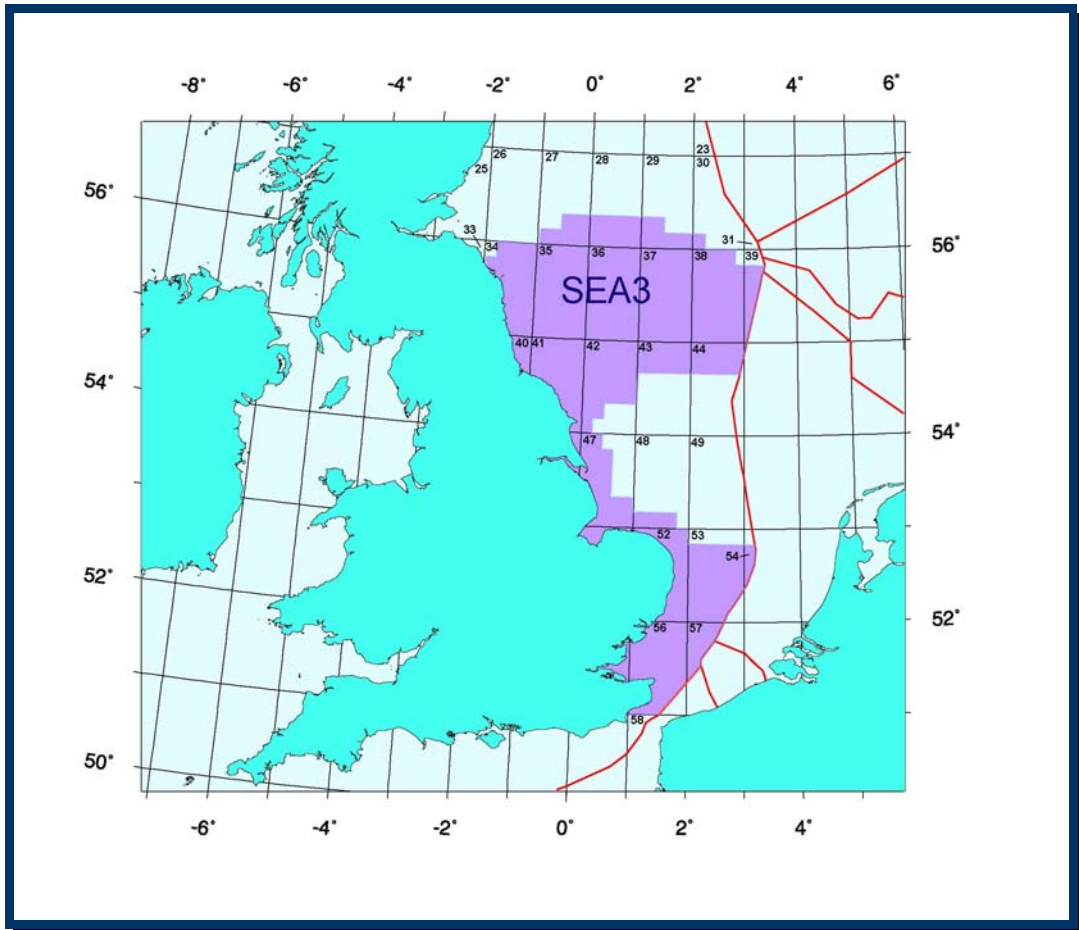


Department of Trade and Industry

Strategic Environmental Assessment of the Central and Southern North Sea SEA 3

Background Pamphlet



June 2002

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1 BACKGROUND AND PURPOSE

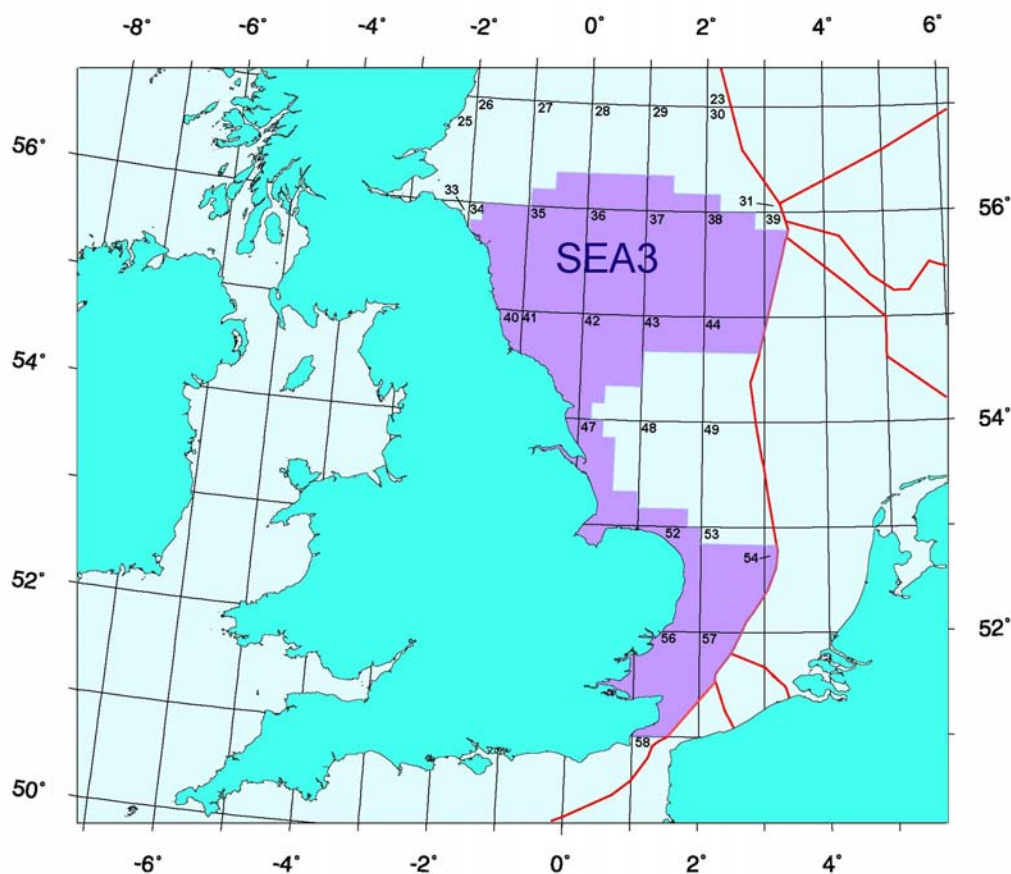
1.1 Introduction

Strategic Environmental Assessment (SEA) is the process of appraisal through which environmental protection and sustainable development may be considered, and factored into national and local decisions regarding government (and other) plans and programmes – such as oil and gas licensing rounds.

The UK Department of Trade and Industry (DTI) is the principal regulator of the offshore oil and gas industry and has taken a proactive stance on the use of SEA as a means of striking a balance between promoting economic development of the UK's offshore oil and gas resources and effective environmental protection.

The SEA process is currently being coordinated for the DTI by a team of independent consultants from **Geotek Limited** and **Hartley Anderson Limited**.

Figure 1 – The area to be covered by the DTI's 3rd SEA (SEA 3)



Notes:

1. To allow full consideration, the SEA extends to the shoreline including areas within bay closure lines although these areas would not form part of an offshore licensing round
2. The SEA 3 area abuts the SEA 2 area to the north-east and in the centre

1.2 Background to the DTI SEA process

In 1999, the DTI began a sequence of sectoral SEAs of the implications of further licensing of the UK Continental Shelf (UKCS) for oil and gas exploration and production. The first UK offshore Strategic Environmental Assessment (SEA 1) was conducted in 1999/2000 in preparation for the 19th Licensing Round and covered the deep water area along the UK and Faroese boundary. The DTI's second SEA (SEA 2) considered the environmental and socio-economic implications of a proposed licensing round covering the parts of the North Sea which contain the majority of the UK's existing oil and gas fields. The public consultation phase on SEA 2 ended in early December 2001 and the 20th Licensing round was announced in early January. Full details of the SEA process, the steering group (established in early 2001) and documentation can be found at www.habitats-directive.org, a website specially set up to promote transparency and facilitate public consultation.

