

# Fisheries in EMS Habitats Regulations Assessment for **Amber** and **Green** risk categories

**NWIFCA-LD-SAC-003**

Date completed: 04/06/2015

Completed by: S. Temple

**European Marine Site: Shell Flat and Lune Deep SCI**

European Designated Sites: UK0030376 Shell Flat and Lune Deep Site of Community Importance (UK9020294 Liverpool Bay/Bae Lerpwl SPA also within site – assessed in NWIFCA-LB-SPA-004 & 005)

*† Lune Deep features only assessed by NWIFCA. MMO to take a lead on Shell Flat feature assessment due to crossing 6 nm boundary.*

**Qualifying Feature(s):**

H1110. Sandbanks which are slightly covered by sea water all the time†

H1170. Reefs

**Site sub-feature(s):**

Sublittoral mud, sands and mixed sediments †

Reefs- Circalittoral rock, Subtidal stony reef

**Generic sub-feature(s):**

Sub-tidal muddy sand†, sub-tidal bedrock reef, sub-tidal boulder and cobble reef.

**High Level Conservation Objectives:**

With regard to the SCI and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed above), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which the qualifying natural habitats rely

*Liverpool Bay SPA overlaps with this site and is assessed separately (see NWIFCA-LB-SPA-003)  
Morecambe Bay SAC adjoins this site and is assessed separately (see NWIFCA-MB-EMS-009)*

## Fishing activities assessed:

**Gear type(s): Gill nets,  
Trammels,  
Entangling,  
Drift nets (demersal)**

# 1. Introduction

## 1.1 Need for an HRA assessment

In 2012, the Department for Environment, Food and Rural Affairs (Defra) announced a revised approach to the management of commercial fisheries in European Marine Sites (EMS). The objective of this revised approach is to ensure that all existing and potential commercial fishing activities are managed in accordance with Article 6 of the Habitats Directive.

This approach is being implemented using an evidence based, risk-prioritised, and phased basis. Risk prioritisation is informed by using a matrix of the generic sensitivity of the sub-features of EMS to a suite of fishing activities as a decision making tool. These sub-feature-activity combinations have been categorised according to specific definitions, as red, amber, green or blue.

Activity/feature interactions identified within the matrix as red risk have the highest priority for implementation of management measures by the end of 2013 in order to avoid the deterioration of Annex I features in line with obligations under Article 6(2) of the Habitats Directive.

Activity/feature interactions identified within the matrix as amber risk require a site-level assessment to determine whether management of an activity is required to conserve site features. Activity/feature interactions identified within the matrix as green also require a site level assessment if there are “in combination effects” with other plans or projects.

Site level assessments are being carried out in a manner that is consistent with the provisions of Article 6(3) of the Habitats Directive, that is to determine that fishing activities are not having an adverse effect on the integrity of the site, to inform a judgement on whether or not appropriate steps are required to avoid the deterioration of natural habitats and the habitats of species as well as disturbances of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this directive.

The purpose of this site specific assessment document is to assess whether or not in the view of NWIFCA the fishing activities of ‘Gill nets, Trammels, Entangling and Drift nets (demersal)’ have a likely significant effect on the reefs of the Shell Flat and Lune Deep SAC (within the NWIFCA district) and on the basis of this assessment whether or not it can be concluded that “Gill nets, Trammels, Entangling and Drift nets (demersal)” will not have an adverse effect on the integrity of this EMS.

## 1.2 Documents reviewed to inform this assessment

- Natural England’s risk assessment Matrix of fishing activities and European habitat features and protected species<sup>1</sup>
- Reference list<sup>2</sup> (Annex 1)
- Natural England’s consultation advice (Annex 2)
- Site map(s) – sub-feature/feature location and extent (Annex 3)
- Fishing activity data (map(s), etc) (Annex 4)

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<sup>1</sup> See Fisheries in EMS matrix:

[http://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> Reference list will include literature cited in the assessment (peer, grey and site specific evidence e.g. research, data on natural disturbance/energy levels etc)

## 2. Information about the EMS

### 2.1 Overview and qualifying features

#### Site description

**Shell Flat and Lune Deep SAC** (within the NWIFCA district) - Reg 35(3) Advice (July 2012)

*Features in the Shell Flat section of the SAC have been excluded as this area crosses the 6nm boundary and thus the MMO is acting lead authority for it.*

Lune Deep is a deep water channel located at the entrance to Morecambe Bay with boulder and bedrock reef habitat. "This unique enclosed deep hole provides a contrasting habitat to the surrounding muddy communities of the Eastern Irish Mudbelt. The northern flanks of Lune Deep are composed of exposed bedrock with a rugged seabed physiography. In contrast the southern flank consists of a smooth seabed, which is a sink for muddy sands" (Natural England (NE) conservation advice, 2012).

