

Guidelines for Developing Conservation Objectives for Marine SACs

Learning from the UK Marine SACs Project, 1996 – 2001

Canllawiau ar gyfer Datblygu Amcanion Cadwraeth ar gyfer ACA Morol

Dysgu oddi wrth Brosiect ACA Morol y DU, 1996 – 2001

The UK Marine SACs Project is a joint venture involving English Nature (lead agency), Scottish Natural Heritage, Countryside Council for Wales, Environment and Heritage Service, Department of the Environment for Northern Ireland, Joint Nature Conservation Committee, and the Scottish Association for Marine Science, with financial support from the European Commission's LIFE Nature Programme.

This document was produced with the support of the European Commission's LIFE Nature Programme and published by the UK Marine SACs Project, English Nature, Peterborough on behalf of Scottish Natural Heritage, Countryside Council for Wales, Environment and Heritage Service, Department of the Environment for Northern Ireland, Joint Nature Conservation Committee and the Scottish Association for Marine Science.

ISBN 1 85716 581 0

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This document should be cited as: EN, SNH, CCW, EHS (DoE(NI)), JNCC & SAMS (2001). *Guidelines for Developing Conservation Objectives for Marine SACs - Learning from the UK Marine SACs Project 1996-2001*. Peterborough, English Nature.

This report can be found at the Project website www.ukmarinesac.org.uk or can be obtained in hard copy by contacting: The Enquiry Service, English Nature, Northminster House, Peterborough, PE1 1UA e-mail: enquiries@english-nature.org.uk Phone 01733 455100 Fax 01733 455103

Preface

The UK Marine SACs Project started in 1996 as a partnership of the statutory nature conservation agencies¹ and the Scottish Association for Marine Science. The project was set up as a European pilot project to help implement the Habitats Directive on marine sites.

The overall project goal, now completed, was to establish management schemes² on twelve UK marine Special Areas of Conservation (SACs). Local project officers were employed at most sites to forge partnerships with local ‘relevant authorities’³ and coordinate preparation of the management scheme, which included setting conservation objectives⁴ for the site.

This report is not a statement of nature conservation agency policy. Neither is it a recipe book of conservation objectives – if only it could be that simple! The marine environment and the sites we seek to manage for conservation are complex and diverse. If we overlay on this, the diversity of cultures, social and economic relationships, and histories at each site, the difficulty of having a single unified approach becomes self-evident.

One size will not fit all...

The purpose of this report is to transfer our learning and encourage further development of concepts that underpin conservation objectives as crucial components of management schemes. The target audience is conservation agency staff and practitioners in the UK and other member states – it should also be of value to relevant authorities.

The scope of this report covers the legal background, practical development, supporting information, and presentation of conservation objectives. It does not cover publication of the UK agencies Regulation 33 advice, RAMSAR designations, consultation methods, detailed feature-by-feature guidance, or monitoring, which are addressed in other reports⁵.

This LIFE project has been about experimenting. In this case trialing ways of setting conservation objectives that are practical, and which express the aims of the Habitat Directive at a site level. The report is about different approaches, their similarities and differences - starting from the legislation and ending with objectives that work at each site.

All country agencies have taken a broadly similar approach to identifying high-level objectives to be achieved on sites. The degree of detail in the supporting information has differed. Scottish Nature Heritage (SNH) has not included detailed descriptions and tables of how to recognise favourable conditions for each feature of the SACs, as has been the case in England. In Wales a more detailed approach has been adopted. Northern Ireland’s approach lies somewhere between these.

In Scotland many SACs involve small, often remote, but intensely interested communities of people whose livelihoods are felt to be more likely to be directly affected by the management process and its outcome than elsewhere in the UK. Site ‘features’ in these SACs have been

described in detail, but in such cases, conservation objectives are based on the high level outcomes required by the legislation. This leaves the local relevant authorities with the responsibility for deciding the detail⁶.

England is characterised by sites where the ‘local community’ is large, and where residents are less likely to be personally affected by marine SAC management schemes. Relevant authorities, environmental, recreational and commercial groups represent community and stakeholder interests. Against this background, the nature conservation agencies, often working through specialist staff employed by these groups, have adopted a more prescriptive approach to setting conservation objectives. Agreement is reached in an environment of technical expertise and analysis, probably with more detachment than would be possible with a smaller, more ‘involved’ community.

In England site features are described in much the same way as they are in Scotland, but in addition detailed ‘performance standards’ or ‘targets’ are commonly set as part of the conservation objectives. This gives a much clearer ‘steer’ to decision makers, and simplifies auditing. However some practitioners feel this more prescriptive approach disenfranchises local people and decision makers – constraining responsiveness, dampening enthusiasm and reducing local ownership of the action plan. They also argue that the prescriptive approach gives stakeholders grounds for holding conservation agencies accountable for any failures, despite the fact that relevant authorities are legally responsible for all site management.

Wales is attempting to pioneer a further step by preparing a “vision statement” for each ‘feature’. Vision statements will be positive, identifying and encouraging desired outcomes in terms of species and wildlife, and sparing in the use of ‘negative mechanisms’ to constrain harmful activity. This process of defining desired outcomes, or, in the jargon of the Directive, defining ‘favourable conservation status’ is difficult - some contend impossible. Despite the challenges, in Wales they expect this visioning step will make the information gathering⁷ and performance standard⁸ setting steps more outcomes driven.

These different approaches to the setting of conservation objectives reflect the ‘enabling’ nature of the legal framework, and the variety of situations faced around the UK. Evolving alongside this diversity of approach has been a process of determining, and negotiating agreement on a set of common standards that cover a broad range of marine SAC management tasks. This process has been facilitated by the Joint Nature Conservation Committee, as part of their role in coordinating and presenting statutory advice from the four nature conservation agencies to the UK government.

Approaches to setting conservation objectives described here have not yet been in place long enough to be rigorously tested – legally or practically. This, and the experimental nature of this project have made it difficult to achieve balance in this report between the wide range of agency views and experiences. Any bias or approval of a particular “best practice” approach is unintentional, and counter to the UK experience that adopting a flexible approach while developing an agreed set of common standards has worked well.

Before this project started we, and the rest of Europe, had relatively little experience in setting conservation objectives for the marine environment. Five years on, we now have set

clear objectives. Multi-stakeholder management groups have interpreted these, developed management schemes, and an exciting era of implementation lies ahead.

Sue Collins
Chair, UK Marine SACs Project
Director, English Nature

¹ English Nature (the lead agency), Scottish Natural Heritage, Countryside Council for Wales, Environment and Heritage Service, Department of the Environment for Northern Ireland, Joint Nature Conservation Committee.

² The management scheme is part of the mechanism by which nature conservation bodies fulfil their obligation to advise relevant authorities about the conservation objectives for the site, and to tell them about operations that may cause damage to designated habitats or species.

³ Authorities at each site tasked with the implementation of the Habitats Directive.

⁴ working definition of a conservation objective is “a statement of the nature conservation aspirations for the features of interest of a site”.

⁵ See project website at www.ukmarinesac.org.uk or the English Nature website at www.english-nature.org.uk

⁶ Note that regardless of the level of prescription, under UK legislation, conservation agencies only advise - they cannot force relevant authorities to do anything.

⁷ Knowing enough about a site and the impacts to manage for conservation.

⁸ Knowing what to measure in order to say whether objectives are being met or not.

Rhagair

Yn 1996 y dechreuodd Prosiect ACA Morol y DU fel partneriaeth rhwng asiantaethau¹ statudol gwarchodaeth natur a'r Scottish Association for Marine Science. Cafodd y prosiect ei sefydlu fel prosiect peilot Ewropeaidd er mwyn helpu i weithredu'r Gorchymyn Cynefinoedd ar safleoedd morol.

Nod cyffredinol y prosiect, sydd bellach wedi'i gyrraedd, oedd sefydlu cynlluniau² rheoli ar ddeuddeg o Ardaloedd Cadwraeth Arbennig Morol y DU (ACA). Cyflogwyd swyddogion prosiect lleol ar bob un o'r safleoedd i sefydlu partneriaethau gydag 'awdurdodau perthnasol'³ lleol ac i gydgyssylltu paratïoi'r cynllun rheoli oedd yn cynnwys gosod amcanion cadwraeth⁴ ar gyfer y safle.

Nid datganiad o bolisi asiantaeth gwarchodaeth natur mo'r adroddiad hwn. Nid llyfr rysâit o amcanion cadwraeth mohono ychwaith – petai ond mor syml â hynny. Mae amgylcheddau morol a'r safleoedd yr ydym ni'n ceisio'u rheoli yn enw cadwraeth yn rhai cymhleth ac amrywiol. Petaem yn ychwanegu at hyn yr amrywiaeth diwylliant, perthynas cymdeithasol ac economaidd a hanes pob safle, daw'n berffiath glir pa mor anodd yw cael un dull unol o weithredu.

Ni fydd un maint yn addas ar gyfer pawb.

Amcan yr adroddiad yma yw cyfleu yr hyn yr ydym wedi'i ddysgu ac annog datblygiad pellach o gysyniadau sy'n sylfaen gadarn i amcanion cadwraeth fel elfennau hollbwysig cynlluniau rheoli. Y gynulleidfa darged yw staff ac ymarferwyr asiantaethau gwarchodaeth yn y DU ac mewn gwladwriaethau eraill sy'n aelodau – dylai fod o werth hefyd i awdurdodau perthnasol.

Mae maes yr adroddiad yma wedi'i gyfyngu i'r cefndir cyfreithiol, datblygiad ymarferol, gwybodaeth gefnogol ac i gyflwyniad o amcanion cadwraeth. Nid yw'n ymwneud â rhoi cyngor Rheolaeth 33 y DU, dulliau ymgynghori, cyfarwyddyd manwl nodwedd-wrth –nodwedd, na monitro. Ymdrinir â'r rhain mewn adroddiadau eraill.⁵

Mae'r prosiect LIFE wedi bod ynglyn ag arbrofi. Yn yr achos yma ynglyn â threialu ffyrdd o osod amcanion cadwraeth sy'n ymarferol ac s'yn mynegi amcanion y Gorchymyn Cynefinoedd ar lefel safle. Mae'r adroddiad yn ymwneud â gwahanol siwrneiau, beth sy'n debyg a beth sy'n wahanol ynddynt – gan ddechrau gyda'r ddeddfwriaeth a chan orffen gydag amcanion sy'n gweithio ar bob safle.

