Title: **Bassurelle Sandbank Special Area of Conservation.**	Impact Assessment (IA)
Lead department or agency: Defra Marine Biodiversity Policy **Other departments or agencies:** Joint Nature Conservation Committee (JNCC)	**IA No:**
	Date: 08/07/2010
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Gareth.Johnson@jncc.gov.uk (01733) 866838

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Due to pressures of anthropogenic activities on habitats and species in the marine environment many are currently in decline. Although regulation is in place for some activities, it is not necessarily designed to achieve nature conservation objectives. Intervention is needed in order to manage activities in key areas for important species and habitats and to promote a healthy and resilient marine environment. JNCC have assessed this site against the Habitats Directive Annex III selection criteria, and advised the Secretary of State that it is eligible for identification as a 'Site of Community Importance' and should therefore be transmitted to the European Commission as required under Regulation 7 of the Offshore Marine Conservation Regulations 2007 (as amended).

What are the policy objectives and the intended effects?

The EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the Habitats Directive, 1992) aims to promote the maintenance of biodiversity. The Habitats Directive requires the UK (as a Member State) to propose sites hosting the habitat types and species in need of conservation listed in the Directive, which are eligible for identification as SCIs and designation as Special Areas of Conservation (SAC). The UK is required to establish conservation measures for sites designated as SACs and this is achieved through management of potentially damaging activities where the habitats and species are present. 'Sandbanks' (Habitat 1110 in Annex I) are habitats of European importance and are the qualifying feature of the Bassurelle Sandbank

What policy options have been considered? Please justify preferred option (further details in Evidence Base)

Baseline: Do nothing, that is do not designate the site.

Option 1: Propose the site to the European Commission for designation. This is the preferred option as it will contribute towards conserving habitat of European importance located in UK waters along with its typical species.

Option 2: Search for an alternative site. This option is not considered further here as there are no known alternative sites. If this site is not designated there is a significant risk that the EC will judge the UK's contribution to the network of SACs for sandbanks to be insufficient, which could lead to infraction proceedings. Alternative sites of similar quality and extent are not currently known to exist (known alternatives were considered in the scoping stage but not recommended on scientific grounds). Though the site could be conserved under voluntary agreements or a national designation this would not contribute to fulfilling the requirements of the Habitats Directive.

When will the policy be reviewed to establish its impact and the extent to which the policy objectives have been achieved?	It will be reviewed 10/2020
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For consultation stage Impact Assessments:

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

Signed by the responsible SELECT SIGNATORY:..... Date:.....

Summary: Analysis and Evidence — Policy Option 1

Description:

Price Base Year 2010	PV Base Year 2010	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: n/a	**High:** n/a	**Best Estimate:** n/a

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0		£31.8k	**£274k**
High	0		£55.2k	**£472k**
Best Estimate	0		£43.5k	**£373k**

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

Minimum management scenario: enforcement costs of £8.3k pa for JNCC and £23.5k pa for MMO. Maximum management scenario: enforcement costs of £8.3k pa for JNCC and £23.5k pa for MMO; and loss of landings for fishing sector (£26k pa from 2011).

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

For the maximum scenario: possible impacts on fisheries not captured by landings data; some fishers exit sector; knock-on effect to local economy of costs to fishers; and impacts beyond 10 years.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	unquantified		unquantified	**unquantified**

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

It has not been possible to monetise the benefits because the benefits cannot be readily quantified and most of the benefits are not traded so cannot be easily valued.

Details of the qualitative assessment of the benefits are provided in the evidence base.

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

Moderate beneficial impacts on non-use values of natural environment; benefits to fish; intrinsic value; role of feature in the wider ecosystem; possible increased commercial stocks with designation of site; and benefits to ecosystem services beyond next 10 yrs.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5%

Management measures for the site will not be known until after designation so a realistic range of measures is used for the analysis. If the site is not designated condition of the habitats may be maintained but could be at risk to further deterioration. Formal mechanisms to avoid damage to the habitats are weaker if the site is not designated. Risk of infraction if the suite of proposed SACs is not designated. Benefits could be jeopardised if appropriate fisheries management measures are not agreed through the Common Fisheries Policy, or if they are not enforced effectively. Displacement of activities could increase environmental degradation in other areas. Risk of cumulative economic impacts of marine protected areas.

Impact on admin burden (AB) (£m):			Impact on policy cost savings (£m):	In scope
New AB: 0	**AB savings:**	**Net:** 0	**Policy cost savings:**	No

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			01/11/2010		
Which organisation(s) will enforce the policy?			DEFRA, JNCC		
What is the annual change in enforcement cost (£m)?			Up to £32k		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** n/a	**Non-traded:** n/a	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:** 100	**Benefits:** 100	
Annual cost (£m) per organisation (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	Yes	All
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	Yes	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	Yes	All

[1] Race, disability and gender Impact assessments are statutory requirements for relevant policies. Equality statutory requirements will be expanded 2011, once the Equality Bill comes into force. Statutory equality duties part of the Equality Bill apply to GB only. The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessment of earlier stages (e.g. Consultation, Final, Enactment).

No.	Legislation or publication
1	Bassurelle Sandbank SAC Selection Assessment, v2.0, JNCC
2	Bassurelle Sandbank draft Conservation Objectives and Advice on Operations v1.0, JNCC
3	Bassurelle Sandbank SAC Impact Assessment, V1.0, JNCC
4	Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended)

+

See attached evidence base and break down of present value of costs by sector in Appendix G. Details of the impact tests are provided in Appendix I.

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	0.044	0.087	0.131	0.174	0.218	0.261	0.305	0.348	0.392	0.435
Total annual costs	0.044	0.087	0.131	0.174	0.218	0.261	0.305	0.348	0.392	0.435
Transition benefits	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Annual recurring benefits	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total annual benefits	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

* For non-monetised benefits please see summary pages and main evidence base section

The annual profile of monetised costs and benefits was calculated using the midpoint as a measure of best estimate. Benefits were not quantifiable.

Microsoft Office Excel Worksheet

Evidence Base (for summary sheets)

There is discretion for departments and regulators as to how to set out the evidence base. However, it is desirable that the following points are covered:

- Problem under consideration;
- Rationale for intervention;
- Policy objective;
- Description of options considered (including do nothing);
- Costs and benefits of each option;
- Risks and assumptions;
- Administrative burden and policy savings calculations;
- Wider impacts;
- Summary and preferred option with description of implementation plan.

Inserting text for this section:

Select the notes here and either type section text, or use **Paste Without Format** toolbar button to paste in the standard EBBodyPara Style. Format text by applying EB styles from the toolbar.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added to provide further information about non-monetary costs and benefits from Specific Impact Tests, if relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), it could be to review existing policy or there could be a political commitment to review];

PIR consists of two elements:

1. Assessment of any additional management needed to fulfil conservation objectives for the site, accompanied by assessment of likely socio-economic effects of any such management proposals.
2. Statutory monitoring of the condition of interest features in the site, six yearly report to Euro Commission required, next report due 2013.

Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]

1. Implementation of any management of marine activities required post-designation to fulfil conservation objectives for the features at the site.
2. The statutory monitoring of condition of the features aims to assess whether the conservation objectives for the site are being achieved. If conservation objectives are not being achieved, management of activities affecting the site will need to be reviewed.

Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]

Review of existing industry activities at or affecting the site, based on information from regulators and stakeholders.

Conduct survey to monitor condition of features of the site, and activities which may affect those features, within 6 year reporting framework set by Euro Commission.

Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]

Baseline data on the condition of interest features in the site and baseline data collected for the impact assessment on human activities in or affecting the site.

Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]

Achievement of the conservation objectives for the site.

Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]

Statutory monitoring of the condition of interest features in the site following designation. Ongoing collation of socio-economic information from regulators and stakeholders on activities on or affecting the site.

Reasons for not planning a PIR: [If there is no plan to do a PIR please provide reasons here]

Contents

APPENDIX A - Summary of cost calculations

APPENDIX B - Maps of French fishing activity in the region (as VMS data)

1. INTRODUCTION

1.1 Purpose

1.1.1 Within Europe natural habitats are continuing to deteriorate and an increasing number of wild species are seriously threatened. The main aim of the European Habitats Directive[1] is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance.

1.1.2 This impact assessment addresses the recommendation by the Joint Nature Conservation Committee (JNCC) for designation of an offshore Special Area of Conservation (SAC) of the UK part of Bassurelle Sandbank. Bassurelle Sandbank is located in the Dover Strait (in the Eastern English Channel Regional Sea) and straddles the boundary between UK and French waters. The part of the sandbank in UK waters is being recommended for SAC designation due to its Annex I sandbank (habitat 1110). The part in French waters is included in a separate SAC proposal by the French authorities.

1.1.3 Human activities can adversely affect our marine environment. Many of our marine habitats have been altered or damaged by activities such as fishing, windfarm development, dredge disposal and oil and gas extraction (Eastwood 2007). Direct harvesting of fish has caused dramatic decreases in populations of target species including cod, herring, plaice and sole (Hall 1999) and even localised extinctions in parts of UK waters, for example the common skate (Dulvy & Reynolds 2002). Species that are not the target of harvesting are also damaged, particularly through inadvertent bycatch, and damage to habitats, for example through the use of destructive bottom fishing gear.

1.1.4 Currently little of the UK's offshore marine environment is protected for conservation purposes. Consequently, protection is not being provided to examples of the variety of habitats found in UK offshore waters. Given the overlap between anthropogenic activities and habitats of conservation importance, it is evident that additional management is needed to maintain and restore the healthy structure and function of marine ecosystems whilst supporting sustainable industries.

1.2 Policy Drivers

1.2.1 Member States of the Council of Europe are committed to the Convention on the Conservation of European Wildlife and Natural Habitats[2]. The Wild Birds Directive[3] and Habitats Directive provide the framework within which the provisions of the Bern Convention are applied in the European Union. The Habitats Directive aims to conserve natural habitats and species that are considered to be most in need of conservation at a European level (which are listed in Annex I and Annex II of the Directive respectively). Habitats have been included on Annex I because they are either in danger of disappearance within their natural range, have a small natural range, or they present outstanding examples of typical characteristics of the biogeographical regions listed in the Directive. The Habitats Directive not only aims to conserve the habitats but also their typical species. The UK (as a Member State) is required to take measures to maintain or restore favourable conservation status[4] of these natural habitats and to introduce robust protection for them.

[1] Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna.
[2] The Bern Convention , Bern, 1979,
[3] 2009/147/EC
[4] Favourable conservation status is defined for a feature as the 'natural range and area it covers is increasing, and the specific structure and functions which are necessary for its long term maintenance exist and are likely to exist for the foreseeable future, and the conservation status of its typical species is favourable'.

1.2.2 Under the Habitats Directive, habitats and their typical species are to be protected by identifying a coherent European ecological network of sites (called Natura 2000) identified by the European Commission from lists of national sites proposed by each Member State. The network of sites will enable the habitat types to be maintained (or restored where appropriate) at a favourable conservation status within their natural range. Once adopted in the Natura 2000 network, the sites are designated by the Member State as Special Areas of Conservation (SACs).

1.2.3 The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended))("the Offshore Habitats Regulations") transpose the Habitats Directive and Wild Birds Directive into national law. These regulations apply to the UK's offshore marine area which covers waters beyond 12 nautical miles, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area. The Offshore Habitats Regulations fulfil the UK's duty to comply with European law beyond inshore waters and ensure that activities regulated by the UK that have an effect on important species and habitats in the offshore marine environment can be managed. Under the Regulations, competent authorities which have functions relevant to marine conservation in the offshore marine area, have a general duty to secure compliance with the Habitats and Wild Birds Directives.

1.2.4 The Habitats Directive provides site selection criteria within Annex III. Site selection criteria comprise:

- the degree of representativeness of the natural habitat at the site in question;
- the area of the site in relation to the area of that habitat type within the national territory;
- the degree of conservation of the structure and functions of the habitat type (including restoration possibilities); and
- a global assessment of the conservation value of the site for that habitat type.

JNCC are responsible for providing scientific advice to Government on nature conservation matters, including identification of SAC sites under the Habitats Regulations[5], for UK offshore waters.

The European Commission provides guidelines on the degree of national representation for each habitat type that might be considered sufficient (European Commission 2007). These were not derived specifically for use in the marine environment and do not explicitly provide national targets for contribution to the network, but instead offer broad guidance for Member States. The guidelines indicate that 20% of the national resource of a particular habitat would likely be considered insufficient and more than 60% would likely be considered a sufficient national contribution to the Natura network (CEC 2007). Failure to identify SACs for what the European Commission judges to be a sufficient proportion of the UK resource of Annex I habitat could potentially result in infraction proceedings against the UK Government[6].

The European Commission will assess whether the list of SACs submitted by UK Government to them is sufficient or not. JNCC have worked to provide the best estimate of whether the UK's sites submitted so far will be sufficient or not in terms of both representing the habitat across its natural range, and also in proportion to the amount of that habitat type within UK waters.

JNCC concluded that if at least one example of each Annex I habitat sub-type in each of the UK's area Regional Seas[7] were included in the SAC network, this would ensure minimum representation of each Annex I habitat within its natural range in the UK (JNCC 2003). For some Annex I habitats, such as shallow sandbanks, their distribution in UK is concentrated in a few regions (eg southern North Sea and

[5] The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 apply to UK offshore waters within British Fishery Limits and the seabed and subsoil of the UK Continental Shelf.
[6] JNCC 08 P14a December 2008 Progress towards completing the UK network of marine special areas of conservation (SACs) for Annex I habitats and site proposals for Hatton Bank and Bassurelle Bank
[7] Regional Seas: http://www.jncc.gov.uk/page-161.

Irish Sea), so it is likely that to ensure sufficient of the UK resource of such habitats is included within the site network, more than one site in some Regional Seas is likely to be needed.

UK identification of sites for Annex I Sandbank Habitat

1.2.5 Twenty five SACs with marine components have already been designated for sandbanks features in inshore waters of UK. Three sites wholly or partly in offshore waters (Inner Dowsing, Race Bank and North Ridge; Haisborough, Hammond and Winterton, North Norfolk Sandbanks and Saturn Reef) have been recommended to Government and subject to formal consultation. An additional site for sandbanks, Dogger Bank, has been recommended to Defra by the JNCC, but has not yet been subject to formal consultation.

1.2.6 The European Commission will assess whether the list of SACs submitted by UK Government to them is sufficient or not. JNCC have worked with the other conservation agencies, to best estimate whether the UK's sites submitted so far will be sufficient in terms of both representing the habitat sub-types across their natural range, and also in proportion to the amount of the variety of habitat types within UK waters.