In 1996, a European Directive was proposed on the assessment of the effects of certain plans and programmes on the environment (Com (96)511), to provide a *strategic* complement to the Council Directives which require Environmental Impact Assessments of *specific* developments and activities (85/337/EEC and 97/11/EC). The Strategic Environmental Assessment Directive, as the proposed Directive is colloquially known, was adopted in June 2001 (Directive 2001/42/EC). Although the Directive does not require to be implemented in the UK until 2004, the DTI SEAs are being carried out in accordance with its requirements.

1.3 Purpose and structure of this document

The purpose of this document is to provide a basis for consultation with a wide range of organisations in relation to the third SEA (SEA 3). SEA 3 is considering a proposed 21st offshore licensing round which would cover parts of the central and southern North Sea - see Figure 1. The objective of this consultation is to identify questions, concerns, information gaps and potentially useful information sources so that these may be considered through the SEA process.

In particular, the DTI wishes to ensure that for SEA 3 it:

1. Is aware of and has access to all relevant environmental information
2. Has identified public and stakeholder issues and concerns which should be considered in the SEA

To facilitate this, the document gives an overview of the:

1. Proposed licensing
2. The Strategic Environmental Assessment process
3. Draft contents list for the public consultation assessment document
4. Key information sources on the environment
5. Further consultation to be conducted as part of the SEA process

1.4 Information sources available on the SEA website

The SEA website (www.habitats-directive.org) includes a range of downloadable documentation relating to the SEA process and to the first two SEAs. A number of these documents are modular for use in more than one SEA.

Documents available on the DTI SEA website which provide useful background are:

1. Strategic Environmental Assessment of the Mature Areas of the Offshore North Sea (SEA 2)
2. SEA 2 Post Public Consultation Report
3. An Overview of Offshore Oil and Gas Exploration and Production Activities (SD_001)
4. Pockmarks in the UK Sector of the North Sea (TR_001)
5. Biological aspects of pockmarks in the UK Sector of the North Sea (TR_002)
6. Contaminant Status of the North Sea (TR_003)
7. North Sea Fish and Fisheries (TR_004)
8. Overview of plankton ecology in the North Sea (TR_005)
9. Marine mammals in the North Sea (TR_006)
10. Human activities in the North Sea (TR_007)
11. North Sea Geology (TR_008)
12. Overview of Cephalopods relevant to the SEA 2 Area (TR_009)
13. The Potential Socio-Economic Implications of Licensing the SEA 2 Area (TR_010)

2 CONSULTATION

2.1 SEA 3 consultation process

Strategic Environmental Assessment involves extensive consultation, seeking information and opinions from the public, environmental groups, industry and others to be considered in the decision making process.

Key elements of the SEA 3 consultation are:

- SEA website
- Scoping consultation (winter 2001, and spring 2002)
- Stakeholder dialogue meeting at the draft assessment stage (summer 2002)
- A 3 month public consultation period following publication of the SEA 3 assessment and supporting documents on the website (autumn 2002)
- Post consultation report (winter 2002)

For SEA 3, initial scoping consultation with a range of academics and conservation organisations was carried out in late 2001 focussed on ascertaining seabed survey needs. This is because of the timescale needed to organise, collect and analyse offshore seabed samples. The conclusion of that consultation was that there was sufficient existing information on seabed habitats and fauna for SEA purposes.

In keeping with the Government's move towards "less paper" where feasible, scoping and subsequent consultation will be conducted electronically where appropriate using e-mail and the SEA website. Details of the consultation feedback contacts are given in Section 5.

2.2 Changes following previous consultation

The practice of SEA is developing over time and following consultation feedback received on SEA 2 a number of changes to the DTI SEA process are planned for SEA 3. These include:

- Use of a scoping pamphlet during the SEA 3 scoping step
- Small changes to the document format (see Section 4.1)

- Involving the expert authors of contributing studies in the assessment of potential effects of licensing
- Greater depth of consideration of cumulative and synergistic effects
- Improved transparency on the decision making process on which blocks to offer for licensing

3 LICENSING PROPOSALS

3.1 Licensing process

Licensing of the UK Continental Shelf (UKCS) for oil and gas exploration and production commenced in 1964 and has progressed through a series of rounds. The proposed licensing round would be the 21st and would offer Production Licences covering parts of the central and southern North Sea - see Figure 1.

A brief overview of offshore licensing is given below and more detail can be found on the DTI's website at www.og.dti.gov.uk/upstream/licensing.