#### Qualifying features

- 1170 Reefs

#### **Bedrock reef communities** (*Subtidal bedrock reef*)

The majority of the Lune Deep supports mixed faunal and turf communities (CR.HCR.XFa) that provide habitat for fauna associated with hard substrates such as those found in a 1992 diver study: tide-swept fauna including hydroids, bryozoans, anemones and sponges (Emblow 1992).

#### **Stony reef communities** (*Subtidal boulder and cobble reef*)

Stable boulder and cobbles also support communities associated with hard substrates. In the Lune Deep these cobbles (> 64 mm in diameter) support the bryozoans *Flustra foliacea* and *Alcyonidium diaphanum* and the hydroids *Nemertesia antennina* and *Hydrallmania falcata*.

## 2.2 Conservation Objectives

- Reefs

Subject to natural change, maintain the reefs in favourable condition

Favourable condition of the reefs will be determined through assessment that the following are maintained in the long term in the site:

1. Extent of the habitat
2. Diversity of the habitat and its component species
3. Community structure of the habitat (e.g. population structure of individual notable species and their contribution to the functioning of the ecosystem)
4. Natural environmental quality (e.g. water quality, suspended sediment levels, etc.)
5. 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 designation).

### 3. Interest feature(s) of the EMS categorised as 'Red' risk and overview of management measure(s) (if applicable)

- **Reefs:**

The Lune Deep SAC reef interest feature and a proportional buffer is protected from all high risk bottom towed fishing gears through a prohibition under [NWIFCA Byelaw 6](#), introduced at the end of May 2014.

### 4. Information about the fishing activities within the site

#### *General netting*

Static bottom gears are anchored to the seabed and left to fish passively, capturing target species by enmeshing or entangling them (Millner, 1985; Potter & Pawson, 1991; Jennings & Kaiser, 1998). Gill, trammel and entangling net fishing procedures are all similar, with nets usually fished in groups with the end of each attached by bridles to a weight or anchor on the seabed, which in turn is attached to a marker buoy or dhan flag (Seafish, 2005). Although there are some exceptions, generally nets are shot while steaming into the tide and fished in the tidal stream direction (Seafish, 2005).

Gill nets are walls of netting set at or below the water surface, on the seabed or any depth in between, entangling fish as they swim into it (Seafish, 2005; MCS report). They can be made and deployed in a variety of ways, including with the use of buoyed lines and anchors at each end and a body of low-visibility twine with the mesh size and hanging of webbing based on the target species (Grieve *et al.* 2014). A headline runs along the bottom of the net to hold it to the seabed (or can be set to sit at a distance above), with the floatline holding it vertically (Grieve *et al.* 2014). Trammel nets are similar to gill nets but consist of three netting layers- one loose inner fine meshed central net surrounded by two larger mesh outer nets, anchored at the base and floating at the headline (MCS report & Grieve *et al.* 2014). Tangle nets also are similar to gill nets but are slacker, shorter and have less flotation, leading to a looser-hung net that entangles species (MCS report). Drift nets are sheets of thin netting that are mobile and drift with prevailing currents catching fish by entangling them (Seafish, 2005 and MCS report) and set to avoid contact with the seabed, therefore they would impact on the reefs only through incorrectly set gear or lost nets that snag on the seabed.

#### *Netting in Lune Deep SAC*

Discussions with local fishery officers report that netting has been known to occur along the north eastern corner and edge of the Lune Deep SAC, for species such as bass and cod (IFCO Brown, 2014). There is also occasional netting for thornback ray on the northern edge (Final IA, 2011). However, discussions with local fishermen showed that generally netting does not occur within the Lune Deep SAC as there is too much tide, the sandy hole is too deep and there is a lot of debris in there. Six local fishermen reported they never net in the SAC area for these reasons, one of which stated they actively avoid rocky ground as nets may snag and be damaged, instead only netting in sandy areas (local fishermen, 2014 & 2015; Brown, 2015).