1.2.7 Bassurelle Sandbank possible SAC (pSAC) is the only sandbank of its sub-type in the UK's Eastern English Channel Regional Sea and is therefore recommended by JNCC for designation as an SAC, to contribute to completion of the UK's network of SACs for Annex I sandbank. The UK part of the site adjoins a site proposed by France, the *Ridens et Dunes du Detroit du Pas de Calais*, identified for both Annex I sandbanks and reefs.

Conservation Objectives and Management of Sites

1.2.8 JNCC are responsible for establishing conservation objectives for the site, and advice on operations that could cause deterioration of the habitat and/or decline in the populations of its typical species. These conservation objectives and advice on operations are presented in a document[8] and inform the management of activities within the site. Special provisions are made for the consideration of current and future plans and projects that impact on the site (but are not directly connected with management of the site for conservation purposes). The goal of these is to ensure that carrying out plans and projects does not adversely affect the integrity of the site. Management activities are intended to ensure marine habitats and species are maintained at or restored to a favourable condition.

1.3 Background on information on the impact assessment

1.3.1 This report sets out the evidence base that supports the impact assessment (IA) summary page for the policy options for the Bassurelle Sandbank possible Special Area of Conservation Impact Assessment:

Baseline: do nothing
Option 1: designate the site

1.3.2 No other options are considered as Bassurelle Sandbank, along with existing SACs and the other sandbank sites currently proposed, has been identified as examples of sandbank habitat to contribute towards the Natura network of sites for conservation. Other areas of similar habitat sub-type, where they exist, have been considered for selection as SACs but have been rejected for scientific reasons during earlier scoping.

[8] Offshore Special Area of Conservation: Bassurelle Sandbank: Draft Conservation Objectives and Advice on Operations, version 1.0, Dec 2008, JNCC

1.3.3 This IA presents JNCC's quantitative assessment of the potential costs and benefits of the policy option and will accompany JNCC's recommendation to Government on selection of the sites as an SAC. The IA has been subject to public consultation.

1.3.4 Impacts have been assessed in the IA over a time scale of approximately ten years. This is based on a balance between different factors. It provides a sufficiently long period over which conservation benefits may arise and control measures may be implemented. Assessment of the impacts beyond ten years becomes more uncertain. For example, businesses have greater scope to adjust their activities in the long-term (for example through purchasing new equipment) and may therefore avoid costs that arise in the short-term. Present Values[9] are calculated over the 10-year period using a discount rate of 3.5 percent, based on Green Book[10] recommendations.

1.3.5 The overall approach to assessing potential costs and benefits is based on the approach adopted by JNCC for their previous offshore pSAC IAs. A framework is used to assess and combine cost and benefit information from different sources on the likely costs and benefits of the potential management measures for the sites.

1.3.6 This framework involves a description of:

- What the current situation at the site is (the baseline), such as the site's ecological characteristics, the economic activities taking place, their value, and their environmental impacts;
- What changes to these, relative to the baseline, are expected to result from the potential range of management measures that may be required in future to meet the site's conservation objectives;
- What the direct and indirect economic costs of those changes are to operators, enforcement authorities and wider society;
- The likely benefits of achieving the conservation objectives; and
- The different data that are used to estimate costs and benefits of impacts on goods and services that are bought and sold in commercial markets that can be valued in monetary units, impacts on goods and services that are not traded in commercial markets (that are less easy to value) and other impacts (such as change to non-use value, see Section 4.3).

1.3.7 This IA has been prepared using information that is publicly available, information provided by Government departments, regulators[11] and The Crown Estate and has been updated following public consultation.

1.3.8 The approach of this impact assessment is reflected in the structure of the remainder of this document. Firstly, background information about the characteristics of the sites (biodiversity and human activities) is reviewed in Section 2, this forms the baseline against which the potential impacts of option 1 are assessed. Section 3 then describes the approach to analysing the costs and benefits of the policy options. Section 4 carries out that analysis for the policy option, while Section 5 concludes. Annexes provide further information on the nature and regulation of human activities present at the site (Annexes 1 and 2), the cumulative impacts of Natura 2000 sites on them (Annex 3), and the assessment of benefits from designating marine sites (Annex 4).

[9] This is the total of all the costs identified over the 10 year assessment period (2010 – 2019) adjusted to 2010 prices using a discount rate of 3.5%.
[10] HM Treasury, The Green Book: http://www.hm-treasury.gov.uk/data_greenbook_index.htm
[11] Department of Energy and Climate (DECC); Department for Environment, Food and Rural Affairs (Defra); Ministry of Defence; Marine and Fisheries Agency (now MMO);

2. Background information on the site

2.1 Baseline

2.1.1 Current information about the condition of the site forms a baseline scenario against which the potential impacts of the policy are assessed. This section assesses the current activities at the site, and what is likely to happen over the assessment period if the site is not designated and therefore no additional management measures to conserve the sandbanks and their typical species are put in place. This is the baseline against which the costs and benefits of Option 1 are compared in Section 4. By definition the costs and benefits of the baseline are zero (since no additional actions will be taken).

2.2 Characteristics of the site[12]

2.2.1 The Bassurelle Sandbank is a linear sandbank in the Dover Strait (in the Eastern English Channel Regional Sea) which straddles the boundary between UK and French waters. It is an example of an open shelf ridge sandbank, which is formed by tidal currents (Graham *et al*., 2001). The part of the sandbank within UK waters is approximately 2.5km at its widest point, and has a maximum height of around 15m. It extends for about 15km in a SW-NE direction, parallel to the UK-France median line, and then continues for some distance into French waters. It is comprised of a mixture of sand and gravelly sand, with shell and gravel visible at the surface. Although the surrounding seabed is also predominantly sandy, Bassurelle Sandbank is distinct due to the thickness of the sediment (up to 25m thick) and the elevation above the surrounding area.

2.2.2 This site is related to the French site, *Ridens et dunes hydrauliques du Detroit du Pas de Calais* (Megaripples and hydraulic dunes in the Pas-de-Calais/Dover Strait) possible SAC (Figure 0.1). JNCC have followed the European Commission Guidance on the establishment of the Natura 2000 network in the marine environment (CEC 2007) in recommending a boundary for the Bassurelle Sandbank SAC based on available scientific data for the UK sector of the bank. The UK pSAC boundary aligns with the French pSAC boundary due to be submitted to the European Commission by 1st October 2010).

2.2.3 Bassurelle Sandbank is mainly composed of very well sorted sand with some gravelly sand, with occasional shells. The surface tidal currents along the bank are weak to moderately strong (peak spring surface current velocity of 0.7 m/s), and run along the direction of the sandbank (James *et al.*, 2007). Sand waves and megaripples are abundant on parts of the bank and are up to 2.5m in height (James *et al.*, 2007). Biological communities present include those typical of sandy sediments, dominated by polychaete worms such as the tube-worm *Lagis koreni* and the bristleworm *Spiophanes bombyx*. The epifaunal community present on the Bassurelle Bank is impoverished, and typical of a sand and gravelly sand habitat. On the bank itself, the hermit crab *Pagurus bernhardus,* the brittlestar *Ophiura* spp. have been observed, and the hydroid *Hydrallmania falcata*, was observed attached to shell and gravel fragments. The sand eel (*Ammodytes tobianus)* and weever fish (Echiichthys) are characteristically present on the bank, although absent from the sandy areas surrounding the bank. The region is a nursery area for lemon sole, mackerel and sand eel and a spawning area for cod, lemon sole, sole, plaice, sand eel and sprat (Coull *et al.*, 1998).

2.2.4 This site is located within the Eastern English Channel Regional Sea (JNCC, 2004; Defra, 2004). The only Special Area of Conservation in the Eastern English Channel for which 'Sandbanks which are slightly covered by sea water all the time' is a qualifying feature, is Solent Maritime SAC; however, this habitat type is graded at C and was not a primary reason for site designation. Bassurelle Bank is of a

[12] Further details can be found in JNCC, 2009.

different physiographic type than sandbanks in the Solent Maritime SAC. It is composed of coarser sediments, occurs in full salinity waters, and is located away from coastal influences. Due to the strong influence of sediment type and other environmental factors on biological communities, a different range and distribution pattern of biological communities are present on Bassurelle Sandbank in comparison to the sandbanks of the Solent Maritime SAC. Bassurelle is also of a different physiographic type to the Margate and Long Sands possible SAC, which is located in the adjacent Southern North Sea Regional Sea. The two sites are separated by the Dover Straits where a transition from North Sea water to Atlantic water commences, therefore their biological communities can be expected to be significantly different.

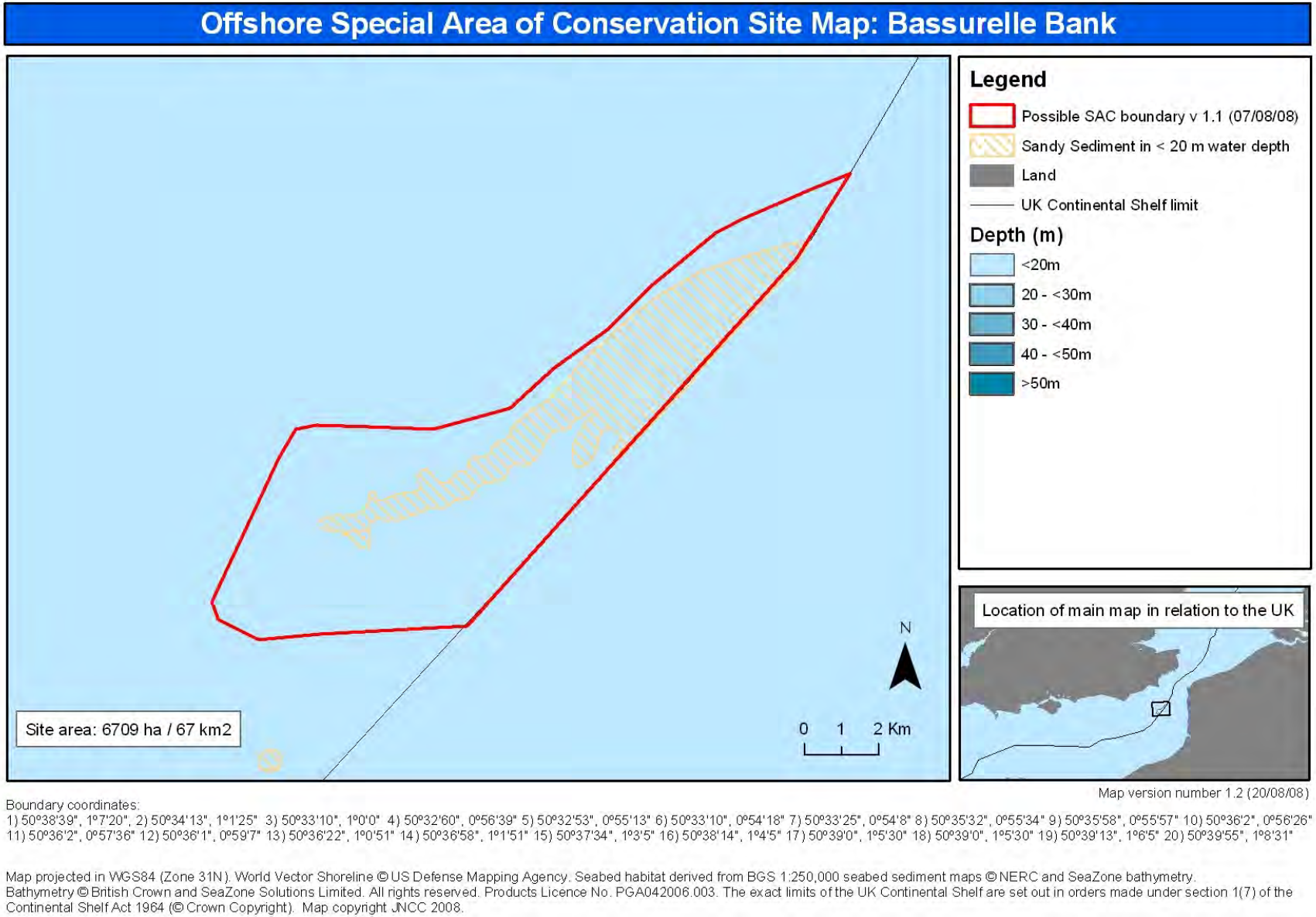

Figure 2.1: Bassurelle Sandbank pSAC Boundary Map

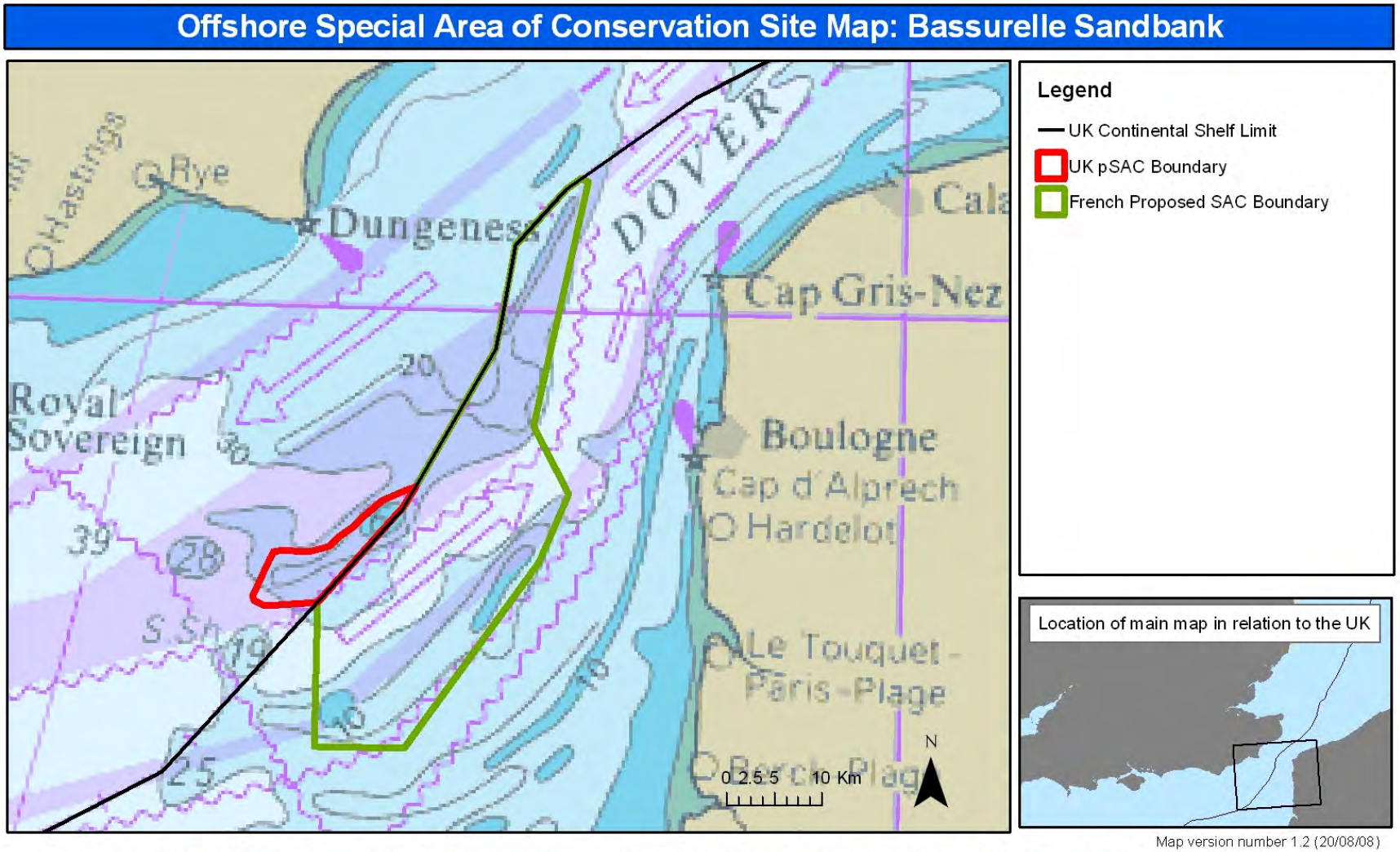

Figure 2.2: The location of the UK Bassurelle Sandbank possible SAC with the French Ridens et dunes hydrauliques du Detroit du Pas de Calais (Megaripples and hydraulic dunes in the Pas-de-Calais/Dover Strait) possible SAC