For licensing purposes the UKCS is divided into quadrants of 1° of latitude by 1° of longitude (except where the coastline, “bay closing line” or a boundary line intervenes). Each quadrant is further partitioned into 30 blocks each of 10 x 12 minutes. The average block size is about 250 square km (roughly 100 square miles).

There are two types of Seaward (offshore) Licences:

- **Exploration Licences** which are non-exclusive, permit the holder to conduct non-intrusive surveys, such as seismic or gravity and magnetic data acquisition, over any part of the UKCS not held under a Production Licence. These licences may be applied for at any time and are granted to applicants who have the technical and financial resources to undertake such work.
- **Production Licences** grant exclusive rights to holders “to search and bore for, and get, petroleum”, in the area of the licence covering a specified block or blocks. Relinquishment requirements on successive licences have created blocks subdivided into as many as six part blocks. An overview of oil and gas exploration and production activities which could follow licensing is provided on the SEA website (Report SD_001).

3.2 Current licensing in the SEA 3 area

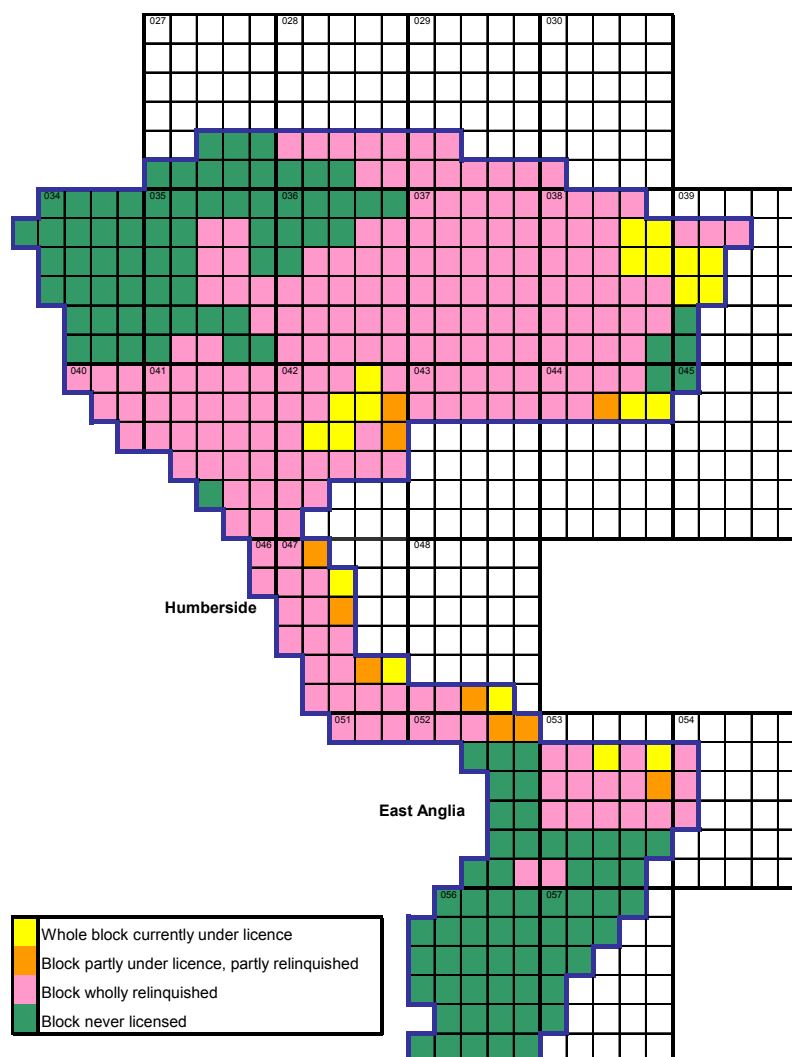
Blocks within the SEA 3 area were first offered for licensing in 1964. The area comprises, 362 blocks of which 30 are currently wholly or in part under licence, 205 which have been licensed but are now wholly relinquished, and 127 which have not previously been licensed – see schematic representation overleaf.