Mae asiantaeth pob gwlad wedi cymryd dull tebyg yn fras o nodi amcanion lefel uchel sydd i'w cyflawni ar safleoedd. Mae faint o fanylion sydd wedi'i gynnwys yn y wybodaeth gynhaliol wedi gwahaniaethu. Nid yw Scottish Natural Heritage (SNH) wedi cynnwys disgrifiadau manwl a thablau ar sut i adnabod amgylchiadau ffafriol ar gyfer pob nodwedd o'r ACA fel sydd wedi digwydd yn Lloegr. Yng Nghymru, mabwysiadwyd dull mwy manwl. Mae dull Gogledd Iwerddon rywle yn y canol rhyngddynt.

Yn yr Alban mae nifer o ACA wedi'u lleoli o amgylch cymunedau bychain, anghysbell yn aml, o bobl sydd er hynny â diddordeb ysol ac y teimlir y bydd eu bywoliaeth yn fwy tebygol o gael ei heffeithio'n uniongyrchol gan y broses rheoli a chanlyniad hynny nag mewn mannau eraill yn y DU. Mae 'nodweddion' safle yn yr ACA hyn wedi'u disgrifio'n fanwl ond mewn achosion o'r fath

mae amcanion cadwraeth wedi'u seilio ar y canlyniadau uchel sy'n ofynnol yn ôl y ddeddfwriaeth. Mae hyn yn gadael yr awdurdodau perthnasol lleol â'r cyfrifoldeb o benderfynu ar y manylion⁶

Mae Lloegr wedi'i nodweddu â safleoedd lle y mae'r 'gymuned leol' yn fawr a lle y mae'r trigolion yn llai tebygol o gael eu heffeithio'n bersonol gan gynlluniau rheoli ACA morol. Mae awdurdodau perthnasol, grwpiau amgylchedd, hamddena a masnachol yn cynrychioli diddordebau'r gymuned yn ogystal â diddordebau unigolion. Yng ngoleuni hyn, mae'r asiantaethau gwarchodaeth natur, sydd yn aml yn gweithio trwy staff arbenigol wedi'u cyflogi gan y grwpiau hyn, wedi mabwysiadu dull mwy cyfarwyddol o osod amcanion cadwraeth. Deuir i gytundeb mewn amgylchedd o wybodaeth a dadansoddiad technegol arbenigol, o bosibl mewn dull mwy gwrthrychol nag a fuasai'n bosibl gyda chymuned lai fyddai'n chwarae 'mwy o ran'.

Yn Lloegr mae nodweddion safle yn cael eu disgrifio mewn modd digon tebyg i'r hyn a geir yn Yr Alban, ond yn aml gosodir hefyd 'safonau perfformiad' neu 'dargedau' manwl fel rhan o'r amcanion cadwraeth. Mae hyn yn ei gwneud hi'n haws i'r rhai sy'n gwneud penderfyniadau ac mae'n gwneud archwilio yn fwy syml. Mae rhai ymarferwyr yn teimlo, fodd bynnag, fod y dull mwy cyfarwyddol yma yn difreinio pobl leol a'r rhai sy'n gwneud penderfyniadau – yn llyffetheirio ymateb, yn lladd brwdfrydedd ac yn lleihau perchenogaeth leol o'r cynllun gweithredu. Maent yn dadlau hefyd fod bod yn fwy cyfarwyddol yn rhoi lle i'r rhai sydd â diddordeb ddal asiantaethau gwarchodaeth yn gyfrifol am unrhyw fethiannau, ar waethaf y ffaith fod awdurdodau perthnasol yn gyfreithiol gyfrifol am yr holl reolaeth safle.

Mae Cymru yn ceisio mynd un cam ymhellach a thorri tir newydd trwy baratoi 'datganiad o welediad' ar gyfer pob 'nodwedd'. Bydd datganiadau gwelediad yn rhai positif fydd yn nodi ac yn annog y canlyniadau a ddymunir yn nhermau rhywogaethau a bywyd gwylt, a byddant yn gynnil yn y defnydd o 'fecanwaith negyddol' er mwyn cyfyngu ar weithgaredd niweidiol. Mae'r broses yma o ddiffinio'r canlyniadau a ddymunir, neu, yn jargon y Gorchymyn, o ddiffinio 'statws cadwraeth ffafriol' yn anodd – byddai rhai'n haeru ei fod yn amhosibl. Ar waethaf y sialensau, yng Nghymru maent yn disgwyl y bydd y cam gweledol yma ynghanol y broses yn gwneud i'r casglu gwybodaeth⁷ a'r camau gosod safon perfformiad⁸ gael eu rheoli gan ganlyniadau.

Mae'r gwahanol dulliau yma o osod amcanion cadwraeth yn adlewyrchu natur 'ganiatáu' y fframwaith cyfreithiol a'r amrywiaeth o sefyllfaoedd a geir o amgylch y DU. Yn cylchdroi ochr yn ochr â'r amrywiol dulliau hyn cafwyd proses o benderfynu ac o drafod cytundeb ar set o safonau cyffredin sy'n ymwneud ag ystod eang o dasgau rheolaethol ACA morol. Mae'r broses yma wedi cael ei gwneud yn haws gan y Cydbwyllgor Gwarchod Natur fel rhan o'u rôl yn cydgysylltu ac yn cyflwyno cyngor statudol oddi wrth bedwar asiantaeth gwarchodawth natur llywodraeth y DU.

Nid yw'r dulliau o osod amcanion cadwraeth a ddisgrifir yma wedi cael eu profi'n fanwl - yn gyfreithiol nac yn ymarferol. Mae hyn, ynghyd â natur arbrolfol y prosiect yma, wedi ei gwneud hi'n anodd cael cydbwysedd yn yr adroddiad hwn rhwng yr ystod eang o wahanol farn a phrofiadau a geir gan y gwahanol asiantaethau. Nid yn fwriadol y cafwyd unrhyw duedd tuag at neu gymeradwyaeth o rhyw 'ymarfer gorau' arbennig, ac yn groes i'r profiad yn y DU mae mabwysiadu dull hyblyg tra'n datblygu set o safonau cyffredin y cytunwyd arnynt wedi gweithio'n dda.

Cyn i'r prosiect yma ddechrau cymharol ychydig o brofiad oedd gennym ni a gweddill Ewrop o osod amcanion cadwraethol ar gyfer yr amgylchedd morol. Pum mlynedd yn ddiweddarach rydym bellach wedi gosod amcanion clir. Mae grwpiau rheolaeth yn cynnwys nifer o wahanol rai sydd â

diddordeb wedi dehongli'r rhain, wedi datblygu cynlluniau rheoli a bellach mae cyfnod cyffrous o weithredu o'n blaenau.

Sue Collins

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¹ English Nature (yr asiantaeth sy'n arwain), Scottish Natural Heritage, Cyngor Cefn Gwlad Cymru, Environment and Heritage Service, Adran yr Amgylchedd Gogledd Iwerddon, Cydbwyllgor Gwarchod Natur.

² Mae'r cynllun rheoli yn rhan o'r mecanwaith y mae cyrff gwarchodaeth natur yn ei ddefnyddio i gyflawni eu hymrwymiad i gynghori awdurdodau perthnasol ynglyn â'r amcanion cadwraethol ar gyfer y safle ac i roi gwybod iddynt am weithrediadau allai achosi difrod i gynefinoedd neu rywogaethau dynodedig.

³ Awdurdodau ar bob safle â'r dasg o weithredu'r Gorchymyn Cynefinoedd.

⁴ diffiniad gweithredol o amcan cadwraeth yw "datganiad o'r gobeithion ynglyn â gwarchodaeth natur ar gyfer nodweddion o ddiddordeb safle".

⁵ Gweler safle'r we www.ukmarinesac.org.uk

⁶ Sylwch, beth bynnag fo lefel y cyfarwyddyd, o dan ddeddfwriaeth yr UD, dim ond cynghori y mae asiantaethau gwarchodaeth – ni chant orfodi awdurdodau perthnasol i wneud unrhyw beth.

⁷ Gwybod digon am safle a'r effeithiau i reoli yn enw cadwraeth.

⁸ Yn gwybod beth i'w fesur er mwyn gallu dweud a yw'r amcanion yn cael eu cyflawni ai peidio.

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Abbreviations used

ASSI	Area of Special Scientific Interest
JNCC	Joint Nature Conservation Committee
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

1. Introduction

1.1 The purpose of this document

Aims or objectives are fundamental to any project or venture. Conservation objectives are required to guide the regulation and management of Special Areas of Conservation (SACs) in accordance with the requirements of the Habitats Directive and UK Habitats Regulations¹. The development of approaches to expressing conservation objectives and the production of conservation objectives for each of the twelve demonstration sites in the UK marine SACs Project has been one of the most challenging and important parts of the Project.

This document:

- Provides guidance to practitioners involved with implementing the Habitats Directive in marine areas, although it may also be of interest to those involved with terrestrial SACs and the management of protected areas generally. Much of the legal and policy framework for SACs in the UK also applies to Special Protection Areas (SPAs) classified under the 1979 Birds Directive², therefore, this document will be relevant to the management of marine SPAs³. A number of the project's demonstration sites overlap with SPAs. Marine SACs and marine SPAs are together called 'European marine sites'.
- Draws entirely on experiences gained in the UK, and particularly within the UK marine SACs Project, but is intended to be of value in other member states. The Habitats Directive presents all member states with many similar challenges. It is made clear which elements of the legal and policy framework are specific to the UK.
- Describes the UK nature conservation agencies'⁴ thinking on the development of 'conservation objectives' for the interest features⁵ of marine SACs.
- Focuses on the conservation agencies' internal work in formulating conservation objectives. It does not cover the various "external" tasks associated with promulgating the advice as to conservation objectives to relevant authorities⁶ and others. Some discussion of this aspect of the process is contained in a separate report of the UK marine SACs Project on good practice in establishing management schemes (see section 1.2 below).

¹ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. OJ No L 206, 22.9.92, p.7. The requirements of the Habitats Directive have been transposed into UK legislation through the *Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994/2716)*. Her Majesty's Stationery Office, London. The equivalent legislation in Northern Ireland is the *Conservation (Natural Habitats, &c.) Regulations (Northern Ireland) 1995*. Relevant extracts are given in Appendix 1.

