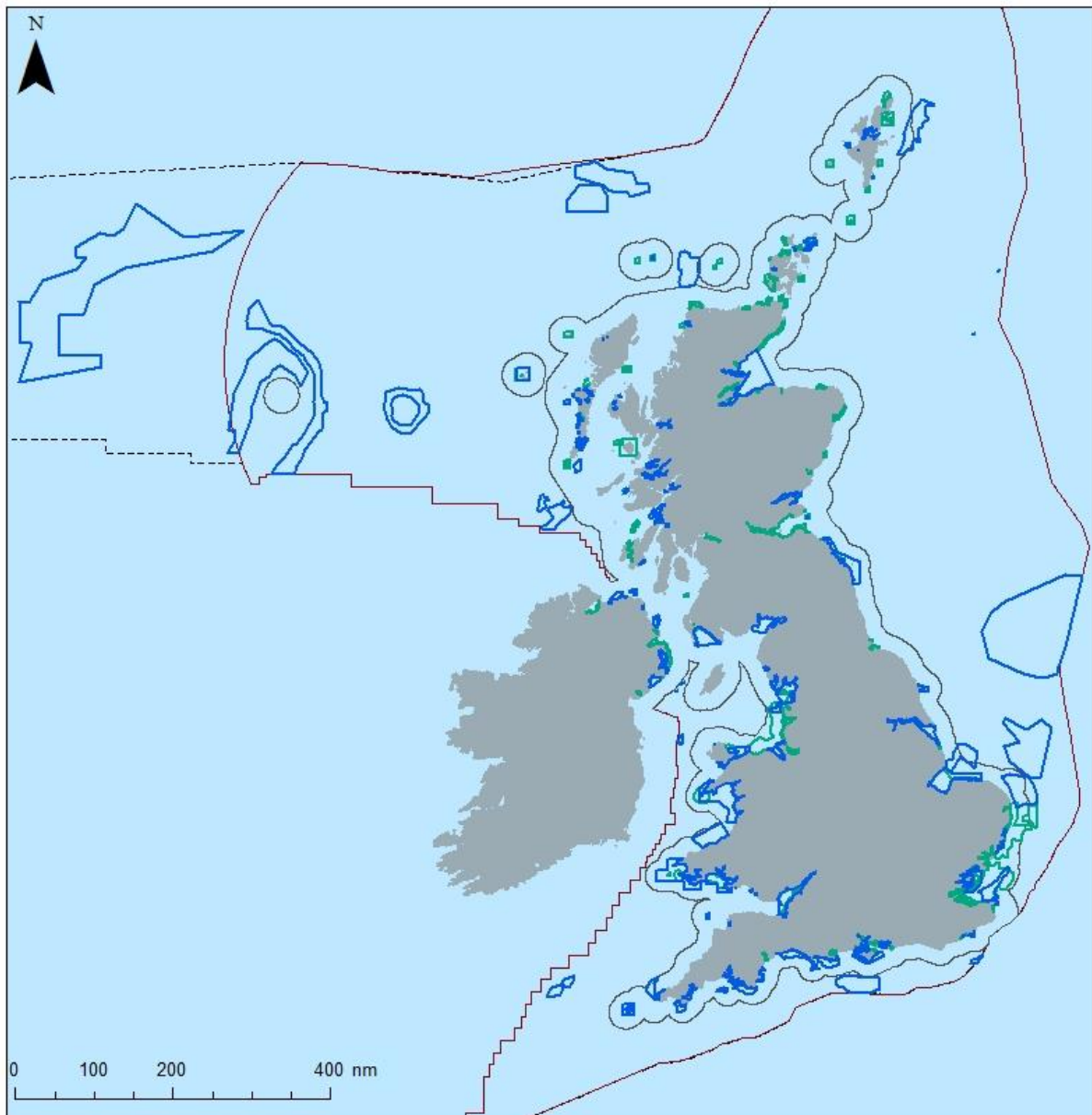
Because the SAC will be closed for certain gear types, some displacement is likely to happen, both within the SAC and outside the SAC.

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

The closed area will benefit from the prohibition of certain gears as it is considered that the 1st and 2nd trawl pass (Schroeder *et al.*, 2008) are the most damaging. In any case, such developments are dependent on the fishing intensity and distribution before the closure, the added fishing activity caused by displacement and external factors (such as fish distribution, TAC/quota, fuel prices, other spatial claims).

Therefore, as a part of the overall monitoring programme (see Section 9), the changes in effort distribution within the SAC and any possible effects should be monitored.