2.3 Human activity at the site

2.3.1 Current and proposed economic activity at Bassurelle Sandbank is described below under the following sectors:

- Aggregate extraction;
- Cables;
- Fisheries;
- Shipping; and
- Recreation.

2.3.2 There are no other significant economic activities that may be impacted by the designation of the site. Information about activities in these sectors in the area of the pSAC forms the baseline against which the costs and benefits of Option 1 are compared. These sectors are already subject to regulations that manage and potential impacts on or risks to the environment. These regulatory processes are described in detail for each sector in Annex 2.

Aggregate extraction

2.3.3 There are no marine aggregate licence areas or application and prospecting areas within the site boundary (Figure 0.3), or adjacent to the site boundary and likely to affect the sandbank feature.

2.3.4 Approximately 13 miles to the southwest of the site there are two Active Dredge Zones (ADZ, regulator-agreed zone within a licensed area where aggregate dredging is currently occurring); these are Area 474 East licensed to Hanson Aggregates Marine Ltd and Area 458 licensed to Cemex UK Marine Ltd and United Marine Dredging Ltd. There is also one application area (Area 482 for Hanson Aggregates Marine Ltd) and one prospecting area (Area 503 for Sea Aggregates Ltd). Several other licence and application areas are to the west and north of Area 458 (Figure 0.3).

2.3.5 The licensed, application and prospecting areas mentioned above fall within the Eastern English Channel Region for marine aggregate dredging. The East Channel Association (ECA) has undertaken a Regional Environmental Assessment (REA) for the offshore part of the Eastern English Channel (known in the context of the REA as East Channel Region (ECR)). Following the completion of the REA (Royal Haskoning, 2003), a regional environmental monitoring programme was developed by the ECA to test the predictions of the REA. Monitoring activities began in 2005 and are undertaken every year using a variety of techniques (including physical and biological surveys) to describe the dredging activities and detect and assess the environmental impacts of those activities. Based on information from the REA and subsequent monitoring studies, it is unlikely that current aggregate extraction activities within the Eastern Channel Region will significantly affect the SAC at Bassurelle Sandbank.

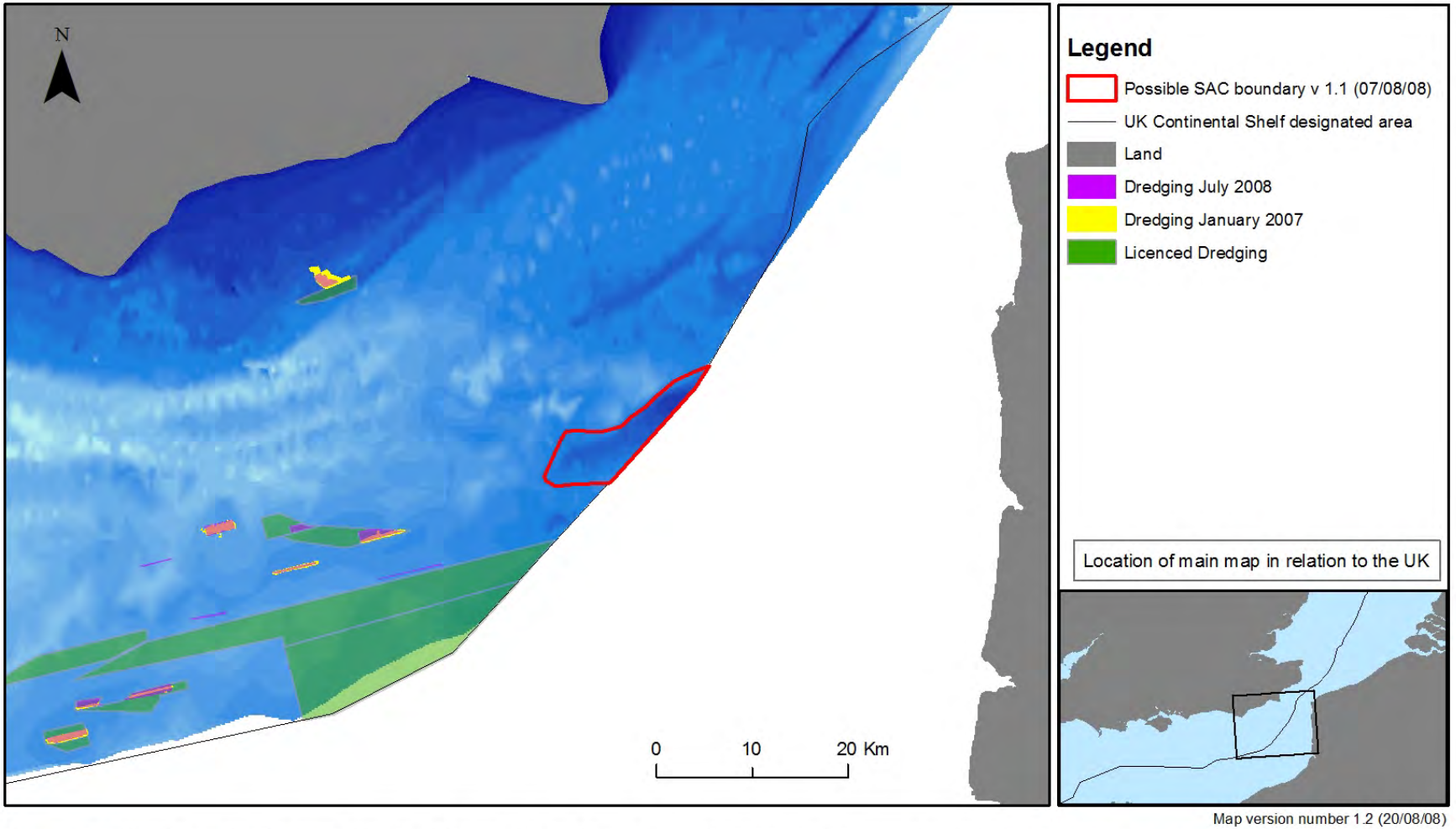

Figure 2.3 Map of current and potential future aggregates extraction activity in UK waters in the area of the Bassurelle Sandbank possible Special Area of Conservation

Cables

2.3.6 There are no cables running through the site. Within a 10 km radius there are two telecommunication cables, one crossing the channel from Eastbourne to France and another running along the length of the Channel from Cornwall to France (Figure 0.4), neither are likely to affect the sandbank at Bassurelle. Previous consultations for proposed Marine Conservation Zones (MCZs) indicated that most cable laying activity will be replacement/upgrading of existing ones[13].

[13] ABPmer *et al*, (2007).

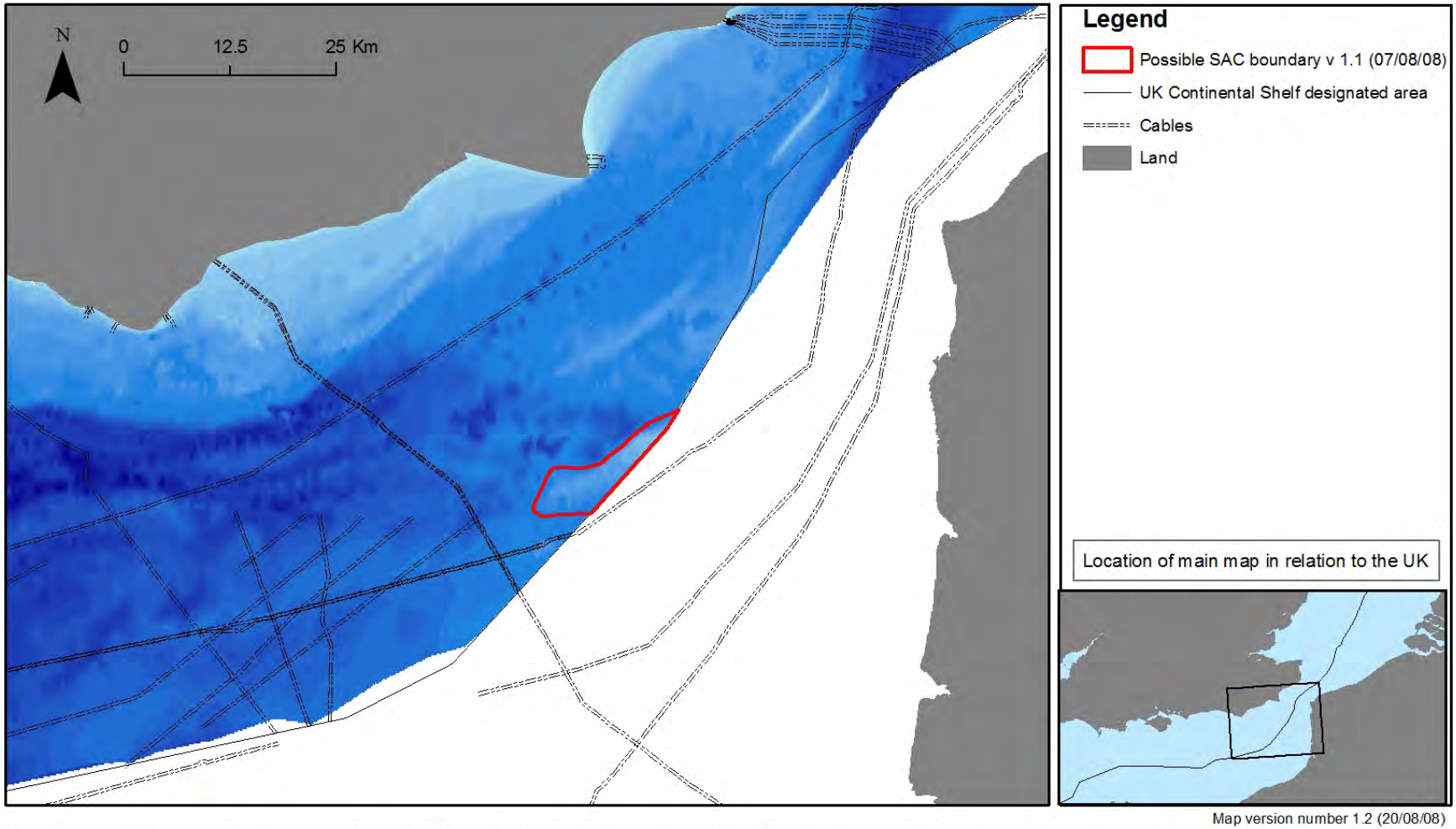

Figure 2.4 Map of current cabling in the UK waters in the area of the Bassurelle Sandbank possible Special Area of Conservation

Fisheries

2.3.7 This section provides an indication of the total value of landings of fish from within the site and how that breaks down by vessel nationality and length, gear type, landing port and species. It also provides a guide to the numbers of vessels operating in the area. Information on how fishing is regulated and a glossary are in Annex 2.

Total value of landings

2.3.8 There is no data available specifically for the area which is proposed for designation. The Marine and Fisheries Agency's (now Marine Management Organisation) Fisheries Activity Database (hereafter, FAD) compiles various data at the level of ICES rectangle[14]. This data includes the value and tonnages of landings from vessels when they land their catch[15]. The proposed UK pSAC overlaps two ICES rectangles (30F0 and 30F1, see Figure 2.5), covering approximately 1% of the area of the two rectangles; to provide an indication of the value of landings caught within the site therefore, 1% of the value of landings within the two ICES rectangles is taken. This, as an average over 2006 to 2008[16], is approximately £63,000[17]. This is clearly a very rough indication as we do not currently know whether activity within the pSAC is representative of activity within the ICES rectangles.

Landings by length, gear type, landing port and species

2.3.9 As for the information on landings, the way that catch is broken down is only available at ICES rectangle level and the proportions in the table below are therefore based on landings data within the 2 rectangles. The first table shows that within the two rectangles 61% of the value of catch derives from UK registered under 10m vessels. 3% of landings (see footnote) derive from foreign vessels.

Table 2.1 Catch by vessel length in the two ICES rectangles which contain the site

Vessel	*Proportion of Catch*
Over 10 m	36%
Under 10m	61%
Foreign (length unknown)[18]	3%
Total	100%

[14] ICES (International Council for the Exploration of the Sea) are approximately 30nm x 30nm

[15] FAD records landings at English, Northern Irish and Welsh ports by both UK and foreign vessels; it also records landings of UK vessels at foreign ports but not landings of foreign vessels and foreign ports.

[16] Data from before 2006 is not taken as it was incomplete for under 10m vessels.

[17] It is recognised that this figure is derived from a methodology which does not isolate the value of fishing from within the SAC or SPA itself. This figure is a proportion of an average value from an activity which is not evenly distributed across the given area assessed. This methodology places significant limitations on the estimated cost of fishing from within the sites.