3.3 Location and scale of potential 21st round licensing

SEA 3 will address all the Blocks within the area in terms of the implications of licensing for oil and gas exploration and development. Depending on the outcome of the SEA process and other Government considerations, all or a proportion of the Blocks within the SEA 3 area may be offered for licensing in the 21st round.

However, it should be noted that since much of the area has limited potential for commercial oil and gas reserves and uptake of the Blocks offered is expected to be low at around 10%.

Figure 2 – Schematic of blocks in the quadrants within the SEA 3 area, either currently licensed or potentially available for licensing



The SEA 3 area can be divided into 4 sub-areas based on geological characteristics and potential for finding oil and gas:

- **Mid North Sea High (roughly Quadrants 34-39)**
 The expectation of the presence of commercial hydrocarbon (oil) reserves is low in blocks in the Mid North Sea High. Mature hydrocarbon source rocks have yet to be identified linked to this region, except for the eastern blocks in Quadrant 39, where migration from mature Jurassic/Carboniferous strata in the Central Graben is likely.
- **Carboniferous Trend (roughly Quadrants 43-44)**
 There has been very limited exploration success to date in the northern parts of Quadrants 43 and 44. The best prospects, however, are believed to be in the area covered by Blocks 43/5 to 43/10 and 44/5 to 44/10 and possibly in the central Blocks of Quadrant 42. Previous finds in this area have been gas/gas condensate.
- **Rotliegend Flank Trend (extension of existing production in SEA 2 into Quadrants 41-42, 46, 47, and northern Quadrants 51-54)**

Areas with potential prospectivity are considered to be the southern part of Quadrant 42, parts of Quadrant 47, and the north-central Blocks of Quadrants 52-54. The prospectivity in this area relates to extensions of the existing gas producing areas.

- **London Brabant Massif (roughly Quadrants 51-52, southern Quadrants 53-54 and Quadrants 56-57)**

Potential reservoir rocks in the London-Brabant Massif area have not been identified and there has been limited interest or exploration in these Blocks.

4 THE ASSESSMENT

4.1 Draft contents for SEA 3 Consultation Document

Non-Technical Summary

1 Introduction and Background

- 1.1 Introduction
- 1.2 Licensing context and SEA sequence
- 1.3 Scope and purpose of the SEA
- 1.4 Organisation of the consultation document
- 1.5 Supporting studies and documents

2 Strategic Environmental Assessment Process

- 2.1 Introduction
- 2.2 Overview of the SEA process
- 2.3 Scoping the SEA
- 2.4 Stakeholder dialogue session
- 2.5 Studies
- 2.6 Further consultation process

3 Regulatory Context

- 3.1 SEA Directive
- 3.2 Licensing
- 3.3 Control of operations

4 Activities

- 4.1 Introduction
- 4.2 Alternatives
- 4.3 Scenarios
- 4.4 Stages of activity

5 Physical and Chemical Environment

- 5.1 South and Central North Sea overview
- 5.2 Geology, substrates and shoreline types
- 5.3 Climate and meteorology
- 5.4 Oceanography and hydrography
- 5.5 Contamination of water and sediments

6 Ecology

- 6.1 South and Central North Sea overview
- 6.2 Plankton
- 6.3 Benthos
- 6.4 Cephalopods
- 6.5 Fish
- 6.6 Marine reptiles
- 6.7 Birds
- 6.8 Marine mammals
- 6.9 Coastal habitats

7 Coastal and Offshore Conservation Sites

- 7.1 Overview
- 7.2 Existing coastal conservation sites within the SEA 3 area
- 7.3 Potential for coastal and offshore sites within the SEA 3 area
- 7.4 Marine and coastal archaeological resources and sites

8 Users of the Sea and Coastal Environment

- 8.1 Introduction
- 8.2 Oil and gas
- 8.3 Fisheries
- 8.4 Shipping
- 8.5 Aggregate extraction
- 8.6 Recreational uses
- 8.7 Cables
- 8.8 Renewable energy
- 8.9 Aquaculture
- 8.10 Other uses of the coastal environment
- 8.11 Other uses of the offshore marine environment

9 Other Resources Potentially Relevant to the SEA 3 Area

- 9.1 Introduction
- 9.2 Denmark, Germany and the Low Countries
- 9.3 Listing of protected sites