Discussions with nine fishermen and fishery officers suggest there is just one vessel (6.8m, 30HP) that currently prosecutes the area by netting, using trammel and bass nets across the Lune Deep SAC area, north of it and south between Shell Flat and Fleetwood/ Blackpool (maps in annex 4). Maximum netting activity occurs sporadically throughout the year with sometimes no activity (IFCO Brown, 2014). The activity is dependent on weather conditions and tidal state, the target species are very cyclical and therefore it is not a regular targeted fishery.

Instead, the majority of netting occurs in the area to the north of Lune Deep SAC (although fishers have to be careful of heavy shipping activity there), to the south of the area between Shell Flat and the Fleetwood coast, to the east off Rossall Point and Heysham Lake on the edges of Lune Deep SAC (Local fishermen, 2014 & 2015, see Annex 4 maps). Bottom set nets are worked in the area to the south of Lune Deep SAC from the South Boulders area to Shell Wharf and sometimes as far south as Anchorsholme, and occasionally set on Fisher Bank to the north-east of Danger Patch (Brown, 2015). Drift netting takes place in the area known as the Neckings from the Rossall outfall pipe to Perch Scar, with fishing occurring over the high water period targeting Bass from April to October (Brown, 2015). Other gill netting target species include mullet, bass, plaice and flounder.

Net mesh sizes are governed by EU Council Regulation 850/98. Minimum fish sizes are also under this regulation, along with NWSFC Byelaw 19.

## 5. Test for Likely Significant Effect (LSE)

The Habitats Regulations assessment (HRA) is a step-wise process and is first subject to a coarse test of whether a plan or project will cause a likely significant effect on an EMS<sup>3</sup>.

### 5.1 Table 1: Assessment of LSE

<b>1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?</b>	No
<b>2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)</b>	<p>Potential surface abrasion of bedrock and boulder features via contact of nets and associated anchors/ groundline weights with these features and the attached epifaunal communities.</p> <p>The Matrix and NE review of fisheries and EMS features has categorised this interaction as “Amber Risk”.</p>
<b>3. Is the feature potentially exposed to the pressure(s)<sup>4</sup>?</b>	No. The netting fishery in the region mainly targets areas surrounding the Lune Deep SAC and not within the site due to the tidal conditions there. Netting activity may occur on the northern edge of the SAC, however fishing levels are considered small and nets do not touch the reef seabed. Exposure of the reef feature to abrasion is low (NE advice, 2012).

<sup>3</sup> Managing Natura 2000 sites: [http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm)

<sup>4</sup> Provide overview of activity levels, including current management measures that reduce/remove the feature's exposure to the activity.

<p><b>4. What are the potential effects/impacts of the pressure(s) on the feature<sup>5</sup>, taking into account the exposure level?</b></p> <p><i>(reference to conservation objectives)</i></p>	<p>Abrasion of gear on the bedrock or cobble and boulder reef substrate potentially would lead to damage to or loss of epifauna. However, there are low levels of fishing and therefore little exposure to the pressure by the feature; therefore there will be low level effects/impacts. The sensitivity of the reef feature to abrasion is moderate, although exposure and thus vulnerability are low (NE Advice, 2012). Vulnerability of the reef feature to abrasion and physical damage is low (NE Advice, 2012). The Reg 35 Advice package states that the reef feature has: “moderate sensitivity to abrasion which can cause damage to a significant proportion of the species found in relatively stable cobble, boulder and bedrock reef communities”. The conservation objective for Lune Deep cSAC Annex I Reefs is “maintain”.</p>	
<p><b>5. Is the potential scale or magnitude of any effect likely to be significant?<sup>6</sup></b></p>	<p><b>Alone</b></p> <p>No</p> <p><b>Comments :</b></p> <p>The potential scale of any effect is considered low.</p>	<p><b>OR In-combination<sup>7</sup></b></p> <p>No</p> <p><b>Comments :</b></p> <ul style="list-style-type: none"> <li>○ Potting</li> <li>○ Cabling</li> <li>○ Bottom towed gear (prohibited under Byelaw 6 except four fishermen with grandfather rights)</li> </ul>
<p><b>6. Have NE been consulted on this LSE test? If yes, what was NE’s advice?</b></p>		

## 7. Conclusion<sup>8</sup>

Taking into account the information detailed in the Test of Likely Significant Effect, it can be concluded that the current low level of fishing, using gill nets, trammels, entangling and drift nets (demersal), has no likely significant effect on Shell Flat and Lune Deep SAC reef interest features and sites in the NWIFCA district, due to the fact that most of the activity occurs away from the SAC and features.