² Council Directive 79/409/EEC on the conservation of wild birds (OJ No L 103, 25.4.79, p.1)

³ At time of writing, there were no truly 'marine' SPAs in the UK. The term is used here to apply to SPAs that include intertidal areas, and thus fall within the UK definition of 'marine'.

⁴ English Nature, Countryside Council for Wales, Scottish Natural Heritage, Department of the Environment for Northern Ireland, and Joint Nature Conservation Committee.

⁵ 'Interest feature' is defined in the JNCC common standards framework as "A habitat, habitat matrix, geomorphological or geological exposure, a species or species community or assemblage which is the reason for notification of the site under the appropriate selection guidelines or, in the case of Natura 2000 and Ramsar areas, the features for which the site will be designated." The interest features of an SAC are the habitat types and species listed in Annexes I and II of the Habitats Directive, for which the site is selected.

⁶ 'Relevant authorities' are the specific authorities, with functions relevant to European marine sites, identified in the UK Habitats Regulations (Regulation 5), who have the powers to establish management schemes for European marine sites.

- Reviews experiences and lessons learned. It does not represent the policy position of any of the UK conservation agencies. No aspect of the process of developing conservation objectives has yet been tested sufficiently rigorously to enable a single best approach to be identified; indeed it is unlikely that there is a single best approach. Conservation objectives have been produced for all twelve of the project's demonstration sites, and the underlying rationale and structure for conservation objectives has been developed alongside many of the objectives themselves. Therefore, the process has been - and still is - subject to a great deal of "testing along the way" on real sites with real management issues.

1.2 Links to other reports

This document is produced as part of a series of reports prepared through the UK marine SACs Project, details of which can be obtained from the Project's website (www.ukmarinesac.org.uk). Reports of particular relevance are:

*Introductory guidance to European marine sites and conservation objectives*⁷

Short accessible introductory guides for practitioners and stakeholder groups, produced during the early stages of the UK marine SACs Project.

*Reports on the dynamics and sensitivity of marine features*⁸

Collations of existing knowledge on the ecological requirements and sensitivity of a selection of marine species and biological communities which occur in one or more of the project's demonstration sites.

*Marine Monitoring Handbook*⁹

Guidance on monitoring the condition of the habitats and species for which SACs are selected, in order to determine whether or not the conservation objectives are being achieved.

*Monitoring trials and monitoring programmes*¹⁰

A series of site-specific trials of monitoring techniques have been conducted to inform the eventual development of programmes for monitoring the condition of interest features on the sites.

⁷ SNH, EN, EHS (DoE(NI)), CCW and JNCC. (1997) European marine sites: An introduction to management. Scottish Natural Heritage (UK Marine SACs Project). 16 pages, and EN, SNH, EHS (DoE(NI)), CCW, JNCC and SAMS. (1998) European marine sites: Guidance relating to statutory conservation objectives and operations that may cause deterioration or disturbance. English Nature (UK Marine SACs Project). 15 pages.

⁸ For example, Elliot, M. et al. (1998) Intertidal sand and mud flats and subtidal mobile sandbanks (volume II). An overview of dynamic and sensitivity characteristics for conservation management of marine SACs. Scottish Association for Marine Science (UK marine SACs Project). There are equivalent separate reports covering *Zostera* spp. (vol I) biotopes, sea pens and burrowing megafauna (vol III), subtidal brittlestar beds (vol IV), maerl (vol V), intertidal reef biotopes (vol VI), infralittoral reef biotopes with kelp species (vol VII), circalittoral faunal turfs (vol VIII) and biogenic reefs (vol IX).

⁹ Davies, J. et al. [eds.] (2001) *Marine Monitoring Handbook*: JNCC, Peterborough. 405 pages.

¹⁰ There are a number of separate reports produced in this part of the UK marine SACs Project (see www.ukmarinesac.org.uk) for example, W.G. Sanderson, R.H.F. Holt, L. Kay, G. Wyn & A.J. McMath eds (2001) The establishment of a programme of surveillance and monitoring for judging the condition of the features of Pen Llyn a'r Samau cSAC: 1. Progress to March 2001. Bangor, CCW Contract Science Report No: 380 (UK Marine SACs Project), 350pp.

*Good practice guide*¹¹

Key lessons from the project on all aspects of establishing management schemes, including promulgating conservation objectives to relevant authorities and others.

Management scheme documents

Prepared for each of the twelve demonstration sites in the Project.

1.3 Explanation of structure of the document

Section 2 discusses the purpose of conservation objectives, considering both the statutory context for the specification of conservation objectives, and their practical requirements.

Section 3 discusses the formulation of conservation objectives, identifying some basic principles of UK conservation agency practice and discussing how the conservation objectives for the sites have been developed.

Section 4 considers the links between conservation objectives and other information provided by the UK conservation agencies in relation to marine SACs. Under the UK framework for transposing the Directive in relation to marine areas, information on the types of operations that may adversely affect the features is developed alongside the conservation objectives. This then informs the process of formulating appropriate management.

This report aims to present the main learning about the process of developing conservation objectives from across the UK marine SACs Project, rather than analyse in detail the objectives developed for particular sites. Therefore, the actual conservation objectives prepared as part of the Project (see the Project management schemes www.ukmarinesac.org.uk) are drawn upon as illustrative examples, rather than the examples themselves providing the framework for the discussion.

¹¹ UK marine SACs Project (2001) Indications of good practice for establishing management schemes on European marine sites: Learning from the UK marine SACs Project 1996-2001. English Nature, Peterborough.

2. The legal and practical context for conservation objectives

2.1 Legal context

The Habitats Directive does not expressly require the establishment of conservation objectives, rather it simply ‘assumes’ that there will be conservation objectives for each Natura 2000 site. However, guidance from the EC¹² on the interpretation of Article 6 of the Directive states that the establishment of conservation objectives is a member state function, and this is also the UK’s interpretation.

Neither does the Directive specify what form conservation objectives should take, nor even what precise role they play in the management of sites. The only direct reference to conservation objectives in the text of the Directive is in Article 6.3 (quoted in full in Appendix 1), which states that any “plan or project” which is likely to significantly affect a site shall be subject to an appropriate assessment in view of the site’s conservation objectives.

The UK legislation that transposes the Habitats Directive places the responsibility for establishing the conservation objectives for marine SACs and SPAs with the UK nature conservation agencies.¹³ It gives them a specific duty to advise other relevant authorities as to the conservation objectives for European marine sites¹⁴. The legal framework in the UK for implementing the provisions of the Habitats Directive in relation to marine SACs is summarised in Box 1.

Box 1: Outline of UK legislation for marine SACs

The Habitats Directive is transposed into UK law by the Conservation (Natural Habitats, &c.) Regulations 1994, which apply in England, Wales and Scotland (similar regulations apply in Northern Ireland). Relevant extracts are given in Appendix 1. These regulations implement Article 6 of the Directive – the management of Natura 2000 sites – in three main ways:

- all public bodies or “competent authorities”, including national government departments and agencies and local authorities) with functions relevant to marine conservation, have a general duty to exercise those functions in accordance with the requirements of the Habitats Directive;
- specific procedures must be followed by the competent authorities in the consideration of “plans and projects”, closely reflecting Article 6.3 of the Directive;
- for each site, a management scheme may be prepared jointly by a number of “relevant authorities”. These are specified types of public body with particular functions in relation to the site. The management scheme is the main way in which Articles 6.1 (establishment of the necessary conservation measures) and Article 6.2 (appropriate steps to avoid deterioration and significant disturbance) are implemented for marine SACs.

The statutory nature conservation agencies have a specific duty (under Regulation 33) to advise the relevant authorities for a site as to the site’s conservation objectives, and operations that may be damaging to the habitats and species for which it is selected. In practice, this advice guides relevant and competent authorities in all of the above functions. It is commonly referred to as “Regulation 33 advice”.

¹² EC (2000) *Managing Natura 2000 sites*. The provisions of Article 6 of the Habitats Directive 92/43/EEC. DGXI, Strasbourg.

¹³ *Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994/2716)*. Her Majesty’s Stationery Office, London. The equivalent legislation in Northern Ireland is the *Conservation (Natural Habitats, &c.) Regulations (Northern Ireland) 1995*. Relevant extracts are given in Appendix 1.

¹⁴ ‘European marine site’ is the term used in the UK Regulations for marine SPAs and SACs (see Appendix 1).

It is a reasonable conjecture that the conservation objectives for a Natura 2000 site should relate to the overall aims of the Habitats Directive. Faced with the duty in Regulation 33 (see Box 1), the conservation agencies have sought to develop conservation objectives which properly reflect the aims of the Directive, and which usefully guide the management of sites in accordance with the Directive's requirements. Table 1 summarises the various legal considerations that have influenced the preparation of conservation objectives for sites in the UK marine SACs project.

2.2 Practical context

The UK nature conservation agencies have a range of statutory and non-statutory functions that pre-date the implementation of the Habitats Directive and Regulations. It has been necessary to integrate these existing functions with the additional duties created under the Habitats Directive. Furthermore, as one of the key competent national authorities responsible for implementing SACs and SPAs, they have been required to develop ways of expressing conservation objectives which are practical, as well as meeting the statutory requirements set out in Table 1. Table 2 summarises the various practical considerations for the development of conservation objectives.

The conservation objectives for any given site can be thought of as an attempt to incorporate as many of the principles in Tables 1 and 2 as possible, seeking to combine the legal and practical requirements..