Annex C – Map of UK marine Natura 2000 network



Legend

- SACs with Marine Components
- SPAs with Marine Components
- UK & Ireland
- UK Territorial Waters (12nm)
- UK Exclusive Economic Zone
- UK Continental Shelf Designated Area

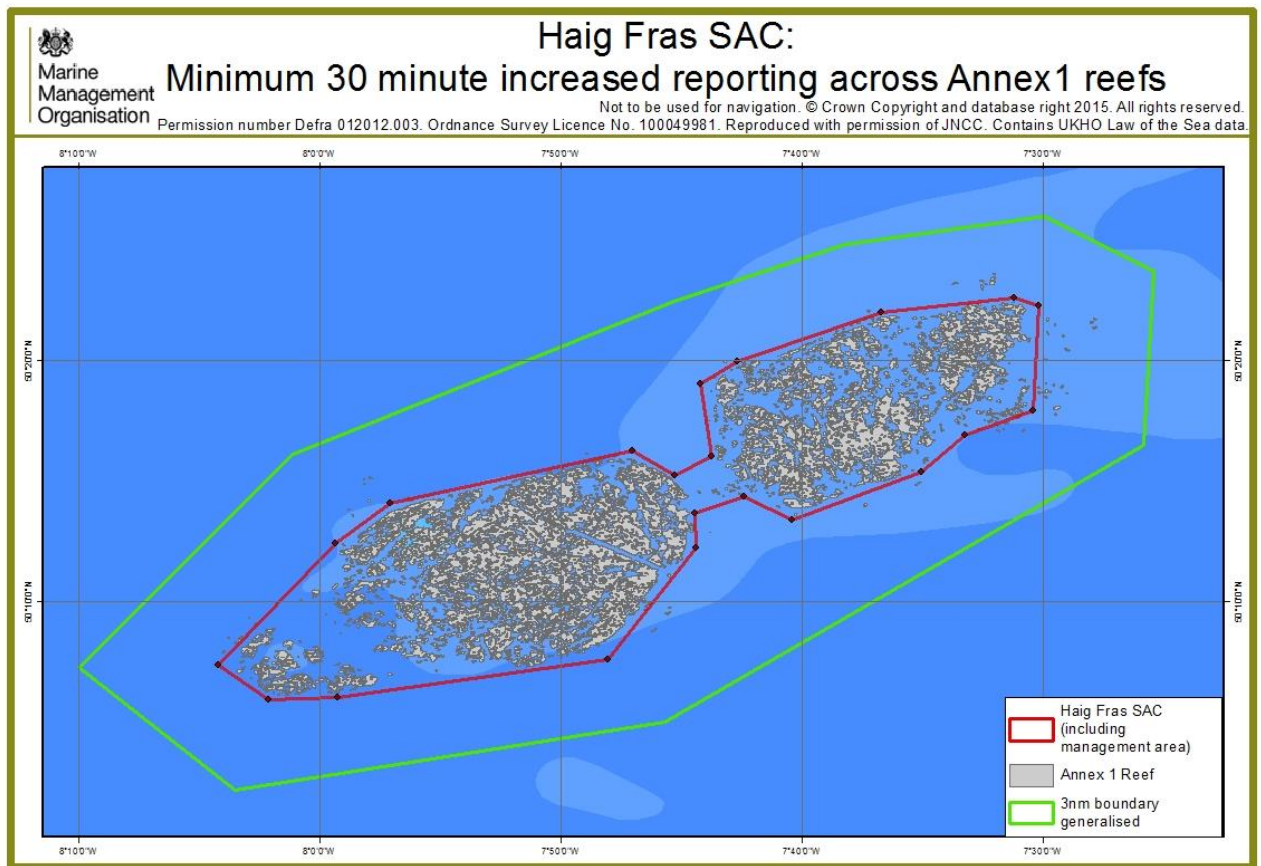
Map projected in WGS 1984 World Mercator. UK Territorial Seas Limit © Crown copyright and UKHO. All rights reserved. The exact limits of the UK Continental shelf are set out in orders made under section 1 (7) of the Continental Shelf Act 1964 and Continental Shelf (Designation of Areas) Order 2013. Combining source layers from UKHO. © Crown copyright © JNCC. UK Exclusive Economic Zone © Crown copyright. The exact limits of the EEZ are set out in The Exclusive Economic Zone Order 2013. World Vector Shoreline © US Defence Mapping Agency. Not to be used for navigation.