[18] Catch landed at non-UK ports is not included in the FAD data.

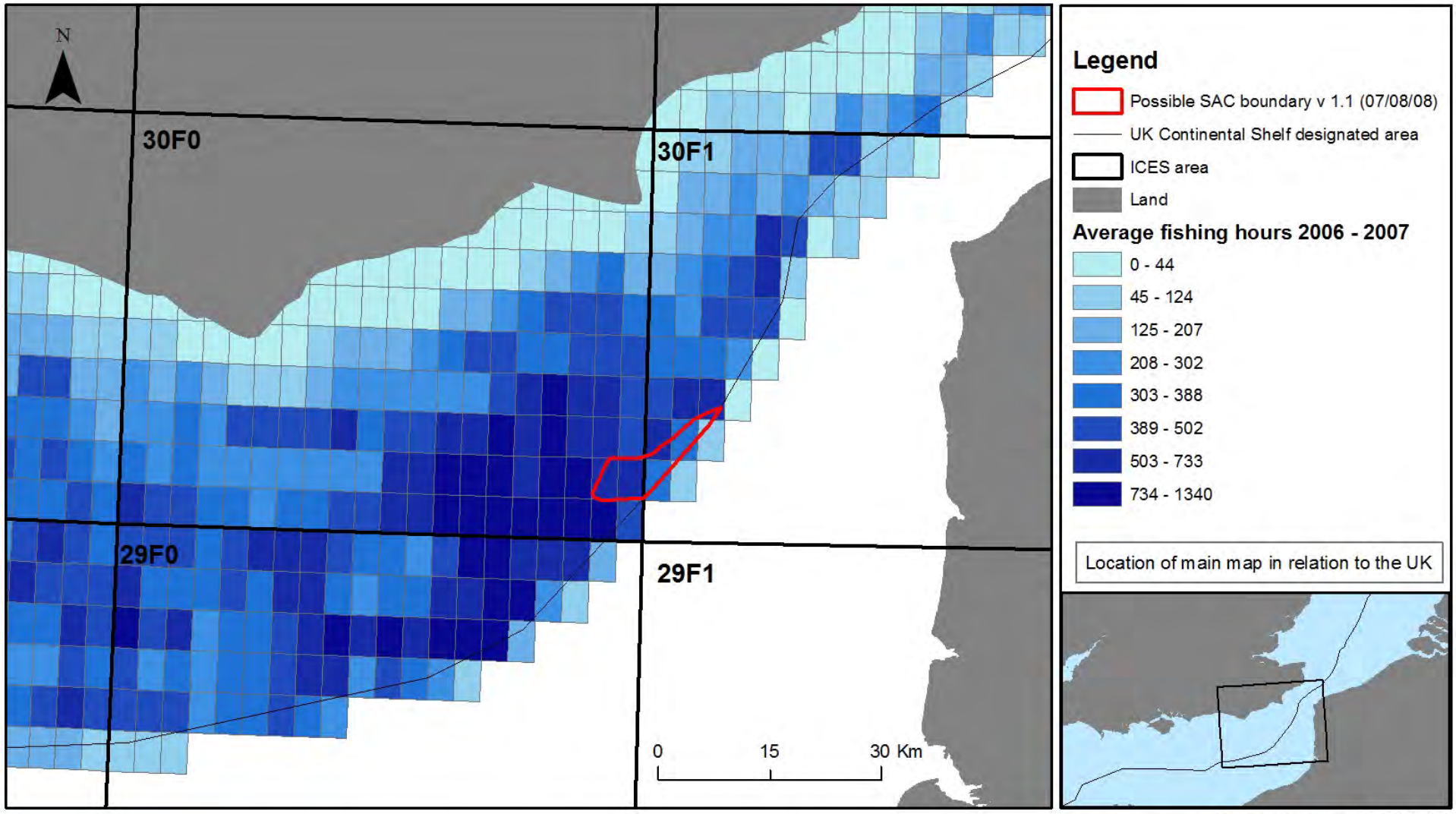

Figure 2.5 Map of ICES rectangles in the area of the Bassurelle Sandbank possible Special Area of Conservation

2.3.10 Table 1.2 shows that netting (38%) and trawling (35%) are responsible for the highest proportion of catch within the two ICES rectangles and dredging (14%) and potting (11%) responsible for smaller proportions.

Table 2.2 Catch by gear type in the two ICES rectangles which contain the site	
Gear Type	*Proportion of Catch*
TRAWLING[19]	35%
POTS	11%
NETS	38%
LINES	1%
DREDGING	14%
OTHER	1%
TOTAL	100%

2.3.11 Table 1.3 shows that catch is landed at a number of UK ports. The most significant proportions are landed at Eastbourne (23%), Rye (18%), Newhaven (14%), Hastings (12%) and Shoreham (9%).

Table 2.3 Proportion of catch by landing port in the two ICES rectangles which contain the site	
Landing Port	*Proportion of Catch[20]*
Brixham	3%
Dungeness	4%
Eastbourne	23%
Folkestone	2%
Hastings	12%
Leigh-On-Sea	4%
Milford Haven	1%
Newhaven	14%
Plymouth	1%
Portsmouth	1%
Ramsgate	1%
Rye	18%
Scheveningen	2%
Shoreham	9%
Other ports	4%
Total	100%

2.3.12 Table 1.4 shows that by far that the highest proportion of landings are of sole (42%), with a further 53% being made up from 13 other species groups such as scallops, whelks, plaice and bass.

[19] This category includes both pelagic and demersal trawling. This places limitations on the assessment of the costs of management measures as the proportions of demersal and pelagic activity cannot be isolated in order to be assigned a separate cost. Any cost identified as the result of a management measure to either demersal or pelagic trawling using the proportion of cost assigned to 'trawling' will therefore be an overestimate. As the theoretical management measures are more restrictive of demersal trawling, it is assumed, for the purposes of this assessment, that 'trawling' in this table refers only to demersal trawling. This should therefore ensure that costs are not underestimated.

[20] Proportion of landings from within the two ICES rectangles that are landed at each port

Table 2.4 Proportion of catch by species in the two ICES rectangles which contain the site	
Species	*Proportion of Catch*
Bass	5%
Brill	1%
Cockles	4%
Cod	3%
Crabs	4%
Cuttlefish	3%
Mackerel	3%
Lobsters	3%
Plaice	7%
Scallops	11%
Skates and Rays	1%
Sole	42%
Turbot	2%
Whelks	8%
Other species	5%
Total	100%

Number of vessels operating within the ICES rectangles

2.3.13 Sightings data suggests that the majority of vessels seen in the area are French (accounting for 62% of sightings) and Belgian (20%), with 11% of sightings relating to UK vessels.

Shipping

2.3.14 The English Channel is one of the busiest shipping routes in the world carrying over 400 ships per day[21]. The site wholly lies within the designated English Dover Strait Traffic Separation Scheme (TSS) (Figure 2.7) requiring ships to keep to the left either side of a large separation zone in the middle (coloured purple in Figure 2.7). The shipping lane over Bassurelle Bank is for easterly movements of vessels[22].

[21] "The Dover Strait". Maritime and Coastguard Agency. 2007. http://www.mcga.gov.uk/c4mca/mcga07-home/emergencyresponse/mcga-searchandrescue/mcga-hmcgsar-sarsystem/channel_navigation_information_service__cnis_/the_dover_strait.htm.

[22] http://www.mcga.gov.uk/c4mca/mcga07-home/emergencyresponse/mcga-searchandrescue/mcga-hmcgsar-sarsystem/channel_navigation_information_service__cnis_/dops_-_dover_strait_tss_chartlet.htm

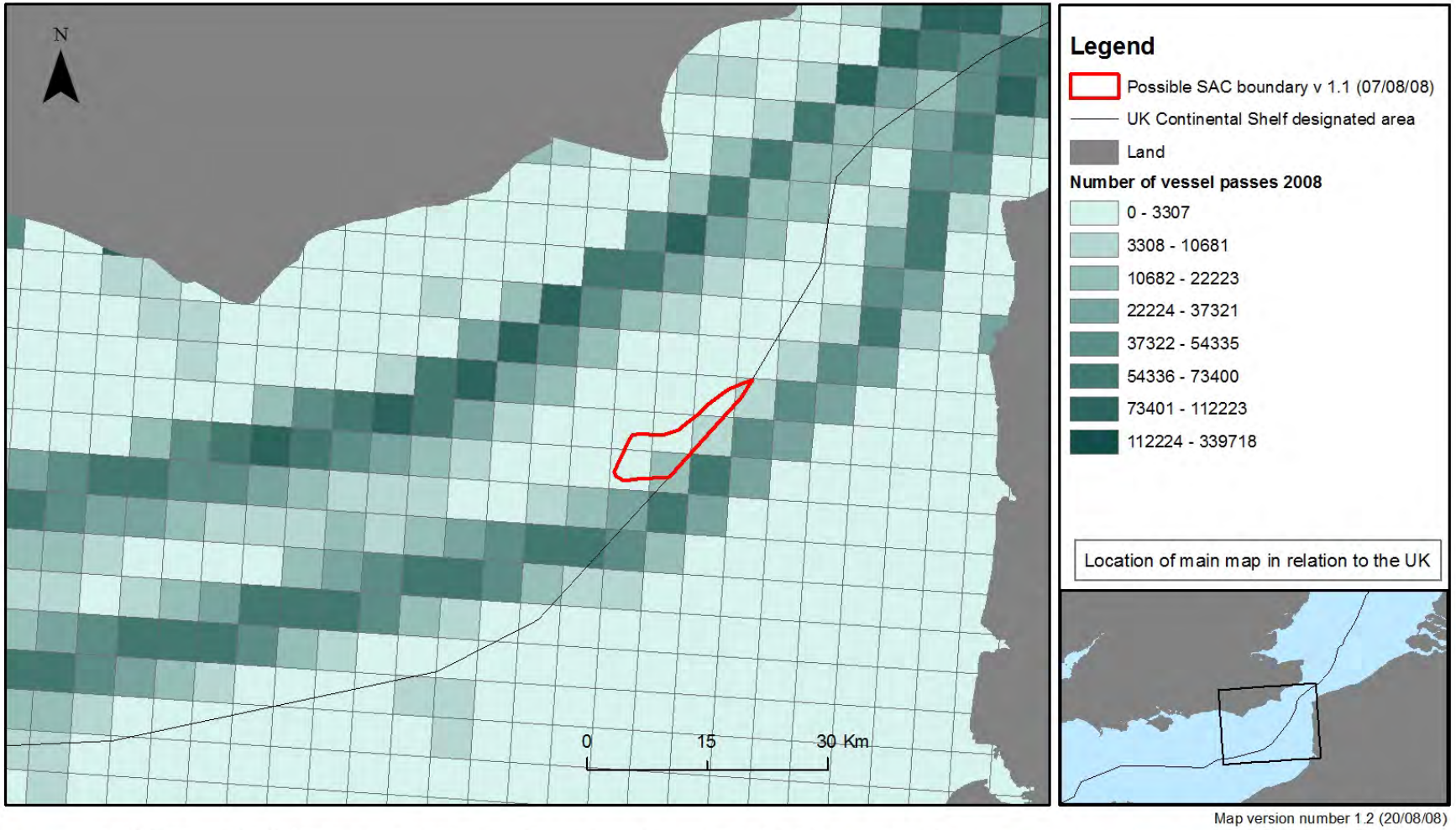

Figure 2.6 Shipping activity

2.3.15 At any given moment there can be up to 30-40 ships within the scheme ranging from ships carrying general bulk cargo and hazardous material to passenger ferries[23]. The Advisory Committee on the Protection of the Sea (ACOPS) reports annually on recorded discharges from vessels. In 2007 there were no reported oil spills from vessels in the site or within 10 km of the site (ACOPS, 2007).

2.3.16 There are no areas of dredge disposal from maintenance dredging within the site.

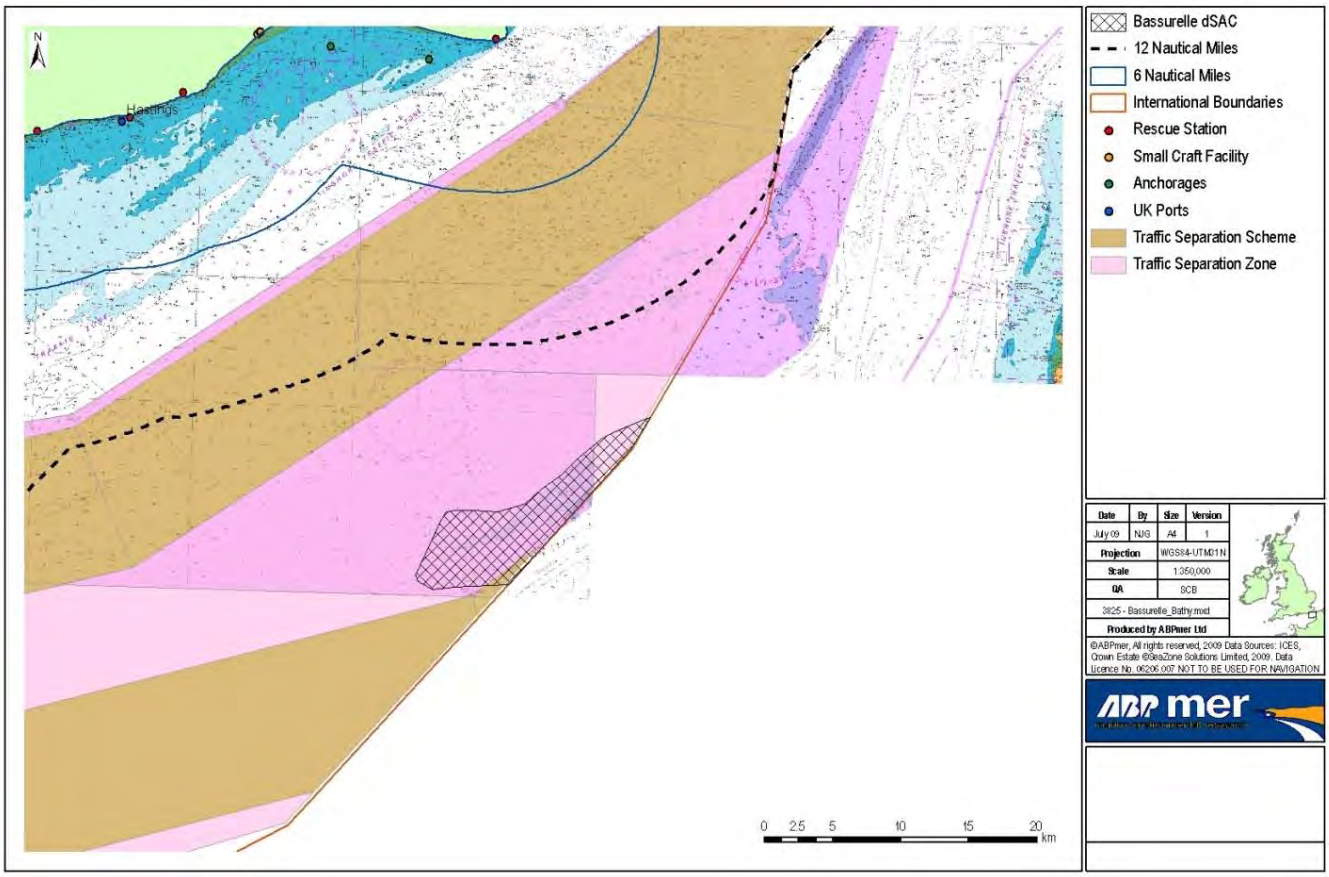

Figure 2.7 Map of shipping activity in the UK water in the area of the Bassurelle Sandbank possible Special Area of Conservation

Recreation

2.3.17 Given the distance of the site offshore, recreational use will be low and restricted to recreational boat movements across the Channel to France. A cruising route identified by the Royal Yachting Association (RYA) passes through the site. In addition, given that the area is within a shipping separation zone, the usage for recreational fishing is likely to be low.