Table 1: Legal requirements for conservation objectives on marine Natura 2000 sites

Statutory context	Implications for conservation objectives
<i>Aims of the Habitats Directive</i>	
Conservation of biodiversity (Article 2.1)	<p>■ Conservation objectives must represent a site’s appropriate contribution to the achievement of favourable conservation status, and the wider goal of biodiversity conservation, based on the features for which it has been selected.</p>
Maintenance or restoration of favourable conservation status of the habitats and species in Annexes I and II of the Directive (Article 2.2)	
Natura 2000 network to enable the achievement of favourable conservation status (Article 3.1)	
<i>Obligations towards individual SACs</i>	
Maintenance or restoration of the favourable conservation status of the habitats and species for which the site is designated (Article 1.L)	<p>■ Conservation objectives must establish what is required for the conservation of the habitat or species population on the individual site. For this reason, and others, conservation objectives need to be prepared specifically for individual sites.</p>
Establishment of the necessary conservation measures corresponding to the ecological requirements of the habitats and species on the site (Article 6.1)	<p>■ Conservation objectives must guide the determination of the necessary conservation measures, including the identification of the ecological requirements for a habitat or a species population on a site. Thus, it is necessary to interpret the term ‘ecological requirements’. At its simplest level, it means the physical and biological factors that are required for the habitat or species population to be maintained [or restored] to favourable conservation status.</p>
Avoidance of deterioration or significant disturbance (Article 6.2)	<p>■ Conservation objectives must enable determination of what types of change to a habitat or species population would constitute ‘deterioration’ or ‘significant disturbance’.</p> <p>■ These judgements can only be made on a site-, and feature-specific basis, although must clearly be guided by the overall aims of the Directive.</p>
Appropriate assessment ‘in view of’ the conservation objectives, of any plan or project likely to have a significant effect, and determination of whether it will adversely affect the integrity of the site (Article 6.3)	<p>■ Conservation objectives must usefully support the judgement of whether a plan or project is likely to have a significant effect, and must usefully inform decisions on whether site integrity will be adversely affected.</p> <p>■ The precise role that conservation objectives play in making these decisions is not prescribed in the Directive, and therefore open to different approaches:</p> <ul style="list-style-type: none"> - Comprehensive conservation objectives, covering all important aspects of a feature, could provide the standard against which to judge the (un)acceptability of a plan or project’s impact, but it would be difficult to prepare; - Simplified conservation objectives which do not purport to be comprehensive are easier to prepare, and can guide the scope of an appropriate assessment, but may not assist greatly in the decision on whether the plan or project should proceed.
<i>Monitoring and reporting</i>	
Member states to monitor the conservation status of habitats and species, and report the results to EC (Articles 11 and 17)	<p>■ Conservation objectives must provide the standard against which monitoring of the habitat or species will take place.</p>

Table 2: Practical considerations for conservation objectives on marine Natura 2000 sites

Practical requirement	Implications for conservation objectives
Habitats and species populations are naturally dynamic and many types of change would not be considered unfavourable in conservation terms	<ul style="list-style-type: none"> ■ Conservation objectives need to accommodate types of change to a feature that are acceptable in conservation terms (e.g. ecological succession, natural seasonal fluctuations), while identifying the types of change that are considered unacceptable (e.g. feature loss or degradation due to identifiable human activities).
Decisions are needed on whether current status is favourable or unfavourable	<ul style="list-style-type: none"> ■ For most marine habitats and species, it is assumed that the condition at time of SAC identification is favourable. In many cases, baseline surveys are needed to establish current condition, and for highly dynamic features, establishing “current condition” may require time series data.
Conservation objectives must guide the preparation of management schemes ¹⁵	<ul style="list-style-type: none"> ■ Conservation objectives need to be based on a sound understanding of the sensitivity of features to particular types of activity and impact, and the likelihood of them being exposed to those factors. Regulation 33 also requires the UK conservation agencies to advise the bodies that manage European marine sites on operations that may cause deterioration or disturbance to the habitats and species. So for both legal and practical reasons, the conservation objectives are accompanied by information on the factors and activities that are likely to affect their achievement. ■ For many ‘stakeholders’ (those with an interest in the management of the site) the conservation objectives (and the accompanying information on operations) will be the only information they have access to which sets out what the Directive requires. Therefore the conservation objectives need to be a clear and informative expression of the purpose of the site. ■ The timing of the development of the conservation objectives, and their presentation, e.g. in terms of level of detail and technical language, need to meet the needs of site managers, and these needs vary over time and between different stakeholders. In general, they should be as short as possible without sacrificing their other requirements.
<p>Monitoring of the achievement (or not) of the conservation objectives is required for:</p> <ul style="list-style-type: none"> - reviewing the appropriateness of management - reporting (to Government and EC) 	<ul style="list-style-type: none"> ■ Conservation objectives need to include ‘performance indicators’, i.e. clear, unambiguous standards that can be monitored economically and reliably in order that reports can be made to UK government and EC on whether or not favourable conservation status is being achieved, and to enable those managing the sites to determine whether any changes to management are required. ■ These performance indicators must be expressed in ways that enable results from different sites to be aggregated in order that meaningful reports can be made on the conservation status of habitats and species at a UK level.¹⁶

¹⁵ The term ‘management scheme’ is used in the UK in relation to marine sites. It is effectively synonymous with ‘management plan’ as used in Article 6.1 of the Habitats Directive.

¹⁶ See Marine Monitoring Handbook (see footnote 9)

Practical requirement	Implications for conservation objectives
<p>There should be a single, integrated set of conservation objectives for a site covering all interest features, otherwise a coordinated and consistent approach to management decisions will be very difficult to achieve.</p>	<p>■ The UK Habitats Regulations do not expressly establish that the conservation objectives produced by the nature conservation agencies under Regulation 33 are the conservation objectives that should be used in the appropriate assessment of plans and projects. However conservation objectives should contribute to this function, enhanced by further advice from the conservation agencies on a specific basis.</p>
<p>Intertidal areas of marine SACs and SPAs are subject to provisions of the UK Regulations dealing with implementation of the Habitats Directive on land as well as in marine areas. The conservation objectives need to take account of this.</p>	<p>■ The main mechanism for implementing SACs and SPAs on land in the UK is through notification and management of SSSIs (ASSIs in Northern Ireland) designated through national legislation, which is supplemented by the Habitats Regulations. Throughout the UK, the conservation of SSSIs/ASSIs is typically guided by management plans or statements which include objectives.¹⁷ Therefore for intertidal areas of European marine sites which are designated as SSSIs, the approach to conservation objectives needs to be the same as, or at least compatible with, both the marine and terrestrial frameworks.</p>

¹⁷ See for example Countryside Council for Wales (1996) Guide to the preparation of management plans for nature reserves and protected areas, Countryside Council for Wales, Bangor, and, English Nature (1999) Conservation objectives for SSSIs, SACs, SPAs and Ramsar sites: Guidance note. English Nature, Peterborough.

3. Formulating conservation objectives

3.1 A site-specific process

The way that objectives are expressed is a product of their function, as described in Section 2. Given that their role is complex and that there are areas where different interpretations are possible, it is not surprising that the formulation of objectives can also be subject to different approaches. Tables 1 and 2 (pages 5 and 6) can be thought of as representing the full range of requirements for conservation objectives, and as such are something of an ideal to which the agencies are working. However, experience has shown that it may not be possible to develop conservation objectives that meet all these requirements for some time. There are a number of reasons for this:

- The designation and management of statutory marine protected areas is still a relatively novel area of work in the UK. The amount and quality of knowledge about the biology and ecology of marine habitats and species is increasing, but needs to be developed much further. It is well behind terrestrial understanding. In addition knowledge and understanding of the dynamics of the marine ecosystem and its components needs to be increased. This presents a challenge to the process of developing conservation objectives. This is because the process relies on understanding what needs to be conserved and how to conserve it. Considerable effort is being invested by the UK nature conservation agencies to develop this understanding, but in the meantime, conservation objectives have to be developed as far as they can be, using the best available knowledge.
- Conservation objectives are not developed and used by the nature conservation agencies in isolation. The marine SACs are not uninhabited “nature reserves” which can be managed for nature conservation purposes unhindered by any other considerations. They are frequently extensive areas already subject to a range of human use, with existing, and often-complex arrangements for statutory and non-statutory management. The marine SACs will not succeed without the support of local communities and regulatory bodies. Securing this support can be helped if there is a sense of common ownership of the management process, rather than it being something imposed “from above”. The scheme of management is key in this area, the scheme takes and builds on the conservation objectives and gains local ownership.
- The UK nature conservation agencies have a wide range of functions that pre-date their duty to prepare conservation objectives for marine SACs. Each agency has necessarily brought to this task, elements of its own existing policies and practices in related areas of work. For example, the management of protected sites, monitoring, research and, not least, liaison and consultation with government, other organisations and local communities. Not unexpectedly, the development of conservation objectives therefore varies according to the different philosophies and working practices of the different agencies.

A combination of these factors has led to helpful distinctive approaches being developed within the UK marine SACs Project. In Scotland for example, where the sites tend to have small, but highly involved local communities, the emphasis have been on describing the features of the sites and developing conservation objectives in a substantially non-technical environment. The focus has been on the high level aims of the legislation, with conservation objectives being used as a means of raising awareness and promoting support for the designations.

Over much of the rest of the UK, sites tend to have larger constituencies of interested parties, including more specialist and regulatory bodies. In general, these bodies accept the principle of

SAC designation, with any concern focusing on particular implications for their functions and interests. More emphasis has therefore been placed on developing the technical detail underpinning conservation objectives. In England, Wales and Northern Ireland advice has been specific about how to recognise favourable conditions for the different features, to help guide management decisions, and to help test whether conservation objectives are being achieved.

This section identifies the main principles and key steps in the development of conservation objectives, related to their statutory and practical purposes. It discusses how these principles have been applied in different ways in the development of conservation objectives for sites in the UK marine SACs Project. The relevance of any particular stage in the process to an individual site will vary as a result of the types of considerations described above.

3.2 Favourable conservation status and conservation objectives

Above all else, a conservation objective for a SAC defines the condition or range of conditions that a habitat or species population should be in. The Habitats Directive guides the making of these judgements by establishing that the aim of measures taken under it is the maintenance or restoration of favourable conservation status of the habitats and species.

The degree to which the Directive's definition of favourable conservation status applies directly to individual sites, to a member state's site series, to the whole Natura 2000 network across the EU, and outside the site network altogether, is subject to different interpretations. However, that each SAC must *contribute* to the achievement of favourable conservation status is clear. Therefore conservation objectives for individual sites must be expressed in a way that is consistent with the goal of favourable conservation status.

Table 3 lists the various components of favourable conservation status, as defined in the Directive. (The definition of favourable conservation status is quoted in full in Appendix 1.) The left hand column shows the characteristics of a habitat or species population, that comprise the concept of its 'conservation status', while the right hand column shows the state or 'value' for each of these characteristics which equate to *favourable* conservation status.

In order to reflect the aims of the Directive properly, and help ensure that each site contributes appropriately, the conservation objectives need to address as many as possible of the elements identified in Table 3. For example, a conservation objective for a site is unlikely to express the site's appropriate contribution to favourable conservation status if it makes no reference to the extent of a habitat or the conservation of its 'typical species', or does not address the conservation of a habitat supporting a species feature. Similarly if a conservation objective does not at least require that a habitat or population is maintaining itself as a viable component of its habitat, it is unlikely to fulfil its statutory purpose.