10 Consideration of the Effects of Licensing

- 10.1 Introduction
- 10.2 Approach
- 10.3 Evaluation of minor effects
- 10.4 Consideration of effects
- 10.5 Cumulative and synergistic effects
- 10.6 Transboundary effects
- 10.7 Socio-economic effects

11 Conclusions

- 11.1 Conclusions
- 11.2 Gaps in understanding
- 11.3 Recommendations
- 11.4 Overall conclusion

12 References

- Appendix 1:** Glossary and Abbreviations
- Appendix 2:** Identification of Environmental Interactions
- Appendix 3:** Summary of Expert Assessment Workshop

4.2 Key information sources on the environment

The SEA 2 Consultation and Underpinning Documents (see Section 1.4) contain extensive bibliographies to the natural environment of the North Sea and the effects of oil and gas operations, the majority of which will also be used for SEA 3. Key information sources for the SEA 3 area not referenced in these earlier documents and new publications of broad application since SEA 2 are:

Barne JH, Robson CF, Kaznowska SS, Doody JP and Davidson NC (Eds) (1995). Coasts and seas of the United Kingdom. Region 6 Eastern England: Flamborough Head to Great Yarmouth. Joint Nature Conservation Committee, Peterborough

Barne JH, Robson C, Kaznowska SS, Davidson NC and Doody JP (Eds) (1996). Coasts and seas of the United Kingdom. Region 5: North East England Berwick-upon-Tweed to Filey Bay. Joint Nature Conservancy Committee, Peterborough

Barne JH, Robson CF, Kaznowska SS, Doody JP, Davidson NC and Buck AL (Eds) (1998). Coasts and seas of the United Kingdom. Region 7 South-east England: Lowestoft to Dungeness. Joint Nature Conservation Committee, Peterborough

Doody JP, Johnston C and Smith B (1993). Directory of the North Sea Coastal Margin. Joint Nature Conservation Committee, Peterborough

Jones L (2002). Natural Area Profile Southern North Sea Version II – Draft Document. English Nature

Synthesis and New Conception for North Sea Research "(SYCON)" a German Federal Ministry for Education and Research project funded between 1 May 1998 to 31 August 2000 and carried out under the leadership of the Centre for Marine and Climate Research, University of Hamburg. The project synthesis report and several working group documents are available at <http://www.rrz.uni-hamburg.de/SYKON/>

Zühlke R (2001). Monitoring biodiversity of epibenthos and demersal fish in the North Sea and Skagerrak. Monitoring Report 2001 to the Commission of the European Community. EU project 98/021

These, together with the references and data sources therein, form the starting point for understanding the regional environment as a basis for the SEA assessment.

Throughout consultation we wish to identify such additional information as may be relevant to the conduct of a Strategic Environmental Assessment.

4.3 Studies envisaged

In addition to those studies completed during SEA 2, (several of which are of direct applicability to SEA 3, see Section 1.4), a number of data compilations/syntheses are recognised as necessary to support the SEA 3 assessment. This initial list is given below and will be augmented as necessary on the basis of information received during scoping consultation.

- Coastal and Marine Archaeology
- Coastal Fish and Fisheries
- Coastal and Offshore Conservation Sites
- Other Users of the SEA 3 Coastal and Marine Area
- Socio-economic Implications of SEA 3 licensing
- Interfaces between onshore, nearshore and offshore regulatory regimes as they apply to oil and gas activities

5 YOUR INPUT

Stakeholder and public consultation is an important part of the SEA process and the DTI is keen to promote this through the mechanisms outlined in Section 2.1 of this pamphlet.

The process for SEA 3 has reached the assessment stage and if you know of environmental information or issues that you believe may not have been identified during scoping consultation, please draw them to our attention before the Stakeholder Dialogue Workshop in early August using the mechanisms given below.

Please send your input marked “SEA 3 Input” either:

1. By e-mail to SEA@hartleyanderson.com
2. By post to Christine Weare, Department of Trade and Industry, Atholl House, 86-88 Guild Street, Aberdeen, AB11 6AR
3. Alternatively feedback can be made via the SEA website at www.habitats-directive.org using the comments facility on the How Do You Get Involved page (to insert text from a Word document use copy and right mouse click for paste). Please indicate that your comments relate to “SEA 3 Input”