[23] From Automatic Identification System (AIS) data bursts received at the Saltdean, East Sussex AIS Receiving Station http://saltdean-ais.co.uk/AIS_Google.htm

2.4 Baseline condition of the site

2.4.1 The condition of the site into the future if it was not designated forms the baseline against which to judge the value of potential improvements as a result of designating the site and achieving its conservation objectives.

2.4.2 The main consequence of not designating the site is that the Habitat Regulations would not apply as a matter of law to plans or projects. This would mean that regulatory authorities would not be required to consult JNCC regarding potentially damaging effects on the sandbank and its typical species. The 'precautionary principle' (see Section 1.2) is an important element of assessment under Regulation 25 which requires that regulatory authorities only consent to a plan or project if it they can ascertain that there will be no adverse effect on the habitat (or any other feature of European importance). This effectively places the burden of proof on developers and regulators to show the absence of an effect, rather than requiring those opposing a scheme to show that there would be an effect.

2.4.3 The potential application of the Habitat Regulations to important habitats in the site is clearly a relevant and important consideration when considering the need for an SAC. This is because a range of activities, or changes to current activities, are likely to be proposed in the area. These activities include the commercial fishing which could potentially have an adverse impact on the habitat. In the absence of an SAC, and thus without recourse to the Habitat Regulations, it would be difficult to influence the consenting of these activities through, for example, the introduction of effective mitigation measures.

2.4.4 Table 1.6 below summarises initial assessment of the site's vulnerability to pressures which was undertaken for the draft conservation objectives and advice on operations for the site[24]. It will be updated and revised as necessary to reflect new evidence. The advice on operations assesses the vulnerability of the site's sandbanks to current activities on the site. The vulnerability is determined by a combination of the sandbank's sensitivity to the specified impacts and current exposure to those impacts. Only if a feature is both sensitive and exposed to a human activity is it considered vulnerable. The scores of relative sensitivity, exposure and vulnerability have been derived using best available scientific information and informed scientific interpretation and judgement (sources of the information are noted in the conservation objectives and advice on operations document itself).

2.4.5 The process uses sufficiently coarse categorisation to minimise uncertainty in information and reflects the current state of our knowledge and understanding of the marine environment. Sensitivity, defined as the intolerance of a habitat, community or individual (or individual colony) of a species to damage, or death, from an external factor has been assessed for the effects of broad categories of human activities. Current exposure of the sandbanks to the effects of these categories of activities was assessed on best available advice (as of December 2008).

Key:

Sensitivity key: ••• = High sensitivity; •• = Moderate sensitivity; • = Low sensitivity; ○ = No known sensitivity* and **?** = Insufficient information to make assessment (*Meaning: 'Sensitivity of the feature has been researched and no evidence of sensitivity to this pressure has been found')
Exposure key : High = High exposure; Medium = Medium exposure; Low = Low exposure; None = No known exposure; Unknown level = Exposure of an unknown level; and **?** = Insufficient information to make assessment.

[24] JNCC 2008 Bassurelle Sandbank: Draft Conservation Objectives and Advice on Operations v1.0 Dec 2008. Joint Nature Conservation Committee, Peterborough.

Table 2.5 Sensitivity, exposure and vulnerability of the Bassurelle Sandbank to physical, chemical and biological pressures

List of pressures which may cause deterioration or disturbance (with example activities)		**Bassurelle Sandbank:** Sandbanks which are slightly covered by seawater all the time		
		Sensitivity	**Exposure**	**Vulnerability**
Physical Loss	**Removal** (e.g. aggregate dredging, isolated rock dump, infrastructure development)	•••	**None**	**No known vulnerability**
	Obstruction (e.g. permanent constructions [oil & gas infrastructure, windfarms, cables] & wrecks)	•••	**None**	**No known vulnerability**
	Smothering (e.g. drill cuttings)	•	**None**	**No known vulnerability**
Physical Damage	**Changes in suspended sediment** (e.g. screening plumes from aggregate dredging)	•	**Low**	**Low**
	Physical disturbance or abrasion (e.g. mobile benthic fishing, anchoring, windfarm scour pits, pipeline burial, potting)	••	**Low**	**Low**
Non-physical disturbance	**Noise** (e.g. boat activity, seismic)	○	**?**	**No known vulnerability**
	Visual presence (e.g. recreational activity)	○	**None**	**No known vulnerability**
Toxic contamination	**Introduction of synthetic compounds** (e.g. TBT, PCBs, industrial chemical discharge, produced water, fuel oils)	•••	**Unknown level**	**Vulnerability (not quantifiable)**

	Introduction of non-synthetic compounds (e.g. heavy metals, crude oil spills)	•••	**Unknown level**	**Vulnerability (not quantifiable)**
	Introduction of radionuclides (e.g. nuclear energy industry)	**?**	**None**	**Insufficient information**
Non-toxic contamination	**Changes in nutrient loading** (e.g. outfalls)	••	**Unknown level**	**Vulnerability (not quantifiable)**
	Changes in thermal regime (e.g. cooling water discharges)	••	**None**	**No known vulnerability**
	Changes in turbidity (e.g. laying of pipelines, aggregate dredging)	•	**Low**	**Low**
	Changes in salinity (e.g. outfalls from rigs, ships)	••	**None**	**No known vulnerability**
Biological disturbance	**Introduction of microbial pathogens** (e.g. outfalls)	**?**	**?**	**Insufficient information**
	Introduction of non-native species and translocation (e.g. ballast water, hull fouling)	**?**	**?**	**Insufficient information**
	Selective extraction of species (e.g. bioprospecting, scientific research, demersal fishing)	••	**Low**	**Low**

2.4.6 Table 1.6 shows that the Bassurelle Sandbank and associated biological communities are vulnerable at low levels to:

- Changes in suspended sediment (demersal trawling);
- Physical disturbance or abrasion (demersal trawling); and
- Selective extraction of species (demersal trawling).

It has not been possible to determine whether the interest feature is vulnerable to Noise (acoustic), Introduction of radionuclides, Introduction of microbial pathogens and Introduction of non-native species.

2.4.7 The sandbanks are at risk of deterioration under the Baseline as a result of the potential impacts of fisheries using certain gear types (including bottom trawling). This would not achieve the aims of the Habitats Directive to maintain or restore Annex I habitats. This current (and uncertain) exposure of the site to pressures provides the baseline against which to assess the potential impacts of changes under Option 1 (designation of the site).

2.4.8 The conservation objective for the management of Bassurelle Sandbank pSAC is to restore the sandbank feature to a favourable condition, if more detailed evidence indicates the effect of the above activities on the sandbank is significant. Activities that do not result in pressures to which the feature is sensitive may continue at their current levels of spatial and temporal intensity. The management of other activities to which the feature is vulnerable may need to be reviewed by the competent authorities responsible. If in future new information suggests that the condition of the feature at the site is not significantly affected by current activities at the site, then the conservation objective for the sandbank will be to maintain the sandbank feature in favourable condition.

2.4.9 In its current condition a range of benefits are obtained from the site. The possible degradation of the site if it is not designated would potentially decrease each of these values. The baseline levels of activity in relation to the benefits of fisheries and recreation are described above. Other benefits include:

- **Option and Non-use Value**: The general population benefits from values associated with potential future use, existence and others' use of the site.

3. Approach to Analysis of Costs and Benefits

3.1 Approach

3.1.1 As stated in Section 1.3, this IA presents a quantitative assessment of the potential costs and benefits of the policy option to designate the site. Impacts have been assessed in the IA over a time scale of approximately ten years. Section 2 has outlined the current situation at the site (the baseline) in terms of economic activities. It should be remembered that the baseline may not be static (it may be subject to ongoing change), and the assessments try to take account of this (for example, where a benefit is identified as preventing continuing decline).

3.1.2 The same method has been adopted to develop impact assessments for a suite of marine Natura 2000 sites planned for consultation in 2010. However, different sites have different baselines, activities and circumstances. Therefore even with a consistent methodology, different assumptions may be made, different impacts may be identified and even the same type of impact may have different monetary cost or benefit estimates associated with it for different sites.

3.1.3 Section 4 examines the potential costs and benefits of the policy option. The costs and benefits are subject to significant uncertainty. The main causes for this uncertainty are that:

- it is difficult to predict what management measures will be implemented at the site;
- it is difficult to know how operators will respond to them and what costs they will incur in doing so; insofar as they can predict this there may be reasons in some cases for not supplying this information, for example: commercial sensitivities;
- it is difficult to predict how the condition of the protected features and surrounding environment would change under Option 1; and
- there is currently very little evidence which can be used to monetise values for environmental changes in the marine environment.

3.1.4 Therefore the approach to the assessment has:

- used techniques to obtain the best available information on these areas of uncertainty. This is done firstly by developing scenarios on likely potential maximum and minimum management measures; and secondly by drawing on sources most likely to be able to predict the impacts of these potential management measures and provide relevant information;
- used a framework of factors likely to determine the benefits to society of achieving the conservation objective of the site;
- identified the possible minimum and maximum impact on economic sectors rather than the actual expected impact; and
- not assessed the precise direct or indirect impacts on businesses, employees or elements of the supply chain potentially affected. This is because there is not sufficient evidence available to accurately predict the distribution of net changes in activity within the regional economy.

3.1.5 The analysis in this document is based on the methods that are judged to be the best practicable option to address the issues considered.

3.2 Costs

Policy costs to the private sector:

3.2.1 The policy costs arising from designation of the site are the costs of changes to existing and planned human activities taking place within or in the vicinity of the site in order to comply with the policy objectives. The costs considered include the direct and indirect economic costs of those changes to

operators, enforcement authorities and wider society. The costs are expected to result from the potential range of management measures that may be required to meet the site's objectives. The costs are considered relative to the baseline of not designating the site.

3.2.2 The costs borne by each of the key sectors will depend on the extent to which their activity impacts on the site and the management measures deemed necessary to restore the sandbanks and their typical species to favourable condition, if that is deemed necessary. These are not yet known. It has therefore been necessary to make assumptions about what measures might be required for this site. It is assumed that the site will be designated in 2010, and that some costs (for example, of more detailed EIA requirements and fisheries measures) would arise immediately. The timing of some one-off costs are unpredictable within the ten year assessment period, so are assumed to fall in 2015. ABPmer *et al*. (2007) is used to estimate generic costs of different actions.

3.2.3 Policy costs to the private sector may arise if:

i. Consent for a plan or project is granted, it may be subject to restrictions on the timing or manner in which the plan or project can be implemented which result in costs to businesses. These restrictions are determined by the competent authority in its assessment under the Habitats Regulations, and
ii. Consent for an existing or new plan or project is refused by the competent authority (described further in Annex 2), the cost to businesses is assumed for this analysis to be the additional cost of undertaking the plan or project elsewhere.

Administration costs to the private sector:

3.2.4 Administration costs include the time and expenditure necessary for the private sector to provide the information and documentation required to comply within the administration requirements of a regulation. They exclude the 'policy costs' which are the time and expenditure necessary to adjust activities (for example to reduce pollution) to comply with regulatory standards. Potential administration costs to the private sector are:

i. the costs to businesses of finding out about the designation and the management measures that may be needed;
ii. for ongoing or new plans and projects, the cost to businesses of providing the competent authority[25] with more detailed information than that which would be required if the site was not designated. This may be required to inform the competent authority's assessment of the plan or project under the Habitat Regulations (further details provided in Annex 2)

Costs to the public sector:

3.2.5 Potential administration costs to the public sector are:

i. the costs of monitoring the site and maintaining up-to-date information on its conservation status; and
ii. the costs of regulating human activities that might impact on the conservation status of the site.

3.3 Benefits

3.3.1 The potential benefits of site designation primarily arise from the increase in the area protected for nature conservation purposes[26]. The benefits are assessed in terms of the impact on ecosystem

[25] A competent authority is a body which grants consents for regulated activities in the marine area, for example the Department of Energy and Climate Change (DECC) is the competent authority for wind farm, oil and gas licensing.

[26] Heritage benefits, such as conservation of archaeological site, are the only benefits discussed that arguably sit outside the scope of nature conservation. Such benefits are still included.

services provided by the natural environment that benefit humans[27]. The following overarching categories of ecosystem services are used[28]:

- Provisioning services (such as provision of food);
- Regulating services (such as absorbing waste); and
- Cultural services (such as the role of marine species in culture and the artistic inspiration they provide).

3.3.2 Here, and following Defra's guidance on the valuation of ecosystem services, the relevant benefits gained from supporting services[29] (such as cycling of nutrients and photosynthesis) are viewed as essentially being captured by the other benefits listed and so are not examined separately[30]. The analysis in Section 4 is based on a list of ecosystem service categories that are relevant to the site. *Relevant* means that the designation of the SAC would have a noticeable impact on the benefits derived from the service.