Table 3: ‘Targets’ in Favourable conservation status

Characteristics which comprise conservation status	‘Targets’ equating to <i>favourable</i> conservation status
Habitats	
natural range and areas covered within that range	stable or increasing
structure and functions necessary for long term maintenance	exist and are likely to continue to exist
conservation status of typical species	favourable as defined below
Species	
population dynamics	species is maintaining itself on a long term basis as a viable component of its natural habitats
natural range	neither being reduced nor is likely to be reduced for the foreseeable future
supporting habitat	is, and will probably continue to be, sufficiently large [and, by implication, of appropriate quality] to maintain the populations on a long term basis

3.3 Favourable condition

In establishing conservation objectives for sites, the UK conservation agencies have developed the term ‘favourable’ condition’ as the condition of a feature on a site which management of that site should aim to achieve. The concept of favourable condition can be thought of as a means of bridging the gap between the statutory context for conservation objectives (namely ensuring that they contribute to favourable conservation status), and their practical use (such as meaningfully describing interest features, conceptually dividing them into manageable ‘units’, and enabling monitoring and reporting).

Favourable condition is defined as:

“The target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within a site, that we aim the feature to attain”¹⁸

This definition is intended to apply to all designated sites, and is not limited to Natura 2000 sites. English Nature also use the following definition of favourable condition for Natura 2000 sites, which corresponds closely to the notion of favourable conservation status at a site-level:

“A range of conditions for a natural habitat or species at which the sum of the influences acting upon the habitat or species are not adversely affecting its distribution, abundance, structure or function within an individual Natura 2000 site in the long term. The condition in which the habitat or species is capable of maintaining itself on a long-term basis.”

¹⁸ See JNCC (1998) A Statement on common standards monitoring. JNCC, Peterborough.

Defining favourable condition for a habitat or species population on an SAC does not rely solely on interpreting favourable conservation status, but is also influenced by, for example:

- any established regional or national standards for habitat types or species populations (for example generic guidance produced by English Nature for defining favourable condition of habitat types and species¹⁹)
- the distinctiveness of the habitat or population on the site, and the desire to maintain that distinctiveness
- judgements of the body with primary responsibility for writing the conservation objectives.

The relative importance of each of these considerations varies for different types of interest feature, according to whether there is any relevant national guidance, the importance of local distinctiveness as compared to regional or national standards, and the level of knowledge and understanding of the sites and their features by those who's job it is to manage them. The UK conservation agencies are developing national guidance which assists such decisions at a site level, to ensure an adequate level of consistency while being sufficiently flexible to acknowledge the importance of local distinctiveness.

3.4 Formulation of conservation objectives for sites in the UK marine SACs Project

3.4.1 Overall approach

Following on from the analysis of favourable conservation status in Table 3 as a series of characteristics and corresponding values representing 'favourable', the process of formulating conservation objectives consists of two stages, although in practice these may not necessarily be carried out as discrete or sequential tasks:

Identifying the characteristics of the interest feature define its condition that.

Depending on the feature and site concerned, this will usually include some combination of:

- 'quantity' of the feature, in other words the extent of habitat or abundance or viability of a species population, and related characteristics such as range or distribution, and whether its spatial occurrence is patchy or continuous;
- 'quality' of the feature, for example for a habitat the presence or abundance of component (including 'typical') species, or the quality of inorganic components of the habitat such as substrate. For a species population, measures of quality could include characteristics such as age or size structure, productivity rate, and even aspects of the 'health' of individuals;
- processes supporting or affecting the feature, such as physical environmental factors like water quantity, air or water quality, water movement (levels and flows), and sedimentary processes.

¹⁹ Anon (1999) *National specialist guidance for conservation objectives. Volume 1. Annex 1 habitats and earth heritage features.* Unpublished report to English Nature, and, Anon (1999) *National specialist guidance for conservation objectives. Volume 2. Species for SACs and SPAs.* Unpublished report to English Nature.

For species populations, the characteristics of the habitats on which they depend can also be thought of as part of the condition of the population itself.

The standard term used in the UK for these characteristics is **attributes**²⁰

Identifying the state or ‘value’ for attributes that equates to ‘favourable’.

All attributes need to be quantifiable, at least in theory, and can therefore have a range of values attached to them. Expressing conservation objectives requires identifying what value, or range of values, for each attribute equates to the desired condition of the feature that it describes. The term used for these values is **targets**.

Section 3.4.2 considers the identification of attributes, and section 3.4.3 considers the identification of targets.

The features for which marine SACs have been selected in the UK are mainly broad physiographically defined habitat types listed in Annex I of the Directive, and the populations of a small number of Annex II species. Table 4 lists the sites in the UK marine SACs Project and the marine interest features for which they have been selected.²¹

3.4.2 Identifying attributes for the features of marine SACs

It is neither possible nor necessary to review comprehensively all the attributes that have been included in the conservation objectives for the twelve sites in the Project. Table 5 summarises the approaches taken, identifying the main themes. The left hand column gives the various ‘clauses’ of the favourable conservation status definition (from Table 3), the right hand column summarises how these have been addressed in the conservation objectives for marine SACs. However, rarely has an explicit link been made between favourable conservation status and the conservation objectives, although Table 5 clearly shows a considerable degree of conformity between the approach to conservation objectives in the UK marine SACs Project sites, and the definition of favourable conservation status.

²⁰ ‘Attribute’ is defined in the JNCC common standards framework (see footnote 18) as: “a characteristic of a habitat, biotope, community or population of a species which most economically provides an indication of the condition of the interest feature to which it applies.”

²¹ The UK list of candidate SACs submitted to the EC under 4.1 of the Habitats Directive, is currently undergoing ‘moderation’, following the Atlantic Biogeographic Region meetings in Kilkee and Paris in 1999. As well as resulting in further sites being submitted by the UK, this process has also entailed the listing of additional Annex I/II features on existing sites, including the twelve sites in the UK marine SACs Project. However, as with all the outputs of the UK marine SACs Project, the scope of this report is limited to the sites as submitted to the EC under Article 4.1 prior to May 1996, the start date for the Project.

Table 4: Marine features of the sites in the UK marine SACs Project [pre-moderation²²]

Site name	Chesil and the Fleet	Berwickshire & North Northumberland Coast	Morecambe Bay	The Wash & North Norfolk Coast	Loch nam Madadh (Loch Maddy)	Papa Stour	Cardigan Bay	Pen Llyn a'r Sarnau	Solway Firth	Sound of Arisaig	Strangford Lough	Plymouth Sound and Estuaries
Feature type												
Subtidal sandbanks				Y					Y	Y		Y
Estuaries								Y	Y			Y
Intertidal mud/sandflats		Y	Y	Y					Y			
Lagoons	Y				Y							
Large shallow inlets/bays			Y		Y						Y	Y
Reefs		Y				Y		Y				
<i>Salicornia</i> beds			Y	Y					Y			
Atlantic salt meadows			Y	Y					Y			
sea caves		Y				Y						
Grey seal		Y										
Common seal				Y								
Bottlenose dolphin							Y					

²² See footnote 21

Table 5: Identification of feature attributes in conservation objectives for UK marine SACs Project sites

5(a) Annex I habitats

Characteristics in favourable conservation status definition	Corresponding representation in UK marine SACs Project sites' conservation objectives
Natural range and areas within that range	<ul style="list-style-type: none"> ■ There is some form of reference to feature extent on all sites, since it is one of the most important descriptors of a habitat's condition, and clearly a requirement of the Directive. ■ Distribution (across a site) is frequently identified in association with extent, since it basically refers to extent in different areas within a site. Distribution can also refer to degree of spatial 'patchiness' or continuity of cover of a habitat type. Distribution is often identified because it is indicative of other aspects of condition (especially structure and function - see below) than because it is important in its own right. ■ In addition to being applied to Annex I interest features themselves, extent and distribution are frequently applied to particular components of interest features (including 'sub-features'), for example identifying the extent and distribution of kelp forest communities as characterising a reef interest feature.
Structure and functions necessary for long term maintenance	<ul style="list-style-type: none"> ■ The terms 'structure' and 'functions' are not defined in the Directive. They are taken to mean attributes that can define the condition of a habitat, the way it functions and its capacity to sustain itself. The way in which habitats function as systems, and the physical and environmental conditions that support them, should be included in the definition of their condition. Attributes include: <ul style="list-style-type: none"> ■ <i>Abiotic structures and processes:</i> <ul style="list-style-type: none"> - Condition of substrate (including topography, grain size, organic carbon levels, sediment mobility) - Physical environmental conditions (especially hydrodynamics and aspects of water quality such as clarity, temperature, salinity and nutrient levels) - Relationships between some of these parameters, e.g. in estuaries the relationship between tidal volume, cross-sectional area and sediment grain size - Sometimes not included in the conservation objectives themselves but in accompanying information on processes influencing features (see section 4) ■ <i>Biological relationships:</i> <ul style="list-style-type: none"> - Existence and condition of biogenic structures for the habitat, in particular biogenic reefs (mussel beds, <i>Sabellaria</i> reefs), faunal turfs, maerl beds - Density or abundance of habitat- or community-defining species. These often define both the habitat/community type itself and its condition (e.g. salt meadows, kelp forests) - Relative proportions of species. This can be used to define community types as well as community condition.²³ Particularly applies to salt marsh habitats, where there are detailed (compared to marine habitats) classifications, based on proportions of key plant species,²⁴ which can be used as guidance for attribute selection. - Presence or abundance of 'undesirable' species/habitat types (e.g. introduced species, invasive macro-algal mats indicative of nutrient enrichment) - Overall biomass/productivity (important to the functioning of the habitat itself, and its relationship to other habitats and species) - Age or size structure of populations of habitat-defining species. This is both a structure/function attribute and is related to 'typical species' - see below ■ <i>'Nested' features:</i> <ul style="list-style-type: none"> On some project sites (e.g. Solway and Wash and North Norfolk coast), some Annex I habitats are treated as sub-features of others, in addition to being addressed as interest features in their own right. This is a useful approach where the ecological relationships between features make it difficult and impractical to treat them separately. Thus the condition of an estuary or large shallow inlet can be at least partly defined by, for example, Atlantic salt meadows, intertidal mudflats/sandflats, and subtidal sandbanks occurring within it, each of which will have its own characteristics.