Annex D – Haig Fras SAC prohibited area for bottom towed gears

Coordinates of Haig Fras SAC boundary and fisheries management area		
0	50° 21' 59" N	7° 36' 44" W
1	50° 22' 36" N	7° 31' 11" W
2	50° 22' 16" N	7° 30' 11" W
3	50° 17' 55" N	7° 30' 24" W
4	50° 16' 55" N	7° 33' 14" W
5	50° 15' 21" N	7° 35' 04" W
6	50° 13' 22" N	7° 40' 25" W
7	50° 14' 21" N	7° 42' 26" W
8	50° 13' 41" N	7° 44' 26" W
9	50° 12' 12" N	7° 44' 25" W
10	50° 7' 34" N	7° 48' 03" W
11	50° 6' 01" N	7° 59' 16" W
12	50° 5' 56" N	8° 2' 09" W
13	50° 7' 20" N	8° 4' 13" W
14	50° 12' 25" N	7° 59' 23" W
15	50° 14' 04" N	7° 57' 06" W
16	50° 16' 15" N	7° 47' 04" W
17	50° 15' 14" N	7° 45' 17" W
18	50° 16' 00" N	7° 43' 47" W
19	50° 19' 02" N	7° 44' 13" W
20	50° 19' 58" N	7° 42' 42" W
21	50° 21' 59" N	7° 36' 44" W

See figure 24 within Annex B for map

Annex E – Map and coordinates for Haig Fras SAC reporting zone with increased reporting



Coordinates of Haig Fras SAC increased reporting zone		
0	50° 16' 06.960" N	08° 01' 07.320" W
1	50° 22' 25.068" N	07° 45' 24.840" W
2	50° 24' 49.644" N	07° 38' 13.092" W
3	50° 25' 57.252" N	07° 29' 56.976" W
4	50° 23' 41.856" N	07° 25' 24.024" W
5	50° 16' 28.092" N	07° 25' 49.404" W
6	50° 04' 59.088" N,	07° 45' 41.076" W
7	50° 02' 09.096" N,	08° 03' 33.300" W
8	50° 07' 15.888" N	08° 10' 00.480" W

Annex F – Topographical make-up of previously discussed fishing “corridors”