3.3.3 The impacts of designation on the services are analysed further in Section 4.3 below. The methods used to assess the benefits of marine sites are discussed in more detail in Annex 4. In addition to these categories it is recognised by many that biodiversity has an intrinsic value. This value is viewed as an inherent characteristic of biodiversity that gives rise to other benefits. Therefore, intrinsic value cannot be assessed using economic valuation techniques[31]and is not analysed further here. However, this does not mean that intrinsic value is regarded as unimportant.

[27] As described in Parliamentary Office of Science and Technology (2007).

[28] These are the categories used in the in the Millennium Ecosystem Assessment (Millennium Ecosystem Assessment (2005), available at http://www.millenniumassessment.org) which are also used in Defra's guidance on valuing ecosystem services Defra (2007). Identification of the services that fall under these categories draws on Beaumont *et al.*, (2006); eftec, (2006); and Frid, (2008).

[29] Described in the Millenium Ecosystem Assessment (2005), available at http://www.millenniumassessment.org as "those that are necessary for the production of all other ecosystem services".

[30] For example, small marine organisms called phytoplankton form the basis of the food chain, ultimately ending in caught fish species. Valuing phytoplankton on its own in addition to these services they support would lead to double counting.

[31] This is referred to for example on page 7 of Section 2 of this Millennium Ecosystem Assessment report: <http://www.millenniumassessment.org/documents/document.354.aspx.pdf>.

4. Costs and benefits of Option 1: Designate the site

4.1 Implications of designation

4.1.1 Once sites have been submitted to the European Commission for designation, in order to achieve the site's Conservation Objectives, Competent Authorities are required to assess the impacts on the sandbanks and their typical species of any activity they consent and possibly to review some existing consents or permissions (as discussed in Annex 2). Consequently the likely effects on offshore industries operating at or near the site are not yet known.

4.1.2 In order to be able to assess the range within which the true costs and benefits are likely to fall, scenarios have been developed to identify the minimum and maximum potential management measures that might be required at the site. Development of these was informed by the assessment of vulnerability of the features of the site and the potential environmental impacts of activities if the site was not designated (as discussed in Section 2.4).

4.1.3 The minimum scenario requires the smallest change in activities that may be needed compared with the baseline and therefore presents the minimum potential effect on activities. The minimum management scenario is what would be likely to be needed to 'maintain' the sandbank feature in favourable condition.

4.1.4 The maximum scenario is at the other end of the scale: it involves the maximum change in activities that may be needed. This is in line with maximum costs. Table 3.1 outlines these scenarios for the site. This is an estimate of the measures that may be required for the site to achieve the conservation objective of 'restoring' the sandbank feature to favourable condition, if when more detailed information becomes available, current activities at the site are deemed to be affecting the sandbank feature.

Table 4.1 Summary of the "minimum" and "maximum" management scenarios that may be required for Bassurelle Sandbank possible SAC	
"Minimum" scenario:	*"Maximum" scenario*
Existing non-consented activities: No change to current management	Existing non-consented activities: **Fisheries:** • Prohibition of the use of types of fishing gear likely to affect the sandbank (e.g. trawling, dredging). Further details provided below in the section on fisheries. **Shipping:** No change to current management.
Plans or projects: Development activities are consented with increased assessment costs. However, no known existing or future plans or projects are likely to be affected by the designation of the SAC.	Plans or projects No known existing or future plans or projects are likely to be affected by the designation of the SAC at this site. However, if plans or projects were to be proposed under stricter management measures: - Businesses may make adjustments to projects proposed relative to the baseline to ensure no significant effects. - Businesses are also likely to invest more in proposal assessment. - Businesses may face delays to consents if appropriate assessment is required. . - It is possible that more projects would not pass the hurdle of no 'adverse effect'. - In response to a perception of more rigorous consideration of proposals development activities are less likely to be proposed.

4.2 Costs

Aggregate extraction

4.2.1 There are no existing licensed areas within or very close to the site. Existing extraction activity is licensed 13 km away, so there is potential for plumes to disperse into the site, however, existing studies indicate that the plumes are unlikely to extend as far as the site. Also, studies have shown[32] that the production of sediment plumes at sites with similarly high turbidity is negligible compared with the background levels of suspended sediment, and high concentrations of suspended sediment are unlikely to affect the animals in this area as they are evolved to exist in high turbidity waters. Suspended sediment concentrations and near-bed loads can be affected as a result of sediment plumes, particularly where screening occurs. Future changes in extraction practices could result in an increase in these effects, through the production of increased sediment plumes, though this has to be set in context of natural background concentrations of suspended sediment.

4.2.2 There are currently no applications, options or prospecting areas within or immediately adjacent to the site which may affect the features of the site. However, the region in general is known to contain significant long-term resources of marine aggregates, which could be exploited at some time in the future. Aggregate extraction in the site would remove and lower the surface of the seabed and remove animals that live on and burrow beneath the surface within the path of the dredge. Further, suspended sediment concentrations and near-bed loads can be affected as a result of sediment plumes, particularly

[32] Hitchcock & Drucker, 1996, Newell *et al*., 1998, and Newell *et al*., 2002.

where screening occurs. As outlined above, this has to be set in context of natural background concentrations of suspended sediments.

4.2.3 Based on current knowledge, designating the Bassurelle Sandbank is not expected to impact on the aggregate dredging industry. If future applications within or adjacent to the site are proposed, the following is likely:

- to set the site in context, a more in-depth knowledge of the site and the wider marine environment will be required for Appropriate Assessment than is required for EIA purposes. Designation may slightly raise costs faced by the industry for environmental survey work;
- If Appropriate Assessments for future applications conclude that applications for aggregates extraction in the site could significantly impact on the sandbanks or their typical species there is a possibility that projects could not go ahead unless for reasons of overriding public interest. It is very unlikely that aggregate extraction would be approved at this site on the grounds of overriding public interest, as alternative sites for extraction exist;
- If restrictions on screening for future applications are required to protect the sandbanks and their typical species this could increase the operating costs of extracting the aggregates.

Cables

4.2.4 There are no cables running through the site. Within a 10 km radius there are two telecommunication cables. Future laying of replacement and new cables and anchoring of vessels laying cables in the site may cause temporary damage and disturbance to the sandbanks. This is likely to be short-lived and the habitat has high recoverability. If cable laying is considered to be a significant issue for the site, cable layers may be required to identify and use methods that cause least disturbance as part of their licence conditions. Previous research into the impacts of alternative cable laying techniques could potentially inform this. Due to the short-lived nature of the disturbance and the opportunity to influence routes and installation methods through the planning process, further controls on the installation of cables are unlikely to be necessary.

Fisheries

Introduction

4.2.5 This subsection considers the costs to the UK economy of implementing the minimum and maximum set of management measures that are consistent with meeting the site's conservation objectives[33]. It should be noted that the uncertainties and the approach described in Section 3 are particularly relevant here. The uncertainties in this context are around precisely what fishing activity occurs within site, what management measures may be necessary in reality, how fishing activity may change in response to measures and what the cost and wider economic impact of that change will be. The assessment of the maximum measures therefore aims to make particularly cautious assumptions to ensure that it does not underestimate the maximum costs.

4.2.6 The analysis carried out to inform this IA provides a best estimate indication of economic impacts of changes that may result from the potential range of management measures that may be needed in the site. Further analysis would be needed to understand more precisely what the impacts might be and how fishers might respond to the management measures. Information was requested from stakeholders through the formal consultation to inform this revision of the analysis, in particular that the landings data used fully represents the impacts on fisheries, but no comments or additional data were received.

[33] The management of activities to protect the features of the site is the responsibility of the Competent Authorities. The degree of management necessary to protect the features of the sites is therefore not yet known. In order to be able to estimate the economic cost of designation a **theoretical** range of management measures have been drafted to inform this. It must be emphasised that **these measures are entirely theoretical and therefore it is not yet known how representative they will be of the actual management required for the sites.** This uncertainty is indicated by the fact that the management measures used in the Impact Assessments are a range.

Management scenarios

4.2.7 There is greater uncertainty about the likely management scenarios for this pSAC for fisheries than there is for other sites, partly because the data on current activities are very generalised to ICES rectangles, which are much larger than the site boundary, and partly because any fisheries management measures would need to be developed in collaboration with France for the adjoining French pSAC.

MINIMUM MANAGEMENT SCENARIO

4.2.8 In the minimum management scenario it is assumed that if more detailed data on activities within the site are available, and show no significant effect on the sandbank of existing activities, no additional measures will be necessary to control fishing activities. This scenario would therefore not increase costs to fishing businesses.

MAXIMUM MANAGEMENT SCENARIO

4.2.9 The maximum management scenario is that all towed demersal gear may be prohibited within the site; this is taken to include trawling and dredging. The value of landings potentially affected is assessed by multiplying the indicative estimate of landings from within the site by the proportion of landings from trawling and dredging, giving an estimate of £31,000 (£63,000 x 49%).

Direct impact on the fishing sector

4.2.10 The preceding subsections considered the minimum and maximum landings potentially affected by implementing the potential maximum management measures. In reality vessels would adapt to the measures in different ways and it is difficult to predict whether and to what extent landings potentially affected will translate to a net reduction in income to the fishing sector. Potential actions vessels might take in response to measures might, for example, include:

- Continuing fishing within the site and switching gear type;
- Increasing landings from other areas;
- Reducing fishing overall or exit sector;
- Other vessels increasing landings to meet demand.

4.2.11 In reality vessels would respond in a variety of ways but there would be certain patterns and constraints. Vessels bottom trawling may be constrained by the feasibility of switching gear and may have to displace their effort to alternative grounds. Whether fishermen were able to fish at alternative sites would depend on a number of considerations, a key factor being the availability of suitable grounds. Another important factor is whether boats would have the capacity to reach alternative grounds; smaller vessels may not have the capacity to go further out from the shore or to deeper grounds. There may also be weather and other seasonal constraints to moving to alternative areas.

4.2.12 Where vessels did find alternative grounds there might be implications on costs and profitability. If the grounds were further afield, this would mean increased fuel and labour costs, a higher proportion of time spent steaming rather than fishing and therefore reduced profitability. Alternative grounds might also be less productive, reducing the productivity and profitability of days spent fishing.

4.2.13 In some cases, particularly where moving to an alternative ground would become unprofitable, individual fishermen may stop fishing. This may not necessarily mean that total income to the sector will reduce. This is because quotas are not usually given to an individual fisherman; they operate at larger spatial scales than the possible SAC. Another fisherman not restricted by the management measures for the SAC could potentially utilise the remaining quota. The ability of other fishermen to draw on under-

utilised quota is not straightforward however, and would be dependent on the same limitations (such as fuel prices) outlined above.

4.2.14 Given the issues above, it is very difficult to predict how individual vessels will respond to any closures that may be required and the resultant costs. At this stage, the best that can be done is to suggest that the direct effect of a closure would probably be to reduce the profitability of fisheries in the area by some margin.

4.2.15 There are two main ways in which the fishing sector could respond to potential displacement of landings that might result from the maximum management measures: 1) the sector maintains landings sometimes at increased financial costs 2) that landings and therefore incomes are reduced. In either case this translates to reduced profit. While both are likely to happen to some extent, without further information it is not possible to predict the extent of either. Given this, to create a range:

- It is assumed that at minimum there may be no extra cost to the sector as fishers will be displaced elsewhere at no extra cost;
- It is assumed that the maximum extent of reduced profit is only bounded by the value of landings that might be affected minus the costs that vary directly with the change in activity[34]. These costs[35] represent 15.4% of total income sector wide[36]. Therefore at maximum this could be £26,000 per year.

Indirect effect on local and regional economy under the maximum scenario

4.2.16 A reduction in income to fishing vessels would be likely to have knock-on effects through the local and regional economy, for example because it would reduce the demand for services such as processing, packaging, storage and transport as well as activities to support fishing vessels more directly. The Seafish Industry Authority 2007[37] has developed 'Input-Output multipliers' to provide an indication of the scale of these knock-on effects. Applying these suggests that foregoing £31,000 of income from landings per year would lead to a reduction in UK output of £58,000 per year[38]. The same study also provides a basis for estimating the associated number of job losses (for the activities such as those mentioned earlier in this paragraph) which is estimated at 2 job losses[39]. It should be emphasized that these multipliers are applied to the maximum landings that could potentially be affected and that in practice that level of impact is highly unlikely as vessels would adjust to measures.

4.2.17 Some ports could potentially be especially affected, for example: those ports for which a high proportion of fishing activity derives from within the area.

[34] This is because 1) if the sector takes action to retain the level of landings they may face increased costs in doing so, but these costs are unlikely to exceed the value of landings retained minus the costs already incurred directly associated with those landings 2) if the sector reduces activity it will lose income but not have to bear the costs directly associated with that activity: some costs that may more generally be variable like labour costs may still have to be borne irrespective of whether the changes considered here are made.
[35] The only costs that are clearly associated with the relevant landings are fuel and oil costs.
[36] 2005 Economic Survey of the UK Fishing Fleet. Short Report. Seafish Industry Authority. February 2007. See figure 2
[37] Seafish, 2007.
[38] The input-output multipliers for impact on UK GDP are calculated assuming a multiplier of 1.9 for demersal activity. It should be noted, however, that multipliers are limited to a static reflection of economic linkages and will change over time and with differences in the economic structure of different areas.
[39] The estimate of job losses per £1m of GDP is 71 for demersal fishing.

Summary of the direct costs to the fishing sector

Table 4.2 Summary of "minimum" and "maximum" additional costs for fisheries of designating the possible SAC compared with not designating the site, and assumptions made

"Minimum" costs:	*Assumptions*	*Change in Costs*
Existing activities ▪ Impacts from closing the site to demersal fishing	Fishing activity is displaced to alternative grounds without major impacts.	0
"Maximum" costs:	*Assumptions*	*Change in Costs*
Existing activities ▪ Impacts from closing the site to demersal fishing	Fishing cannot move to alternative grounds, impacts estimated from potential loss of profits.	£26,000 per year from 2010

4.2.18 The costs for the fishing industry have a PV[40] of £0 under the minimum scenario and £224k under the maximum scenario. There may be unknown costs relating to impacts on landings not captured in the data used.

Shipping

4.2.19 Shipping could potentially affect the sandbanks through abrasion and collision of vessels with each other and/or the sandbanks. Toxic and non toxic contamination and nutrient and organic enrichment of sediment and water column may also occur due to accidental spillage of fuel or cargo or the release of sewage and rubbish by shipping. However, controls are in place to address any pollution incident (MARPOL). Oil spill response plans exist and well developed emergency plans are in place for major incidents, including the National Contingency Plan for Marine Pollution from Shipping and Offshore Installations. Controls to protect the sandbanks from abrasion, collision and pollution are unlikely to be necessary as such damage is not in the shipping operator's interests.