## 8. In-combination assessment<sup>8</sup>

The Lune Deep SAC Potting assessment (NWIFCA-LD-SAC-002) concluded no adverse effect on the integrity of the site and activity is unlikely to increase. Bottom towed gear is prohibited in Lune

<sup>5</sup> Consider the sensitivity of the feature to that pressure (where available).

<sup>6</sup> Yes or uncertain: completion of AA required. If no: LSE required only.

<sup>7</sup> If conclusion of LSE alone an in-combination assessment is not required.

<sup>8</sup> If conclusion of adverse effect alone an in-combination assessment is not required.

Deep SAC under NWIFCA Byelaw 6, however four fishermen are permitted to continue bottom towed fishing in the area under a grandfather rights clause as their gear makes no contact with the SAC features. The Lune Deep Bottom Towed Gear assessment (NWIFCA-LD-SAC-RED) concluded no adverse effect on the integrity of the site and activity is limited to four vessels. Other plans/projects also occur in the SPA, therefore an in combination assessment is required. This will be assessed in a separate document when all initial TLSEs for a site are completed.

## 9. Summary of consultation with Natural England

See attached advice from Natural England (Annex 2).

## 10. Integrity test

As this assessment has concluded no likely significant effect on the integrity of the Shell Flat and Lune Deep SAC reef interest features and sites in the NWIFCA district, there is no need to conduct an integrity test for this activity.

## Annex 1: Reference list

**Brown, S**, 2014. *Personal communication* from local IFCO.

**Local fishermen personal communication 2014, 2015-** fishing activity in Lune Deep

**Emblow, C.S.**,1992. [Survey of the sublittoral hard substrata from Morecambe Bay to Whitehaven](#). JNCC Report No. 28 (Marine Nature Conservation Review, report no. MNCR/SR/19)

**Final IA, designation of two reef SACs in inshore waters, final submission 01062011.** Evidence base for designation of two reef SACs in inshore waters: Lune Deep possible SAC, Prawle Point to Start Point possible SAC.

**Grieve, C., Brady, D.C., Polet, H.** 2014. [Best practices for managing, measuring and mitigating the benthic impacts of fishing- Part 1](#). Marine Stewardship Council Science Series 2: 18-88.

**Jennings, S. & Kaiser, M. J.** 1998. [The effects of fishing on marine ecosystems](#). Advances in Marine Biology, 34: 201–352.

**MCS Report** (no date). Marine Conservation Society. Available at [http://www.mcsuk.org/downloads/fisheries/Fishing\\_Methods.pdf](http://www.mcsuk.org/downloads/fisheries/Fishing_Methods.pdf)

**Millner, R.S.** 1985. The use of anchored gill and tangle nets in the sea fisheries of England and Wales. MAFF, Directorate of Fisheries Research, Lowestoft.

**Potter, E.C.E. & Pawson, M.G.** 1991. Gill netting. Laboratory leaflets, MAFF, Directorate of Fisheries Research, Lowestoft, 69, 34pp.

**Royal Haskoning.** 2008. Inshore Special Area of Conservation (SAC): Shell Flat and Lune Deep, SAC Selection Assessment. Report No. 9S02829S0282/SSR/MORECAMBE/01

**Seafish**, 2005. Basic fishing methods. Available at: [http://www.seafish.org/media/Publications/Basic\\_Fishing\\_Gear\\_Booklet\\_May05.pdf](http://www.seafish.org/media/Publications/Basic_Fishing_Gear_Booklet_May05.pdf)

**Shell Flat & Lune Deep candidate Special Area of Conservation.** Formal advice under Regulation 35(3) of the Conservation of Habitats and Species Regulations 2010. Natural England, version 6.1, July 2012.