²³ See for example Connor, D.W. et al. (1997) Marine Nature Conservation Review: marine biotope classification for Britain and Ireland. Volume 1. Littoral biotopes. Version 97.06. JNCC Report No.229, Peterborough and Connor, D.W. et al. (1997). Marine Nature Conservation Review: marine biotopes classification for Britain and Ireland. Volume 2. Sublittoral biotopes. Version 97.06. JNCC Report No. 230, Peterborough.

²⁴ See for example Rodwell, J.S. [ed] (1991) *British Plant Communities*. (3 vols), Cambridge University Press.

Characteristics in favourable conservation status definition	Corresponding representation in UK marine SACs Project sites' conservation objectives
Conservation status of typical species	<ul style="list-style-type: none"> ■ No definition of 'a typical species' is given in the Directive and therefore interpretation is necessary by member states. ■ Presence or abundance of some species or species assemblages often characterises interest feature condition, and is often a factor in the selection of a site for a habitat type. In such cases, it is necessary to include relevant attributes of those populations in the conservation objectives. ■ Where a species defines or helps define the habitat type, it is included in the definition of condition, and may also represent structure and function attributes (see above). Obvious examples include salt marsh and pioneer salt marsh habitats, and biogenic reefs. ■ However, as most of the marine Annex I habitat types are mainly physiographically defined, there is a degree of site-by-site variation in the identification of 'typical species', usually associated with the identification of sub-features (e.g. kelp, <i>zostera</i>, mussels, faunal turfs, sediment infaunal communities). ■ In some cases, it has been possible, and considered necessary, to use size and/or age profiles of species populations, as indicators of habitat condition. Again, this is usually in relation to sub-features (examples include the average size of Egg wrack <i>Ascophyllum nodosum</i> strands, or age profile of mussels in a mussel bed). This level of detail is exceptional, however.

5(b) Annex II species²⁵

Population dynamics (size and structure)	<ul style="list-style-type: none"> ■ There have been two main approaches to the question of population size and structure as an important element of conservation objectives (of both SACs and SPAs): <ul style="list-style-type: none"> - identifying the number of individuals and, where appropriate, productivity and age structure as important attributes of the population (Cardigan Bay) - not including number of individuals or other aspects of population structure within the conservation objectives (Berwickshire & N. Northumberland Coast and Wash and N. Norfolk Coast), but focussing on the condition of the species' habitat. ■ The rationale for the former approach is that if a site is to be managed to make a contribution to the favourable conservation status of the species concerned, its objectives should address the presence and abundance of the species itself, as well as the condition of the habitat. Furthermore, if favourable conservation status is a site-level concept, it plainly requires that the population of the species on the site be maintained. ■ The rationale for the latter approach is that the populations of mobile marine species may fluctuate as a result of national or international trends or events, and therefore the management of <i>sites</i> should focus on maintaining the habitat in a condition capable of supporting the species. The latter approach does not completely ignore the species population itself, but rather uses population information as additional information rather than part of the objective.
Natural range	<ul style="list-style-type: none"> ■ Range (or distribution) of species within sites has been addressed in two different ways in UK marine SACs Project sites: <ul style="list-style-type: none"> - <i>Cardigan Bay</i>. There is insufficient information to be able to determine whether distribution of Bottlenose dolphins within the site needs to be, or can be, identified as a means of describing the condition of the population. It has however, been identified as a possible attribute that may in future be needed to define condition of this interest feature. - <i>Berwickshire/Northumberland Coast, and Wash/Norfolk Coast</i>. The Annex II species on these sites are Grey seals and Common seals respectively. These species haul out on the shore at certain stages in their life cycles. Therefore it has been possible to identify in the conservation objectives that there are particular areas within the SAC where they are most sensitive to displacement by disturbance, and hence the amount of disturbance in these particular areas is identified as an important attribute.
Supporting habitat	<ul style="list-style-type: none"> ■ The Directive refers only to the extent of supporting habitat, although by implication it must clearly also be of appropriate quality. ■ On both of the 'seal sites', only the main intertidal areas used by the seals have been identified in the conservation objectives, although this is obviously not meant to suggest that this is the sum total of the habitat on which they rely. In Cardigan Bay, the current level of knowledge of Bottlenose dolphin behaviour and habitat requirements does not make it possible to identify what aspects of their habitat are especially indicative of the condition of the population, although the need to do this in future is acknowledged. Thus, for all three sites, the conservation objectives recognise the principle enshrined in this clause of favourable conservation status, but the current level of knowledge is too limited to enable the conservation objectives to include reference to all the attributes of the habitat on which the species depends. ■ On the two 'seal sites', disturbance is identified as an attribute of the species' supporting habitat.

²⁵ The experiences within the UK marine SACs Project are limited in relation to the development of conservation objectives for Annex II species. Of the 12 sites, only three have Annex II species as interest features (see Table 4).

National guidance for defining condition of complex features

As parts of Table 5 clearly show, identifying attributes that meaningfully describe the condition of the marine habitat types in the Directive presents particular challenges in comparison with many Annex I terrestrial habitat types.

Aside from some of the coastal habitats such as salt meadows, the marine habitat types are all defined according to broad geophysical structures, rather than being defined substantially or entirely by their biological communities.²⁶ Thus for example ‘reefs’, ‘large shallow inlets and bays’ and ‘estuaries’ are more the conceptual equivalents of ‘hills’, ‘valleys’ and ‘rivers’, rather than the equivalents of much more specific biological classifications of terrestrial communities.²⁷

This creates the potential for different attributes to be used on different sites selected for the same habitat types. Consequently, in order not to undermine the assessment of conservation status at regional or national levels, identifying the attributes that best define the condition of marine SAC interest features, has necessitated the development of national guidance, and the balancing of this against the need to take into account the distinctiveness of features on individual sites.

Use of ‘sub-features’

Many of the features on the Project sites are large and heterogeneous.²⁸ In order for the conservation objectives to provide a practical guide to site management, they need to focus on features at a manageable scale. Therefore a significant task for the development of the conservation objectives for the UK marine SACs Project sites has been identifying relevant components of these very broad features.

With the exception of Cardigan Bay, which is selected only for a single Annex II species, it has been necessary to identify (mostly on a very site- and feature-specific basis), the relevant components of the features, which are relevant to the description of their condition. These components can be defined either on a spatial basis (different areas within a site) or a biological community basis (looking at the different communities that make up an Annex I habitat type).

On many sites, the use of these so-called ‘sub-features’²⁹ has been relatively formalised and based on national guidance³⁰, whereas on other sites sub-features are not explicitly identified

²⁶ See European Commission (1996) *Interpretation Manual of European Union Habitats*. Version EUR 15, DG XI, Strasbourg.

²⁷ To illustrate this, Annex I of the Habitats Directive contains only 9 marine habitat types, out of a total of more than 170, which includes 26 different types of sand dune habitat!

²⁸ For example, the single ‘large shallow inlet/bay’ feature of the Wash and North Norfolk coast cSAC covers about 42,000 hectares, and is considered to be the largest true embayment in the UK. Strangford Lough is another large inlet (about 15,000 hectares) with a huge diversity of different tidal, salinity and substrate conditions and a corresponding diversity of community types. Even the occurrences of some of the more closely defined habitat types are extensive and heterogeneous (e.g. reefs of Pen Llyn a’r Sarnau, the lagoons of Loch nam Madadh).

²⁹ Sub-features are distinctive biological communities (e.g. eelgrass beds, maerl beds, horse mussel reefs) or particular structural or geographical elements of a feature.

as such, but rather exist by default as groupings of attributes. Some examples of sub-features defined on both spatial and biological bases are shown in Table 6. Attributes are then identified to describe the condition of the sub-features, so by aggregating the condition of its component sub-features, the condition of the interest feature can be derived.

The use of sub-features does not preclude the identification of attributes that relate to whole interest features, where possible. Examples include the overall extent of interest features, particularly those that are generally most sensitive and vulnerable to loss of area (e.g. intertidal mud/sand flats, salt meadows), measurements of estuary form and function,³¹ and aspects of water quality.

Table 6: Examples of the use of ‘sub-features’ (explicitly or implicitly) on UK marine SACs Project sites

Site	Interest features (examples)	‘sub-features’ (examples)
Pen Llyn a’r Sarnau	Reefs	reefs of Llyn Peninsula
		‘Sarnau’ reefs
	Estuaries	Glaslyn-Dwryrd estuary
		Mawddach estuary Dyfi estuary
Plymouth Sound and Estuaries	Estuaries	intertidal mud communities
		estuarine bedrock, boulder and cobble communities
		salt marsh and reed bed communities
	subtidal sandbanks	eelgrass communities gravel and sand communities
Loch nam Madadh (Loch Maddy)	Lagoons	intertidal rock and boulder waterfalls
		subtidal rapids
		seagrass communities
	Large shallow inlets/bays	sublittoral coarse sediment communities sea pen communities in deep soft sediment areas
Berwickshire & North Northumberland Coast	Grey seals	rocky and coarse sediment shores

Links to monitoring and reporting

As outlined earlier, from a legal and practical standpoint conservation objectives must both guide the management of sites, and support judgements about whether or not features are being conserved appropriately. Monitoring of feature condition against the conservation objectives does not itself identify the cause of any deterioration in the condition, but is a prerequisite for judging the appropriateness or otherwise of site management.

³⁰ Unpublished internal memo, English Nature, (1998) *Favourable condition table. Appendix 1. Selecting sub-features for Annex 1 marine habitats* (Paper by Tim Hill, Jim Burt, & Chris McMullon, National Office, Maritime Team, December 1998, 4p)

³¹ Morphological measurements relating to a whole estuary, including its tidal prism (volume of water entering/leaving at each tidal cycle) and cross sectional area at its mouth.

In the UK, an approach to the monitoring of sites designated under both national and EU legislation has been developed, which meets the requirements of monitoring of marine SACs. In this approach a distinction is made between ‘surveillance’ and ‘monitoring’. Surveillance is a continued programme of biological surveys systematically undertaken to provide a series of observations over time. Monitoring is surveillance undertaken to ensure that formulated standards are being maintained.³²

Monitoring of entire features (or even sub-features) is rarely, if ever possible, let alone in the marine environment. For monitoring to be achievable, attributes of a feature must be selected which can be measured in the field to determine whether or not they meet ‘target values’ (see below).