4.2.20 Ballast water discharge could potentially cause disturbance to species living in the site through the introduction of non-native species and the transfer of species from one location to another. Controls on ballast water discharge are in place through international legislation and shipping traffic within the region is highly regulated, so further controls are unlikely to be necessary as it is unlikely that ballasting operations take place in the area.

4.2.21 There is no maintenance dredging within the site, or directly adjacent to it and there are no dredge disposal sites in the possible SAC therefore measures for these activities are unlikely to be necessary.

4.2.22 No additional measures to manage shipping are likely given the minimum and maximum management scenarios, under the current level of shipping movements and vessel sizes.

Recreation

4.2.23 Given the distance of the site offshore and its location within a busy shipping area there are few recreational activities within the site. Any activities are related to recreational boating and there are unlikely to be any management measures required to control the passage of such boats.

[40] This represents the value of all the costs over the 10 year assessment period (2010 – 2019), adjusted to current prices using a discount rate of 3.5% and added together.

Administration costs to business

4.2.24 None of the costs identified in this section so far are survey, monitoring and other administration costs. There might be one-off costs to fishers of adjusting navigation gear to reflect new boundaries for management measures, but it is assumed that these costs are not significant.

Administration costs to Government

4.2.25 Competent authorities and statutory nature conservation advisers may incur costs in enforcing the regime as a result of requirements to review existing activities that may have impacts on the sandbanks or their typical species in the designated site. However, there are no known consents relevant to the site which would require such a review.

4.2.26 Competent authorities, with advice from the statutory nature conservation advisers, will need to develop, implement and communicate management measures for the site.

4.2.27 As described in Section 3.3, for a new plan or project that is likely to have a significant effect[41] on the sandbanks or their typical species within the pSAC, the competent authority for that activity will need to undertake Appropriate Assessments (hereafter AA[42]). Carrying out the AA may involve significant work for the competent authority, with advice from JNCC as appropriate. It could also increase costs for JNCC but these costs are not estimated here. However, there are currently no known plans or projects relevant to the site which may require AA.

4.2.28 MMO is unable to estimate the officer time and related expenses until the management measures are developed in more detail[43]. DECC would be likely to face additional monitoring and staff costs in relation to AAs if developments are proposed within or near to the SAC. As above, however, there are no known plans or projects to which this would apply at this site.

- ***Monitoring and enforcement.***

4.2.29 Competent authorities will also be responsible for monitoring activities in the site, to check that no un-consented plans or projects are taking place and that conditions of consents are being met. They will also be responsible for enforcing conditions on consents and management measures on fisheries that are not subject to consent.

4.2.30 The Marine and Fisheries Agency (now MMO) assessed that each year an additional day of Royal Navy surveillance time (cost £8,850 per day), 2 hours air surveillance (cost £2,114 per hour) and 1 prosecution case (cost £10,375 per case) might be necessary to enforce fisheries management measures effectively[44]. This is estimated to cost approximately £23,450 per year, and is assumed to start in 2010. It is assumed that administration of records and other activities is carried out as part of existing duties.

4.2.31 JNCC will have a requirement to monitor the condition of the site and report on it every six years. Survey costs following the designation of the site are provisionally estimated at £50,000 over six years, or £8,333 per year.

4.2.32 This IA assumes that the enforcement effort, and therefore the costs of Government enforcement are constant for both the minimum and maximum management scenarios. The effectiveness of enforcement at sea can vary, and unsuccessful enforcement is identified as a risk in relation to this site

[41] A 'significant' effect is one that brings a significant risk of not achieving the designated site's conservation objectives. Assessment of significance in this respect is established on a case by case basis.
[42] Appropriate Assessment is described in more detail in Annex 1.

[44] This is based on costings provided by the Marine and Fisheries Agency (pers comm., 15/07/09).

(see Section 4.4). The costs are identified under ii) above: annual costs of £8,330 for JNCC and £23,450 for the MMO from 2010, giving total costs of approximately £31,800 per year.

4.3 Benefits of designating the site

4.3.1 Discussion is provided below of the impact of designating the site based on specific ecosystem services. The site feature 'Sandbanks which are slightly covered by seawater all the time' has been graded as II for 'Degree of conservation of structure' which indicates that the feature is not in pristine condition. As outlined, further information will be required to assess and monitor the condition of the interest feature on the pSAC[45].

Provisioning Services

Fish, shellfish and other crustaceans for human consumption

4.3.2 The region around Bassurelle Sandbank is a nursery area for lemon sole, mackerel and sand eel and a spawning area for cod, lemon sole, sole, plaice, sand eel and sprat (Coull *et al.*, 1998). Extraction of fish that are both targeted by fisheries and caught as bycatch may be affected by designation, with the potential for both positive and negative effects. On the one hand, if fisheries are controlled within the site to conserve the sandbanks and their typical species then this could reduce the amount of fish caught from the site. These controls could contribute to sustainable management of some fish stocks at the site and as a result the abundance of fish may increase. On the other hand, controls could cause fishing effort to be displaced to other areas outside of the site, increasing pressure on the stocks in these areas, but not overall.

4.3.3 The control of commercial fishing on the site may extend the longevity of shellfish, and there may be greater numbers of larger individuals that can produce more young. This may contribute to a potentially larger population of fish in the future.

Cultural Services

Recreation

4.3.4 The distance from shore means that recreational activity at this site is not believed to be significant.

Cultural Heritage

4.3.5 Protection of the sandbanks from damage caused by certain kinds of mobile fishing gear may protect maritime heritage from some inadvertent damage. Improvement would probably be minimal, as ships normally attempt to avoid wrecks, and this type of impact is not likely to be relevant for Bassurelle Sandbank due its location relative to the shipping lanes.

Option Values

4.3.6 Some people will gain from having the option to benefit in future from conservation of a good example of sandbank habitat, even if they do not currently plan to benefit from it (option value). This arises because if the site is not protected now there may not be good examples of sandbank habitat still available to conserve in future. Also, some will gain from knowing that it is conserved in case future

[45] JNCC (2009)

information reveals that the sandbank habitat provides important benefits that we are not currently aware of (quasi-option value).

Non-use Values

4.3.7 Most people who benefit from knowing the site is being conserved are unlikely to use it or get tangible benefits from it. This is known as the existence value of conserving the site. Some people will also gain satisfaction from knowing that the sandbank habitat is being conserved for others in the current generation (altruistic value) and for future generations (bequest value).

4.3.8 There is reliable evidence in the UK and elsewhere that the general population has significant positive non-use values associated with rare species (see for example Christie *et al*, 2004 for general discussion or White, *et al*, 2001 for examples of value of conservation of specific mammal species). Additionally, Beaumont *et al* (2006) estimate the non-use value of biodiversity of the UK marine environment at £0.5-1.1 billion per year across the UK population.

4.3.9 The effects of designation of the Bassurelle Sandbank for the provision of each of the ecosystem services described above is summarised in Table 4.3 below as the difference due to site designation in comparison to the baseline (no designation). There are four additional columns of information in the table to clarify our understanding of the qualitative changes in ecosystem services arising from (non-) designation:

- ***Relevance*** Relating to the amount of ecosystem good or function arising from site;
- ***Value weighting*** Categorisation of how valuable the amount of ecosystem good or function from the site is in providing benefits to human population;
- ***Scale of benefits*** Consideration of actual potential to deliver benefits (for example considering leakage, delivery to human population, etc);
- ***Confidence*** Level of confidence in our current knowledge of all other categories (in other words, scale of benefit, level of improvement, etc.).

4.3.10 Based on the above categories, an overall level of each ecosystem service is defined with its own confidence level. Following, an overall level of total benefits is also defined.

4.3.11 The parameters are assigned a level for each service from a menu, defined as:

- ***Nil*** Not present/none.
- ***Minimal*** Present at a very low level, unlikely to be large enough to make a noticeable impact on ecosystem services.
- ***Low*** Present/detectable, may have a small noticeable impact on ecosystem services, but unlikely to cause a meaningful change to site's condition.
- ***Moderate*** Present/detectable, noticeable incremental change to site's condition.
- ***High*** Present/detectable order of magnitude impact on sites condition.

Table 4.3 Potential significance of ecosystem services improvements for Bassurelle Sandbank pSAC

Services	Relevance to site	Baseline	Option 1	Value weighting	Scale of benefits	Confidence
Fish, shellfish and other crustaceans for human consumption	**Moderate.** Habitat for some commercially significant fish.	**Moderate.** Continued demersal fishing may decrease quality of habitat.	**Moderate.** Any improvement on site likely to increase longevity and number of various species of human interest, but potentially with some minor negative consequences prohibiting very large gains from designation.	**Low.** SAC sites can be of high value for stocks, but relative importance of this site among others is hard to judge.	**Low - Moderate.** A small portion of increase in fish at the site is likely to be offset by declines elsewhere, limiting positive benefits.	**Moderate.** Possible that taking same catch level outside site is not neutral on stocks overall.
Recreation	**Minimal.** Site has very low level of interest for boating.	**Low.** Recreational value is very small.	**Low.** Any improvement on site unlikely to change numbers of visitors.	**Low**. More easily accessible alternatives available.	**Minimal.**	**High**. Unlikely to be any significant change in activity.
Research and Education	**Low.** Some opportunity for research.	**Low.** Possible degradation removes scientific and educational value.	**Low-Moderate.** Some recovery of biodiversity and community composition possible.	**Low.** Potential education and research area modest compared to adj French site.	**Low.** Not well situated to be the focus of large amounts of research and education.	**Moderate.** Site is well understood.
Cultural Heritage	**Low.** Some wrecks present	**Low.** Possible degradation from demersal gear can damage wreck sites.	**Low-Moderate.** Protection from demersal gear may help protect site	**Moderate.** Of public and academic interest	**Low.** Low level, but broad interest.	**High.** Sites are mapped and well understood
Non-use and option values of natural environment	**Moderate.** Evidence public has preferences for rare and visually appealing biodiversity and features.	**Moderate.** Possible degradation, likely to have adverse effect on species.	**Moderate.** Some recovery of biodiversity and community composition possible.	**Low-Moderate.** Values are positive, but interdependent with French designation.	**Moderate.** Although relatively low value per capita, all UK population is relevant and this site is relatively unique.	**Moderate.** Site well understood
Total value of changes in ecosystem services				**Low**		**Moderate/High**

Benefits to economic activity

4.3.12 Designation of sites may assist the different sectors that make use of the marine environment in the context of marine spatial planning and a more strategic consideration of available resources. This would mean that sectors can undertake future plans and applications for their operations (for example applications for licenses) with the better knowledge of a) the nature conservation significance of different parts of the marine environment, and b) the added costs of these applications within or adjacent to a site boundary, as opposed to outside it. This may result in a focus of activity away from a site. This will be dependent upon appropriate marine resources being available within the region but outside of any site(s).

4.4 Summary of costs and benefits

4.4.1 Table 3.4 below summarises the potential costs and benefits of the site analysed in this section. The costs are analysed over a period of 10 years from designation in 2010, and are discounted at 3.5%. There are uncertainties in the assessment of costs, and some costs have not been quantified.

Table 4.4 Summary of estimated costs and benefits for Option 1: Designate the site

	Minimum Scenario Costs	*Maximum Scenario Costs*	*Benefits*
Costs assessed in Section 4 analysis		Fisheries: direct costs of £26k p.a. from 2010	Moderate
	Enforcement: annual costs of £8,330 p.a. for JNCC and £23,450 p.a. for MMO.		
Average Annual Costs [46]	£32k	£58k	
Total one-off	0	0	
Total (PV)	£202k	£400k	
Not assessed	- Costs from cumulative impacts of marine N2K sites - Costs beyond next 10 years	- Costs from cumulative impacts of marine Natura 2000 sites - Costs beyond next 10 years - Possible fisheries impacts not captured in landings data - Knock-on effects to local economy of fisheries impacts	- Role of feature in wider ecosystem, including potential increase in fish stocks - prevention of degradation beyond next 10 years and ecosystem restoration where damage has occurred

Risk of unintended consequences

4.4.2 The main risks of unintended consequences are assessed to be the following:

- Displacement of fishing activity from inside the site to neighbouring areas could lead to gear conflicts between different fishing methods, or conflicts between fisheries and other users of the marine environment;

[46] This is the average of all the annual costs identified over the 10 year assessment period (2010 – 2019). Some annual costs do not start in 2010, but they are still averaged over the 10 years.

- Displacement of fishing effort to alternative grounds may intensify fishing at those grounds to unsustainable levels, causing net damage to fish stocks overall;
- There is a risk that enforcement efforts at sea are not successful due to uncontrollable circumstances. Unsuccessful enforcement may mean that the management measures are not implemented; this risks not achieving the conservation objectives for the site.

4.4.3 If the pSAC is not designated and therefore no management measures to conserve the sandbanks and their typical species are put in place, this would likely lead to further deterioration of the site and therefore risk of infraction from the European Commission and likely legal challenge from non-governmental organisations.

4.4.4 The costs of infraction involve the potential legal costs of dealing with this situation, and potential substantial fines. Infringements can result in significant costs to the Member State. For any infringement that the UK incurs, there will be a minimum penalty of a €11m (£9.4m) lump-sum payment and an additional daily payment of €13k-800k (£11k-680k). The capacity to pay by the UK is one of the factors determining fines and is similar to France, so French cases provide an indication of the possible level of fines:

- Persistent infringement of Community conservation practice in relation to fisheries resulted in fines of €20m (£17.1m, lump sum) and €317k (£271k, daily payment)[47];
- The EC proposed a fixed fine (to European Court of Justice) for France of €28 million (£23.9m) and a daily penalty payment of €118k (£101k) for failure to comply with the EU Drinking Water Directive[48];
- The EC proposed a daily fine of €168,800 for France for failure to implement the Contained use of GMs Directive[49].

4.4.5 A total fine of €20m (approximately £17.7m[50]) is considered to represent a good estimate of the scale of fine that the UK may have to pay for infringement of the Habitats Directive. The likelihood and size of a potential fine increase if the site is one of several that are not designated by the UK. The scale of a fine is difficult to predict, but is estimated at £1m lump sum per site and up to £100k per day per site, based on a likely total UK lump sum fine of £9.4m - £17.7m.

4.5 Impact Tests

4.5.1 Consideration has been given within the main body of this assessment to relevant and identifiable environmental impacts and effects on sustainable development. The further tests specified by the IA guidance are considered here of the impacts of designating Bassurelle Sandbank pSAC.