## Annex 2: Natural England's consultation advice

Date: 11 December 2015  
Our ref: 174084  
Your ref: NWIFCA-LD-SAC-002 & NWIFCA-LD-SAC-003



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**BY EMAIL ONLY**

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Dear Sarah

**Formal Advice to NWIFCA. Fisheries in EMS Habitats Regulations Assessment for Amber risk Categories in Shell Flat and Lune Deep SCI, including gear types: Pots/creels (NWIFCA-LD-SAC-002), gill nets, trammels, entangling and drift nets (demersal) (NWIFCA-LD-SAC-003).**

Thank you for your consultation on the above which was received by Natural England on 08 December 2015.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

In 2012, the Department for Environment, Food and Rural Affairs (Defra) announced a revised approach to the management of commercial fisheries in EMSs<sup>1</sup>. The objective of this revised approach is to ensure that all existing and potential commercial fishing activities are managed in accordance with Article 6 of the Habitats Directive. This document states that for 'green' risk activities a site level assessment will be required if there are 'in combination effects' with other plans or projects. The Department's strong preference is that site level assessments be carried out in a manner that is consistent with the provisions of Article 6(3) of the Habitats Directive. Appropriate management measures should be put in place to ensure that the fishing activity or activities either 1) have no likely significant effect on a site in view of its conservation objectives or 2) following assessment, can be concluded to have no adverse effect on the integrity of the site.

Natural England has considered the two Habitat Regulations Assessments (HRAs) prepared by North Western Inshore Fisheries and Conservation Authority (IFCA) for the purposes of making an assessment consistent with the provisions of Article 6(3). Please accept this letter as Natural England's formal advice on the assessment and the conclusions it makes. The assessments consider the effects of the following fishing activities in the Shell Flat and Lune Deep Site of Community Importance (SCI):

- NWIFCA-LD-SAC-002: Pots/creels;
- NWIFCA-LD-SAC-003: Nets: gill nets, trammels, entangling and drift nets (demersal)

<sup>1</sup> Defra revised approach:

<https://www.gov.uk/government/publications/revised-approach-to-the-management-of-commercial-fisheries-in-european-marine-sites-overarching-policy-and-delivery>

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We are content that the best available and most up to date evidence has been used to carry out the HRAs by North Western IFCA officers to determine whether management of an activity is required to conserve site features, and thus to ensure the protection of the features, from direct and indirect impacts, from the collection of marine fisheries resources.

We note that in combination effects will be assessed in a separate document when all initial Tests of Likely Significant Effects (TLSEs) for a site are completed.

**Subject to the outcomes of the in combination assessments, it is Natural England's view that through their two HRAs, North Western IFCA officers appear to have appropriately identified those activities that are likely to have a significant effect in view of the site's conservation objectives, and whether management measures are required in order to ensure that the assessed fishing activity or activities will have no adverse effect on the integrity of the EMS.**

It is Natural England's view that any foreseeable risk, or harm to the site has been appropriately assessed, and a robust mechanism for re-assessing that risk is in place. This view is based on our current knowledge of the impacts of these fishing activities on the designated features.

If you require any further comments or have any queries regarding the above please contact me to discuss them further.