The selection of attributes is primarily on the basis that they are considered essential in defining the condition of an interest feature, and are capable of being monitored reasonably and cost-effectively. But attribute-selection is also guided to a certain extent by considering the factors that are most likely to damage the interest feature on a given site, since monitoring these factors is more likely to detect unfavourable condition than monitoring attributes that are robust. This is discussed further in section 4.2 below, and a fuller discussion of attribute monitoring is contained in a separate output of the UK marine SACs Project, the Marine Monitoring Handbook.³³

3.4.3 Identifying target values for attributes

Having considered in section 3.4.2 the identification of attributes that define an interest feature’s condition (and conservation status), the second half of the process of formulating objectives is to define what values for those attributes represent ‘favourable’ condition. In many ways identifying these targets has been more of a challenge than identifying attributes.

A subjective process

Whereas identifying attributes is largely a process of practical application of scientific or factual knowledge about features and marine environmental processes, the definition of what is ‘favourable’ entails a substantial degree of value judgement. Identifying one condition or range of conditions for a feature as being in some way ‘preferable’ to others is a subjective process. However, historical knowledge of a site and its features, and perhaps some scientific or factual understanding of ecological relationships may sometimes guide this process.

In practice, the organisation with the task of establishing conservation objectives is rarely, if ever, solely responsible for making such judgements. With SACs, the Directive’s definition of favourable conservation status provides the context for target setting, just as it does for attribute selection (see Table 3). In this sense, favourable conservation status itself entails a number of value judgements, the most obvious of which is in the selection of the habitat types and species for which SACs are to be designated, and the requirement that their extent or abundance should not decline. A pervasive value judgement that has been made in

³² JNCC (1998) (see footnote 18)

³³ Davies et al (2001) (see footnote 9)

conservation objective setting for the UK marine SACs has been the desire to maintain or restore “naturalness”.

To ‘maintain’ or ‘restore’?

This is one of the most critical judgements to be made when formulating conservation objectives. Article 2.2 of the Directive states that measures taken under it “shall be designed to maintain or restore” habitats and species at (to) favourable conservation status. The condition of interest features on some sites will be in favourable, and on others unfavourable. Therefore a key question in specifying targets for conservation objectives is whether favourable condition is more or less what we have now, in which case the objective is to maintain the ‘current’ condition³⁴ of the feature, or whether it is something else, in which case the objective is to restore the condition of the feature to favourable (and then, obviously, to maintain it in favourable condition).

Two themes have dominated the approach to this question in the UK marine SACs. Firstly, in many cases very little is known about what current condition actually is, particularly in terms of the values of the various attributes used to describe condition (see the examples in Table 5). Thus, most of the conservation objectives for UK marine SACs Project sites acknowledge the need for further data on the existing condition of features, to establish ‘current’ condition.

Secondly, and given the paucity or complete absence of information on current condition, the almost universal judgement across all sites and features is that current condition - once it can actually be determined - will be considered favourable unless there is evidence to the contrary, and therefore the objectives are to maintain rather than restore.

Marine site managers are rarely in a position to identify anything other than current condition as favourable (in contrast to many, but by no means all, terrestrial sites). ‘Restoration’ conservation objectives can only generally be defined - and defended - for sites or habitats which have obviously been degraded, and/or for which a ‘better’ condition can be identified. Examples of this are generally limited to intertidal habitats such as salt marsh, and perhaps some species populations.

‘Targets’ in favourable conservation status and targets for features on sites

The targets in the conservation objectives developed in the UK marine SACs Project generally correspond well with the ‘targets’ in favourable conservation status (see right hand column of Table 3). To a large extent this is because the basic principle of favourable conservation status is felt by the UK conservation agencies to be a sound philosophy to guide objective setting, and it does not conflict with established conservation management practices.

However one area of difference between many of the conservation objectives and favourable conservation status is that the latter is an inherently forward-looking concept, containing

³⁴ The concept of ‘current condition’ can be a misleading one, not least because it refers to the time when it is said, whenever that may be! In practice, when the conservation agencies use the term, they are either referring to the time at the point at which the site was selected as an SAC, the time of the most recent baseline survey, or to the point in the (near) future when condition will be determined.

phrases like “continue to exist for the foreseeable future” and “long-term basis”. Meanwhile, the detail of the conservation objectives that have been developed in the UK marine SACs Project tends to treat favourable condition more as a ‘state’, or rather range of states, at a given point in time, rather than a combination of existing state and ‘future prospects’. It can be argued that, since favourable conservation status requires that a habitat or species’ future prospects are good, its future prospects on an individual site must also be good, if that site is to make an appropriate contribution to favourable conservation status.

To a degree, this difference between favourable condition and favourable conservation status can be addressed by including in the definition of favourable condition; attributes which seek to embody a feature’s future prospects. Examples include the supporting physical processes for habitats, the condition of habitats supporting species, or the age structure and productivity of species populations. Targets for these attributes can be defined which represent best judgement about what is required to ensure their future maintenance. English Nature’s generic definition of favourable condition (quoted in section 3.3 above) encapsulates the need for conservation objectives to address an interest feature’s future prospects as well as its current condition.

‘Natural’ variability

It is acknowledged in Table 2 that the conservation objectives need to accommodate the inherent variability of most, if not all, habitats and species populations. Clearly, conservation objectives cannot define a single condition (a single value for each attribute) as favourable, but need to identify what range of conditions a feature can be in while still considered favourable. With most of the features of the UK’s Marine SACs Project sites, the aim is for dynamic features to be able to behave naturally, and thus be in as natural a state as possible. This presents a difficulty in expressing conservation objectives, since it will rarely if ever be known whether a change in a feature observed through monitoring against its target, is due to natural, or anthropogenic causes, or indeed a combination.

This issue has been approached in two main ways:

- The conservation objectives can specify a range of acceptable values for each attribute rather than a single target value. Only if observed attribute values fall outside that range, will the condition of the feature be considered unfavourable.

The advantage of this approach is that it provides an unambiguous standard, which, if breached, can trigger some form of management response, which will usually be to seek to determine (or at least make an informed judgement about) the cause of the change. The main difficulty is identifying the appropriate range, particularly where little is known about the short, medium and long-term variability of the feature. In many cases it relies on expert judgement, and may require adjusting the range of acceptability as understanding of the variability of the feature improves.

- The conservation objectives explicitly ‘exempt’ natural change from the types of change that would be considered unfavourable, for example by including the phrase “subject to natural change” in the objectives themselves.

The advantage of this approach is that it makes very clear the underlying principle that change caused by natural factors is acceptable. The main disadvantage is that the observed condition of any feature at a given time will be the result of a combination of natural and anthropogenic factors of varying significance, making it difficult to determine whether the objective is actually being achieved.

4. Conservation objectives and other information to guide site management

4.1 Legal and practical context

In addition to providing advice as to the conservation objectives for marine SACs, the UK conservation agencies are also required, under Regulation 33 of the UK Habitats Regulations (see Appendix 1), to advise as to any operations that may cause deterioration or disturbance to the habitats and species for which the sites are designated. A short review of this element of the UK marine SACs Project is included here because of the close legal and practical links between this advice and the conservation objectives.

There are clearly differences in the nature of the two types of information in Regulation 33 advice. Provided that the conservation objectives prepared by the nature conservation agencies are accepted as an authoritative expression of the Directive's requirements for a site, they are standards or outcomes which the management of sites should aim to achieve, and against which decisions, including legal decisions, can be tested. In contrast, the giving of advice on operations does not create explicit obligations or set any standards which management bodies are required to meet, although a management body is clearly expected to take account of this advice in carrying out its functions.

The legal framework is partly a reflection of the fact that responsibility for managing marine SACs and SPAs is not vested in the nature conservation agencies, but rests with the various relevant authorities responsible for the planning and management of various sectors of interest, such as local fisheries, harbour, planning and pollution control authorities.

From a practical point of view, the usefulness of conservation objectives in guiding site management in accordance with Article 6 of the Directive is enhanced if they are accompanied by information on their implications for activities occurring on and around the sites. Such information is intended to assist with identifying what are the 'necessary conservation measures' (Article 6.1), and what would be 'appropriate steps' to avoid deterioration and significant disturbance (Article 6.2). It also helps with determining whether plans and projects are likely to have significant effects and informs the appropriate assessment process (Article 6.3).

4.2 Formulating the 'operations advice'

On all sites, the conservation objectives and advice on operations have been developed as an integrated package of information. The main benefit of this is that it reflects the link between the two types of information. The conservation objectives are the ultimate determinant of what types of operation are considered likely to cause damage, and the potential threats to the features have a bearing on the way in which the objectives are expressed.

The detailed approaches to formulating this part of the Regulation 33 advice, and its presentation, vary considerably, being tailored to the particular circumstances on each site. However experiences in the UK marine SACs Project have identified a number of important elements in this process which have been incorporated to some degree in all of the Project's sites:

- Identifying operations on a feature-by-feature basis
- Assessing the sensitivity of features
- Establishing the nature of the link between operations and features
- Assessing vulnerability of the features
- Feedback from the operations advice to the conservation objectives

4.2.1 Identifying operations advice for each feature

Different habitat types and species clearly vary in the degree to which they are likely to be damaged by any given type of operation. Therefore relating the operations advice to each interest feature on a site, rather than applying it to the whole site, improves the usefulness of this information.

Given the size and complexity of many of the marine habitat types on sites (in particular reefs, estuaries, and large shallow inlets/bays), the operations can be identified as potentially damaging to particular sub-features (see Section 3.4.2 and Table 6). Thus, the framework in Table 7 for identifying operations can be applied to sub-features, or even in some cases to particular attributes. As an extreme example, it would rarely be useful to state that a particular type of operation has the potential to damage “an estuary”. It is more useful to identify it as potentially damaging to a particular biological community or a particular area within the estuary that describes its condition. In these circumstances, the identification of sub-features is a necessary pre-cursor to the operations advice.