Competition Assessment

4.5.2 This assessment, shown in Table 3.5 is restricted to the sectors where significant potential costs are identified in Table 3.4 above, namely: Fisheries. The table analyses the impact of the maximum potential management measures that may be required (which represent the maximum impact on activities in the site). The maximum scenario is used as the purpose at this stage is to assess whether any significant impact is likely. A more detailed assessment of likely impacts should also take into account the minimum scenario. Cumulative impacts of designation of Natura 2000 sites in the marine environment could have more significant effects on competition in some sectors.

[47] http://ec.europa.eu/fisheries/press_corner/press_releases/archives/com05/com05_82_en.htm
[48] http://www.eurosite.org/insight_brussels/2007_03/5_3.html
[49] EU press release, 1 February 2006
[50] Based on exchange rate of £1:€1.13.

4.5.3 The designation of the site is not expected to have a significant impact on competition.

Table 4.5 Competition assessment for Bassurelle Sandbank	
Would the proposal:	*Fishing*
1. Directly limit the number or range of suppliers?	No
2. Indirectly limit the number or range of suppliers?	The main tests of this are whether the policy is expected to: - raise significantly the costs of new suppliers relative to existing suppliers, - raise significantly the costs of some existing suppliers relative to other existing suppliers, or - raise significantly the costs of entering, or exiting, the affected market. This will not be the case for the sectors considered, with the possible exceptions of: - Fishing: gear conflicts arising as a result of displaced effort.
3. Limit the ability of suppliers to compete?	No restrictions on factors which determine the ability of suppliers to compete.
4. Reduce suppliers' incentives to compete vigorously?	No reduction of incentive to compete.

Small Firms Impact Test

4.5.4 Small and Medium Enterprises (SMEs) are considered for these purposes to be those with fewer than 250 employees. The industries potentially affected by the designation with a significant number of SMEs are: fishing.

4.5.5 In the fishing industry it is likely that the fishing vessels that may be impacted by any additional management measures would be owned by SMEs and in most cases the company would not own more than one vessel. The number of fishing vessels affected would depend on the actual management measures implemented. Small businesses would be affected to the extent that vessels fishing at the site have to move resulting in reduced profitability (see Fisheries analysis in Section 4.2).

Legal Aid

4.5.6 Legal aid is available to individuals with an annual income of less than £12k or with income of between £12k and £21k and disposable income of less than £3.3k where the case is an interest of justice case. It is considered very unlikely that the designation of sites will lead to increased use of legal aid.

Carbon Assessment

4.5.7 The main purpose of a carbon assessment is to establish the impact of designating the site on greenhouse gas (GHG) emissions. It is suggested that management of the site to maintain the sandbanks and their typical species in favourable conservation status (Option 1) relative to existing potential management of the site (the Baseline) is unlikely to have a major impact on GHG emissions. If fishing vessels have to travel longer distances to access fishing grounds this would increase emissions. However, the impacts of this are not expected to be significant as vessels already operate over a variety of fishing grounds reached with different, and sometimes lengthy, steaming times.

Rural proofing

4.5.8 Some of the economic costs identified in relation to fisheries and other sectors may occur in remote coastal communities in predominantly rural areas of the UK. Due to the less diversified nature of

their local economies, the potential impacts may be relatively more important as a proportion of economic activity in these locations.

Other Impact Tests

4.5.9 The designation of the site is not thought to have impacts in terms of Health, Race equality, Disability equality, Gender equality and Human Rights. Therefore, these impacts tests are not considered relevant to this Impact Assessment.

5. Conclusions

5.1.1 The purpose of this impact assessment is to provide information about the impacts of the designation of Bassurelle Sandbank possible SAC and is carried out in order to inform stakeholders and government about the options for the site. This is done by considering the impacts of Option 1 (designating the site) relative to the baseline (to not designate the site). The requirement for the UK to designate sufficient sandbank habitat to comply with the Habitats Directive makes pursuit of the baseline unlikely.

5.1.2 As the potential management measures for the site will only be known in detail after the site has been designated, it is necessary to make assumptions about what measures might be required for this site. This assessment analysed a range of impacts, relative to the baseline, defined through minimum and maximum management scenarios. Not designating the site would risk infraction proceedings, and potentially total fines in the region of £9.4m - £17.1m.

5.1.3 The minimum scenario involves the smallest change in activities that may be needed compared with the baseline and therefore presents the minimum potential effect on activities. The maximum scenario is at the other end of the scale: it entails the largest change in activities that may be needed compared with the baseline and thereby presents the maximum potential effect on activities.

5.1.4 As Table 3.4 above shows, the impacts under Option 1 (over a time frame of 10 years) of designating the site are estimated to be:

- The PV of the costs is estimated to lie within the range of £202k to £400k; and
- The expected benefits are moderate, arising largely from changes in non-use values.

5.1.5 In addition, a range of costs and benefits are possible through wider network and strategic effects. In terms of network benefits, designation of the proposed suite of marine Natura 2000 sites will prevent degradation of areas of the marine environment and enable restoration where damage has occurred over the next ten years and beyond, which could potentially be of benefit to the wider ecosystem and enable increases in fish stocks. It has not been possible to assess these benefits. It should be noted that establishment of a network of protected sites is a key purpose of the policy (the Habitats Directive) stimulating the possible designation. This makes it important to consider the benefits of this site in the context of the value of the network of sites.

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APPENDIX A – Summary of cost calculations

Fisheries

Description			One-off Cost		Annual Cost		
Scenario	***Cost Item***	***Type***	***Cost £k***	***Year Experienced***	***Cost £k***	***Year Commencing***	***Average***
MINIMUM		Policy					-
							-
							-
							-
							-
							-
Total		***Admin***	0		0		-
		Policy	0		0		-
		Both	0		0		-

	Discount	100.0%	96.6%	93.4%	90.2%	87.1%	84.2%	81.4%	78.6%	75.9%	73.4%
		0	1	2	3	4	5	6	7	8	9
Cost £k	***Present Value***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Both	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Scenario	***Cost Item***	***Type***	***Cost £k***	***Year Experienced***	***Cost £k***	***Year Commencing***	***Average***
MAXIMUM	Reduced catch	Policy			26	2011	23.40
							-
							-
							-
							-
							-
Total		***Admin***	0		0		-
		Policy	0		26		23.40
		Both	0		26		23.40

Cost £k	***Present Value***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***
	197.80	0.00	25.12	24.27	23.45	22.66	21.89	21.15	20.44	19.74	19.08
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy	197.80	0.00	25.12	24.27	23.45	22.66	21.89	21.15	20.44	19.74	19.08
Both	197.80	0.00	25.12	24.27	23.45	22.66	21.89	21.15	20.44	19.74	19.08

Enforcement							
Description			**One-off Cost**		**Annual Cost**		
Scenario	***Cost Item***	***Type***	***Cost £k***	***Year Experienced***	***Cost £k***	***Year Commencing***	***Average***
MINIMUM		Policy					-
	MMO costs	Policy			23.5	2010	23.50
	JNCC survey costs	Policy	8.33			2010	-
							-
							-
							-
Total		***Admin***	0		0.0		-
		Policy	8.33		23.5		23.50
		Both	8.33		23.5		23.50

	Discount	100.0%	96.6%	93.4%	90.2%	87.1%	84.2%	81.4%	78.6%	75.9%	73.4%
		0	1	2	3	4	5	6	7	8	9
Cost £k	***Present Value***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24
Both	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24

MAXIMUM		Policy					-
	MMO costs	Policy			23.5	2010	23.50
	JNCC increased survey costs	Policy	8.33			2010	-
							-
							-
							-
Total		***Admin***	0		0		-
		Policy	8.33		23.5		23.50
		Both	8.33		23.5		23.50

Cost £k	***Present Value***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24
Both	202.28	23.50	22.71	21.94	21.20	20.48	19.79	19.12	18.47	17.85	17.24

APPENDIX B – French fishing activity

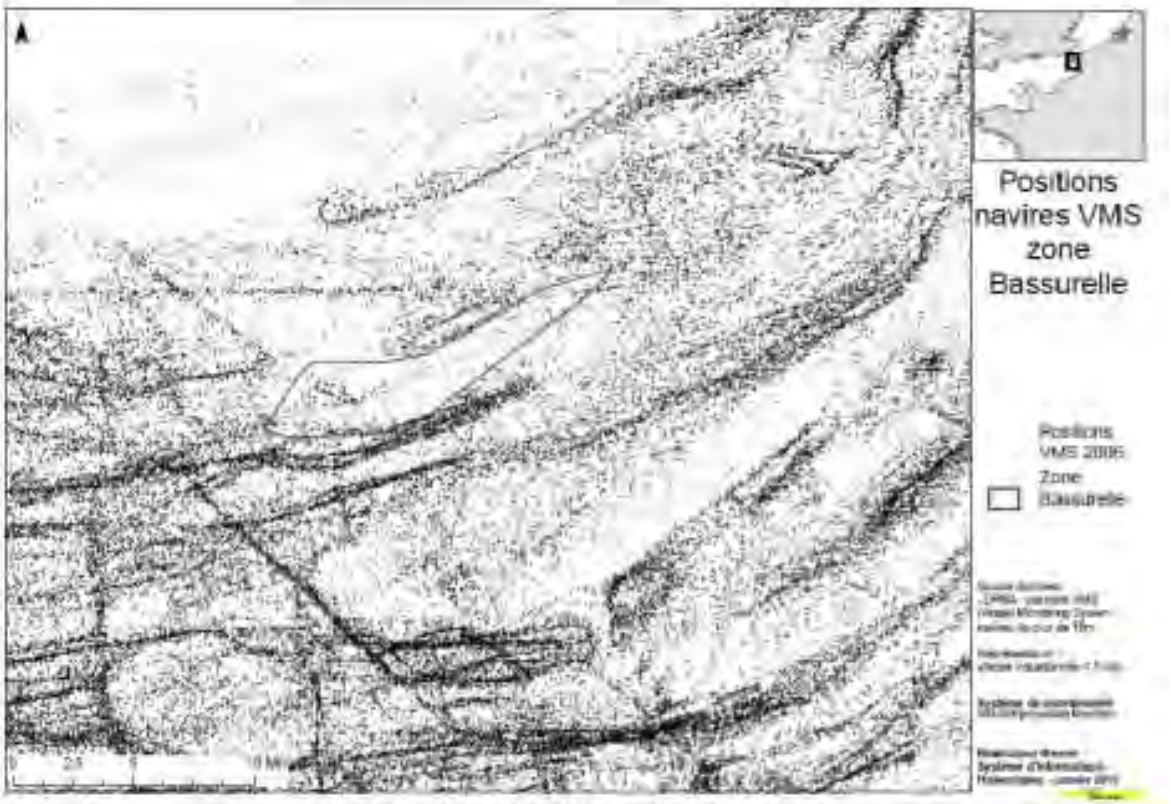

Figure 3 - Map of VMS localization in 2006

Figure 4 - Map of VMS localization in 2007

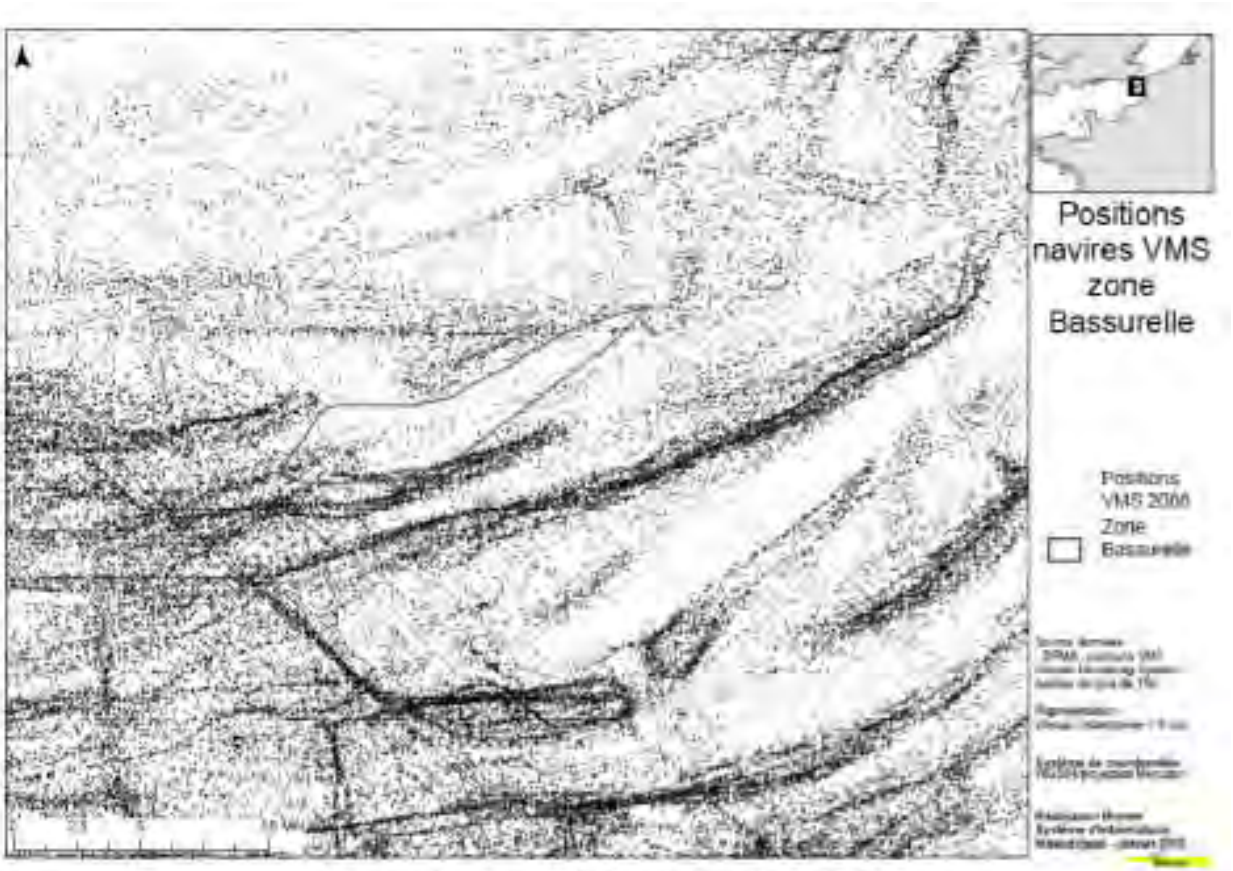

Figure 5 - Map of VMS localization in 2008