Yours sincerely



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# Annex 3: Site Map

Map showing interest features of Shell Flat & Lune Deep cSAC

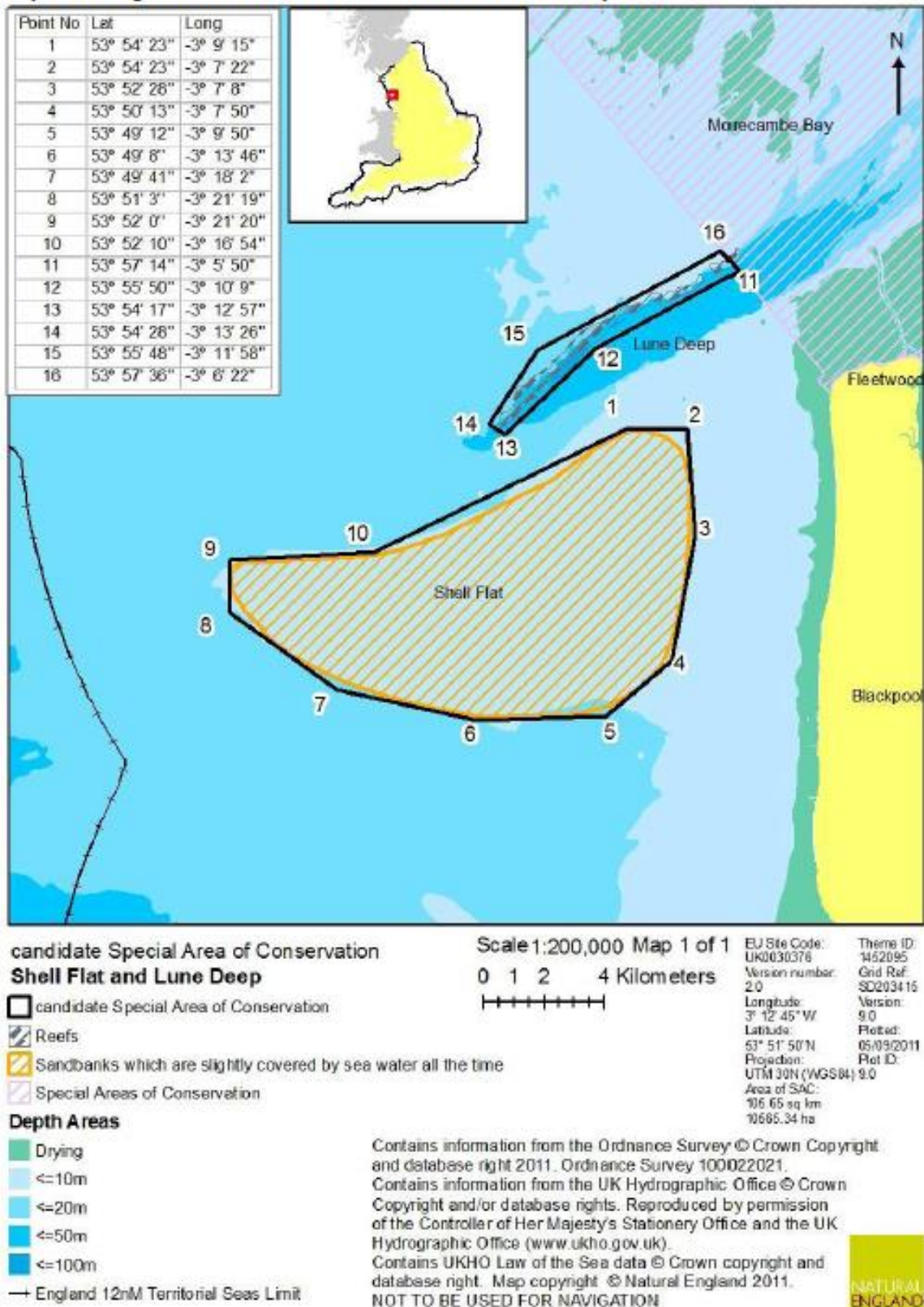
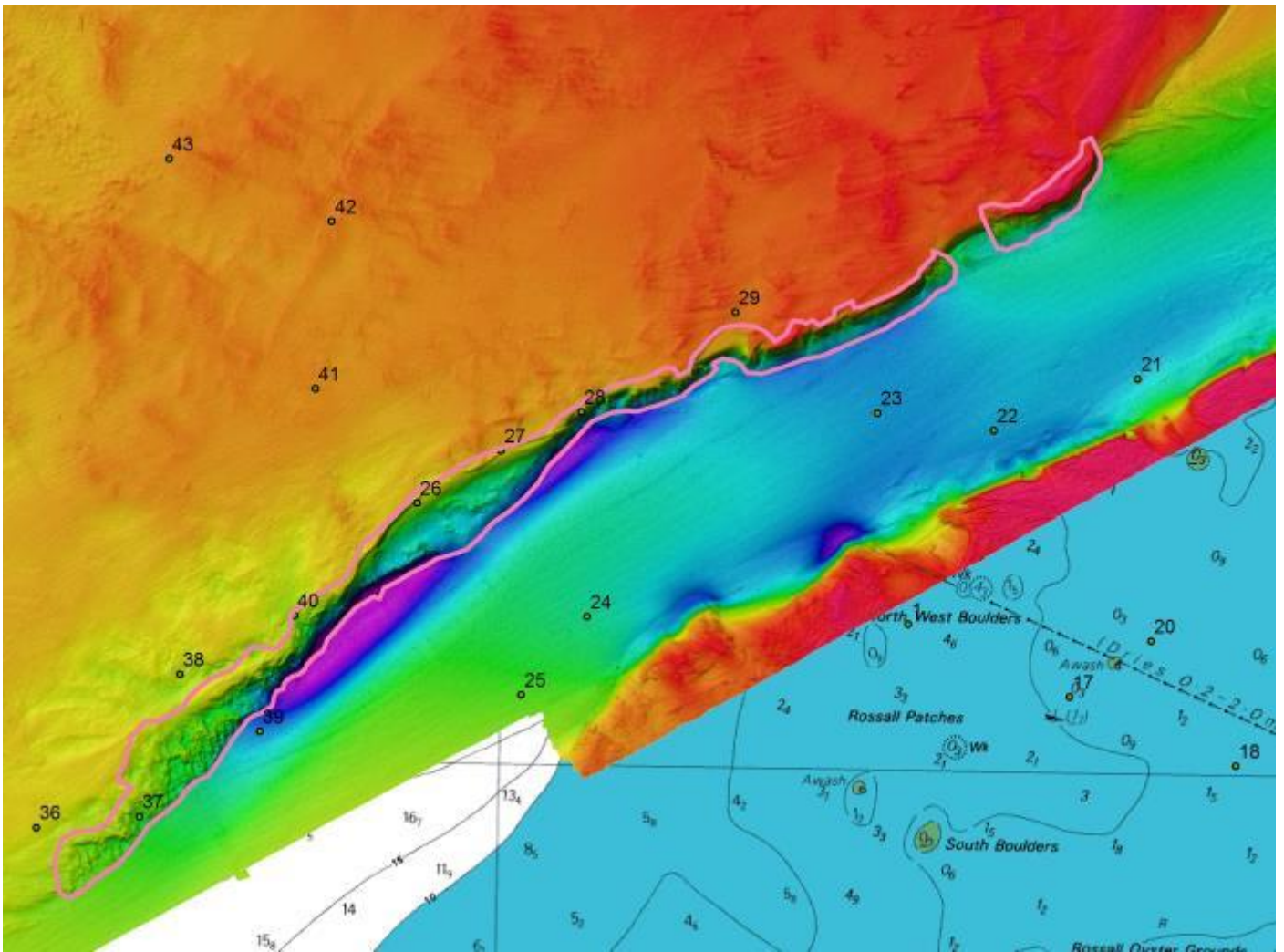
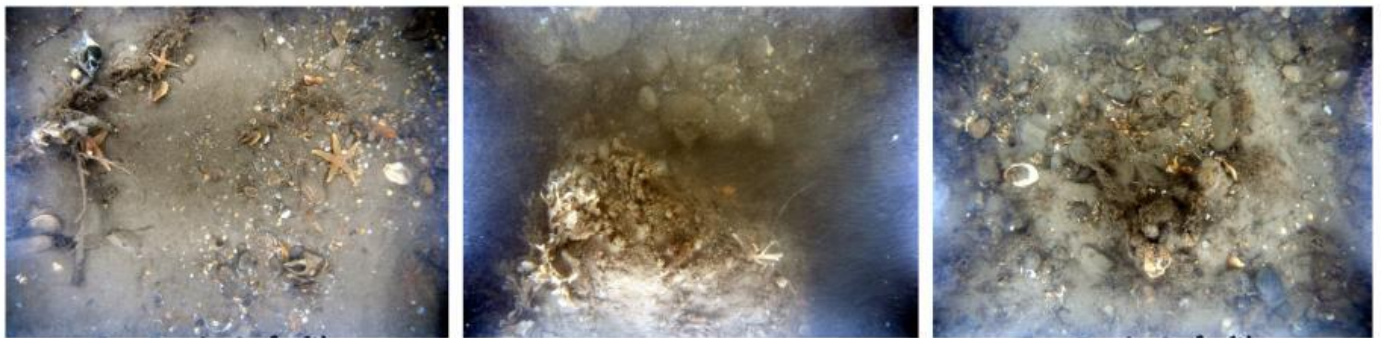