Figure A

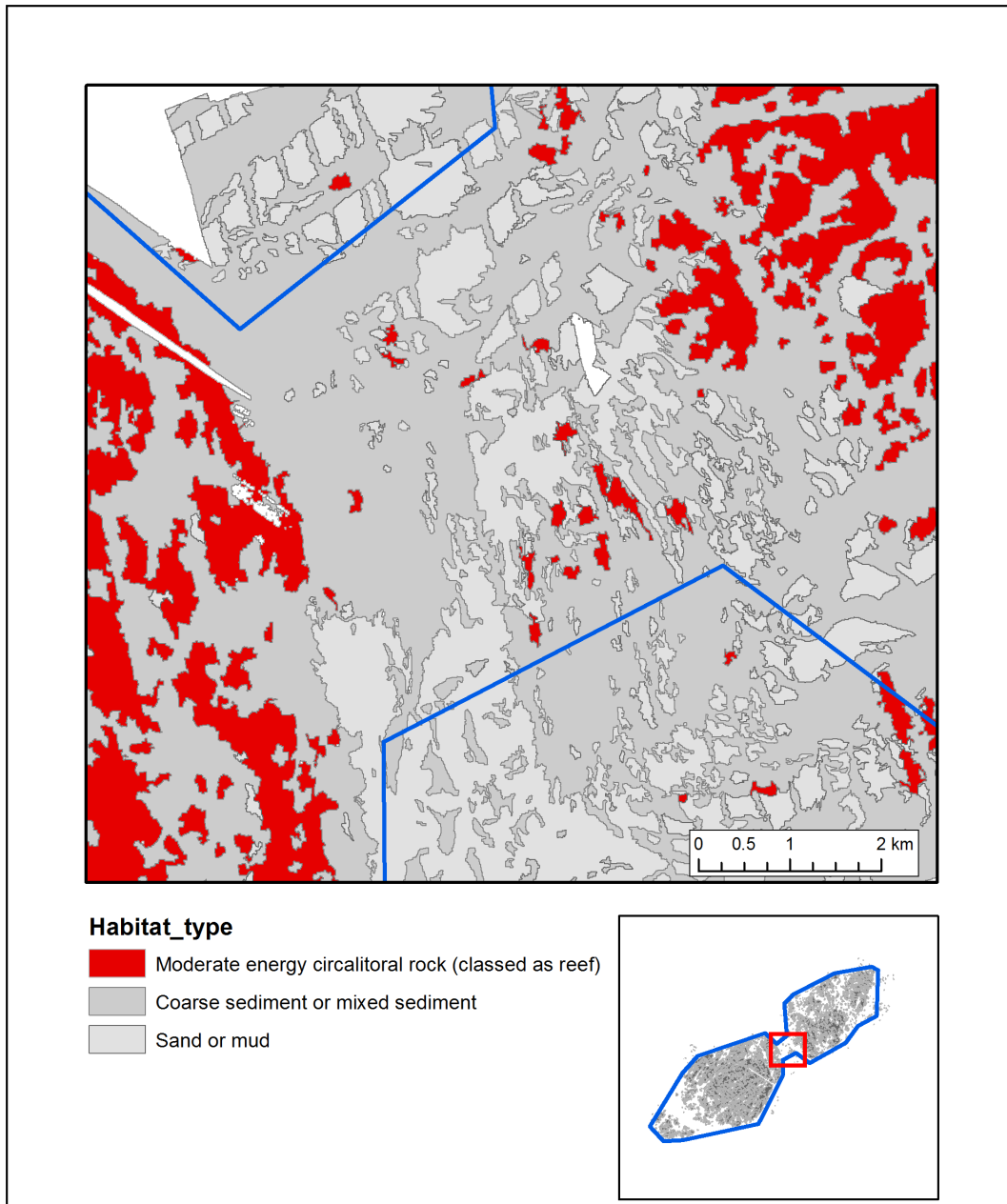
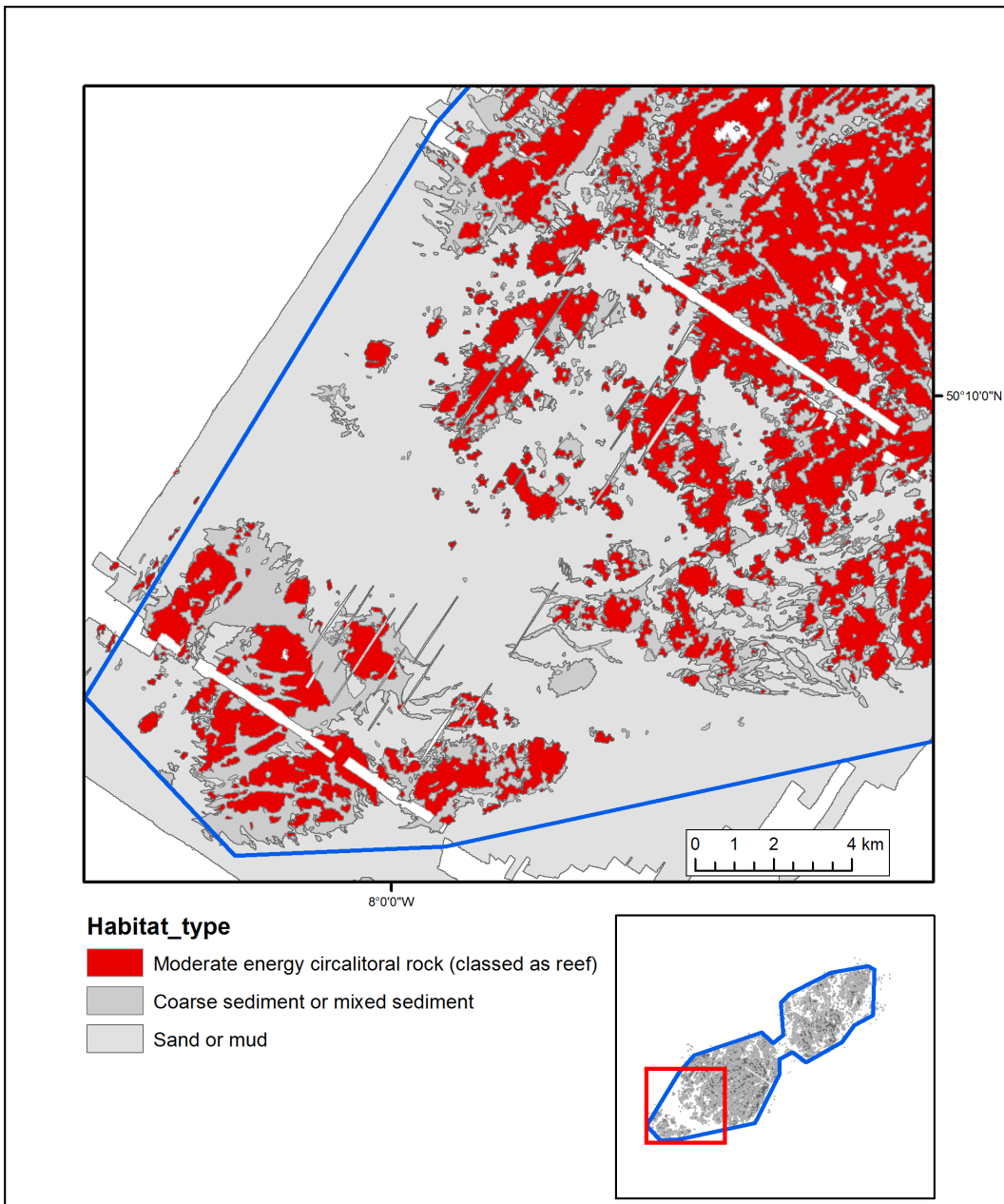


Figure B



Annex G – References

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