4.2.2 Assessing the sensitivity of interest features

Sensitivity is defined as “The intolerance of a habitat, community or individual (or individual colony) of a species to damage, or death, from an external factor.”³⁵ It is clearly essential in preparing the operations advice, to take into account information on the sensitivity of the habitats and species (and where necessary their sub-features and attributes) to particular types of impact. Assessing sensitivity has relied to a great extent on existing knowledge of marine species and communities. Other tasks within the UK marine SACs Project have collated existing information on feature sensitivity to assist with this.³⁶

4.2.3 Establishing the nature of the links between operations and interest features

Early on in the UK marine SACs Project, it became apparent that simply presenting relevant authorities with a list of operations that may cause damage, although it would comply with the letter of Regulation 33, would not be conducive to encouraging wide participation in the development of management schemes. The relevance of any operation to the achievement of a site’s conservation objectives lies in the process or mechanism through which it impacts upon a habitat or species. Thus, identifying these mechanisms first - which is frequently part of the process of assessing sensitivity - provides a logical route to the identification of potentially damaging operations. For example, Table 7 is derived from the standard

³⁵ Marine Life Information Network (MarLIN), www.marlin.ac.uk.

³⁶ See footnote 8.

categories that English Nature and the Countryside Council for Wales use for structuring and prioritising their operations advice.

Table 7: Identifying operations by the nature of their potential effects on features

Type of impact	Mechanism	Examples of operations
physical loss	Removal	land claim coastal development
	Smothering	artificial structures disposal of dredge spoil marine littering
physical damage	Siltation	river run-off outfalls channel dredging
	Abrasion	boating anchoring trampling
	selective removal	aggregate dredging fishing (target and bycatch species) bait collection
non-physical disturbance	Noise	power boating
	visual presence	recreational activities
toxic contamination	introduction of synthetic compounds (e.g. pesticides, TBT, PCBs, endocrine disruptors)	agricultural runoff sewage outfalls industrial outfalls
	introduction of non-synthetic compounds (e.g. heavy metals, hydrocarbons)	shipping operations/accidents offshore oil & gas operations/accidents industrial outfalls
	introduction of radionuclides	nuclear power generation
non-toxic contamination	nutrient enrichment	agricultural run-off sewage outfalls industrial outfalls
	organic enrichment	mariculture outfalls
	changes in thermal regime	power stations sewage outfalls
	changes in turbidity	agricultural runoff outfalls dredging and construction
	changes in salinity	water abstraction outfalls construction works
biological disturbance	introduction of microbial pathogens	mariculture sewage outfalls
	introduction of non-native species and translocation	Mariculture
	selective removal of species	bait collection fishing (target and bycatch species) wildfowling

4.2.4 Assessing the vulnerability of interest features

An important part of formulating the operations advice is as assessment of the vulnerability of habitats and species. ‘Vulnerability’ is defined as “The likelihood that a habitat, community or individual (or individual colony) of a species will be exposed to an external factor to which it is sensitive.”³⁷ The vulnerability of a feature (or sub-feature, or attribute) to an operation, clearly depends both on its inherent sensitivity to the effects of that type of operation, and on the degree to which it is exposed, or likely to be exposed, to the operation and its effects. Thus while the sensitivity of a species or biological community is intrinsic and will not vary greatly between sites, vulnerability is usually site-specific.

Assessing vulnerability requires looking at the current use of the site by various types of activity, and identifying any factors that might make features more or less vulnerable to particular impacts (for example sensitive communities located in or close to areas of intensive fishing or trampling, or enclosed water bodies that are more vulnerable to elevated concentrations of contaminants). It also requires assessing likely future changes to the patterns of use of the site, for example likely locations for new developments, while trying to avoid ‘crystal ball gazing’. When considering the need for new management measures, priority can be given to operations to which features are both sensitive and vulnerable.

Wide ownership and understanding of the operations advice can be enhanced if the relevant authorities are involved in this stage of its development, for example contributing their knowledge of the distribution of human activities on the site and their effects.³⁸

4.2.5 Feedback to the formulation of conservation objectives

Information on the sensitivity and vulnerability of interest features can help in the identification of subfeatures and attributes in the conservation objectives. Given that one of the required functions of conservation objectives is to enable the identification of types of change that would be considered unfavourable (see Tables 1 and 2), it is useful to focus on attributes that are most sensitive and vulnerable to change on a particular site. Monitoring of these attributes is then more likely to detect deterioration or disturbance to the feature than monitoring attributes which, though important characteristics of the feature in conservation terms are unlikely to change in response to impacts on the feature.

The site-specific nature of a feature’s vulnerability is one of the main reasons why national generic guidance on formulating conservation objectives usually needs to be adapted to the needs of individual sites.

³⁷ Marine Life Information Network (MarLIN), www.marlin.ac.uk.

³⁸ UK marine SACs Project (2001) (see footnote 11)

5. Summary

5.1 The legal and practical context for conservation objectives

- The role of conservation objectives is defined by their legal context and practical requirements. The key considerations are that the conservation objectives ideally should:
 - express the Directive's requirements in relation to the individual site;
 - guide the preparation of management plans or schemes;
 - guide decisions on management of activities and the control of developments affecting the site;
 - enable monitoring, which in turn enables reporting to government, and review of the appropriateness of site management.

5.2 Formulating conservation objectives

- Developing conservation objectives that fulfil all the functions identified in section 2 is a considerable challenge, and progress can be greatly influenced by the level of understanding of a site and its features, and the social and political context in which the objectives are being developed.
- The Directive's main aim is the achievement of favourable conservation status. Conservation objectives need to define what a site's appropriate contribution to favourable conservation status should be. The UK conservation agencies use the term favourable condition for this.
- Defining the favourable condition of a feature consists of:
 - Identifying attributes, which are measurable characteristics that are reliable indicators of the condition of the feature. Large complex features can be broken down into sub-features to facilitate this process. Identifying attributes relies on understanding the sensitivity and vulnerability of features and sub-features;
 - Identifying targets for attributes which represent "favourable". This requires a degree of value judgement, as well as scientific understanding of features. One of the most critical decisions is whether current condition (if known) is to be considered favourable. For marine SACs in the UK, this has been a widespread starting assumption, which in many cases requires surveys to establish current condition.
- As far as possible, attributes and targets need to reflect the various elements of favourable conservation status:
 - - for habitats: extent, structure and functions, and typical species;
 - for species: population dynamics, range (distribution) and supporting habitat.

5.3 Conservation objectives and other information to guide site management

- The UK Habitats Regulations require that conservation objectives for marine sites are accompanied by the identification of operations which may cause damage or disturbance to the features. In addition to being a legal requirement, such information makes the conservation objectives more useful.
- As with conservation objectives, identifying the relevant operations is a site-specific process, but key general principles include:
 - identifying operations for each feature rather than for the site, since features (and sub-features) have different sensitivity to effects of different operations;
 - assessing the sensitivity of features;
 - establishing (and recording) the nature of the link between each operation and each feature (i.e. the mechanism by which it has an impact);
 - assessing the vulnerability of each feature to the effects of each operation;
 - using sensitivity and vulnerability information to assist in the identification of attributes in the conservation objectives (especially important for monitoring purposes).

Appendix 1 - Relevant extracts from the Habitats Directive and UK Habitats Regulations

Habitats Directive

Article 1(e)

Conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long term natural distribution, structure and functions as well as the long term survival of its typical species within the territory referred to in Article 2.

The conservative [sic] status of a natural habitat will be taken as ‘favourable’ when:

- its natural range and the areas it covers within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- conservation status of typical species is favourable as defined in [Article] 1(i).

Article 1(i)

Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term natural distribution and abundance of its populations within the territory referred to in Article 2;

The conservation status will be taken as ‘favourable’ when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

Article 1(l)

Special area of conservation means a site of community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated.

Article 2

1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.

2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.
3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.

Article 3

1. A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.

The Natura 2000 network shall include the special protection areas classified by the Member States pursuant to Directive 79/409/EEC.

2. Each Member State shall contribute to the creation of Natura 2000 in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.
3. Where they consider it necessary, Member States shall endeavour to improve the ecological coherence of Natura 2000 by maintaining, and where appropriate developing, features of the landscape which are of major importance for wild fauna and flora, as referred to in Article 10.

Article 6

1. For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.
2. Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.
3. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having

ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

4. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

Article 11

Member states shall undertake surveillance of the conservation status of the natural habitats and species referred to in 2 with particular regard to priority natural habitat types and priority species.

Article 17

1. Every six years from the date of expiry of the period laid down in Article 23, Member States shall draw up a report on the implementation of the measures taken under this Directive. This report shall include in particular information concerning the conservation measures referred to in Article 6 (1) as well as evaluation of the impact of those measures on the conservation status of the natural habitat types of Annex I and the species in Annex II and the main results of the surveillance referred to in Article 11. The report, in accordance with the format established by the committee, shall be forwarded to the Commission and made accessible to the public.
2. The Commission shall prepare a composite report based on the reports referred to in paragraph 1. This report shall include an appropriate evaluation of the progress achieved and, in particular, of the contribution of Natura 2000 to the achievement of the objectives set out in Article 3. A draft of the part of the report covering the information supplied by a Member State shall be forwarded to the Member State in question for verification. After submission to the committee, the final version of the report shall be published by the Commission, not later than two years after receipt of the reports referred to in paragraph 1, and shall be forwarded to the Member States, the European Parliament, the Council and the Economic and Social Committee.
3. Member States may mark areas designated under this Directive by means of Community notices designed for that purpose by the committee.

UK Habitats Regulations

Regulation 2

“European site” has the meaning given by regulation 10 and “European marine site” means a European site which consists of, or so far as it consists of, marine areas”

“marine area” means any land covered (continuously or intermittently) by tidal waters or any part of the sea in or adjacent to Great Britain up to the seaward limit of territorial waters

Regulation 10

- (1) In these Regulations a “European site” means
 - (a) a special area of conservation,
 - (b) a site of community importance which has been placed on the list referred to in the third sub-paragraph of Article 4(2) of the Habitats Directive,
 - (c) a site hosting a priority natural habitat type or priority species in respect of which a consultation has been initiated under Article 5(1) of the Habitats Directive, during the consultation period or pending a decision of the Council under Article 5(3), or
 - (d) an area classified pursuant to Article 4(1) or 4(2) of the Wild Birds Directive.

Regulation 33

- (2) As soon as possible after a site becomes a European marine site, the appropriate nature conservation body shall advise other relevant authorities as to:
 - (a) the conservation objectives for that site, and
 - (b) any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the site has been designated.

Regulation 48

- (1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which:
 - (a) is likely to have a significant effect on a European site in Great Britain (either alone or in combination with other plans or projects), and
 - (b) is not directly connected with or necessary to the management of the site,

shall make an appropriate assessment of the implications for the site in view of the site’s conservation objectives.

- (3) The competent authority shall for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority may specify.
- (5) In the light of the conclusions of the assessment...the authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site.