Figure 1. Site map





**Figure 2.** Lune Deep SAC reef feature extent (pink) and bathymetry data (map supplied by Natural England)



**Figure 3.** Representative photographs of the stony habitat found on the southern edge of the Lune Deep SAC reef feature. (CMACS, 2011 – supplied by Natural England)

# Annex 4: Fishing activity maps

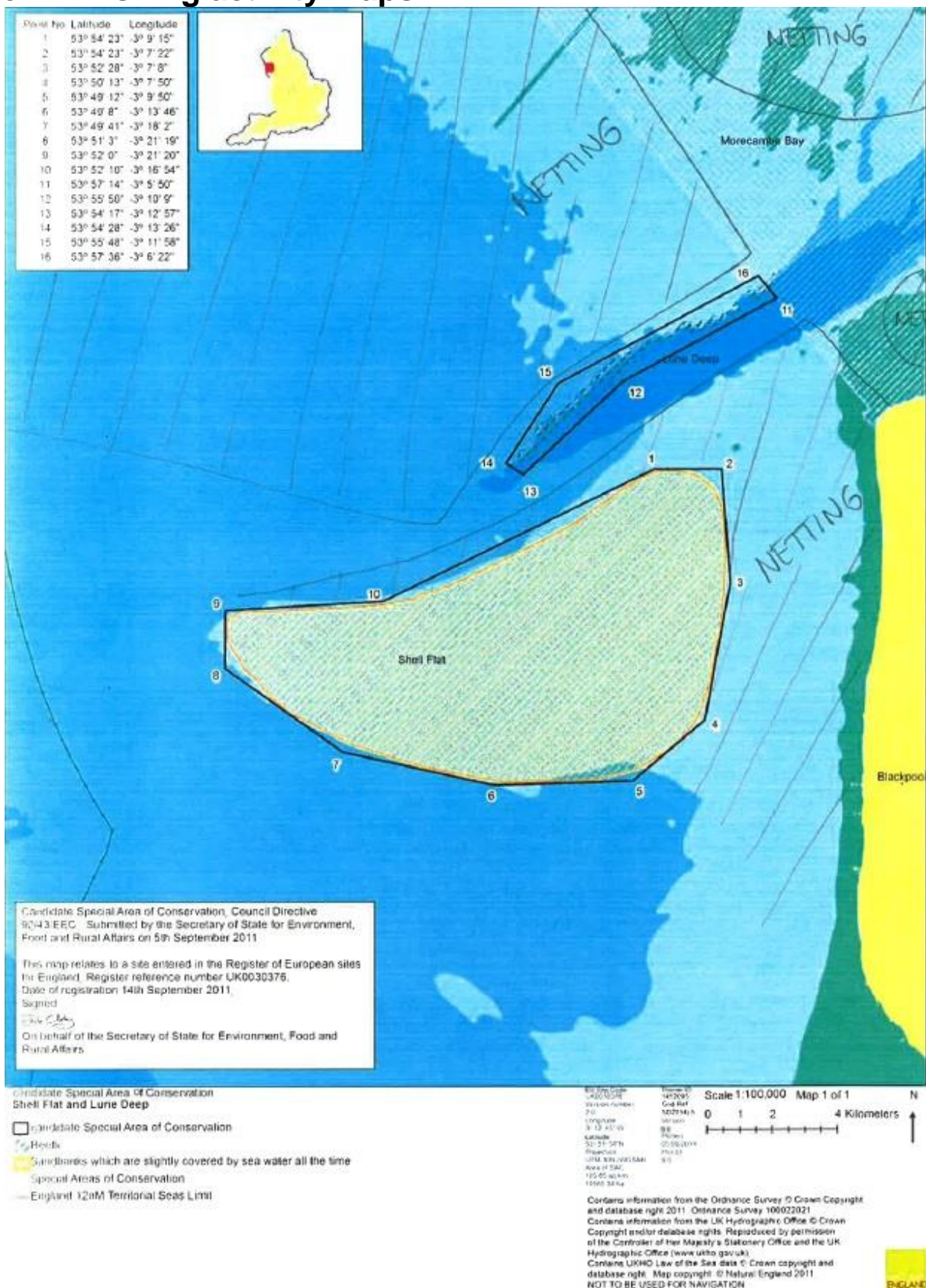


Figure 4: Netting areas annotated by commercial fishermen on individual maps and combined into one



## Annex 5: Netting vessels



**Figure 5:** Two of the vessels from Fleetwood