Chesil and the Fleet
European marine site

English Nature's advice for Chesil and the Fleet European marine site given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

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Preface

This document provides English Nature's advice to other relevant authorities as to (a) the conservation objectives and (b) any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species for the Chesil and Fleet European marine site. This advice is being prepared to fulfill our obligations under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994.

The Chesil and Fleet European marine site is part of a candidate Special Area of Conservation. It is Government policy that such sites should be protected as if they were already designated and, where appropriate, it is desirable to establish voluntary management schemes at an early stage, before the formal statutory obligations apply, and to act in the spirit of the Directive in the meantime (DETR & The Welsh Office 1998). In light of this policy, we have worked with many of you to develop this advice in advance of statutory obligations applying.

European marine sites are defined in the Conservation (Natural Habitats &c.) Regulations 1994 as any part of a European site 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. European sites include Special Areas of Conservation under the Habitats Directive, which support certain natural habitats and species of European importance, and Special Protection Areas under the Birds Directive which support significant numbers of internationally important wild birds. In many instances, as in the case of Chesil and the Fleet European marine site, these designations may coincide and our advice is being prepared to cover both the SAC and SPA interests.

This 'Regulation 33 package' is designed to help relevant and competent authorities, who have responsibilities to implement the Habitats Directive, to:

- understand the international importance of the site, underlying physical processes and the ecological requirements of the habitats and species involved;
- develop a management scheme to ensure that the ecological requirements of the site's interest features are met; and
- set the standards against which the condition of the site's interest features can be determined and undertake compliance monitoring to establish whether they are in favourable condition.

In addition, the Regulation 33 package will provide a basis to inform the scope and nature of 'appropriate assessment' required in relation to plans and projects (Regulations 48 & 50 and by English Nature under Regulation 20). English Nature will keep this advice under review and may update it every six years or sooner, depending on the changing circumstances of the European marine site. In addition, we will provide more detailed advice to competent and relevant authorities to assess the implications of any given plan or project under the Regulations, where appropriate, at the time a plan or project is being considered. If during the European Union's moderation process qualifying interest features are added to this European marine site, English Nature will add to this advice, as appropriate.

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English Nature
4 November 1999

English Nature's advice for Chesil and the Fleet European marine site given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

1. Introduction

1.1 Natura 2000

The European Union Habitats[1] and Birds[2] Directives are international obligations which set out a number of actions to be taken for nature conservation. The Habitats Directive aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements, and sets out measures to maintain or restore, natural habitats and species of European Union interest at favourable conservation status[3]. The Birds Directive protects all wild birds and their habitats within the European Union, especially migratory birds and those that are considered rare or vulnerable.

The Habitats and Birds Directives include requirements for the designation of conservation areas. In the case of the Habitats Directive these are Special Areas of Conservation (SACs) which support certain natural habitats or species, and in the Birds Directive, Special Protection Areas (SPAs) which support wild birds of European Union interest. These sites will form a network of conservation areas to be known as "Natura 2000". Where SACs or SPAs consist of areas continuously or intermittently covered by tidal waters or any part of the sea in or adjacent to Great Britain up to the limit of territorial waters, they are referred to as European marine sites.

Further guidance on European marine sites is contained in the Department of the Environment Transport and Regions/Welsh Office document: *European marine sites in England & Wales: A guide to the Conservation (Natural Habitats &c.) Regulations 1994 and to the preparation and application of management schemes.*

1.2 English Nature's role

The Conservation (Natural Habitats &c.) Regulations 1994 translate the Habitats Directive into law in Great Britain. It gives English Nature a statutory responsibility to advise relevant authorities as to the conservation objectives for European marine sites in England and to advise relevant authorities as to any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species for which the sites have been designated. This information will be a key component of any of the management schemes which may be developed for these sites.

[1] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

[2] Council Directive 79/409/EEC on the conservation of wild birds

[3] A habitat or species is defined as being at favourable conservation status 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.

This document is English Nature's advice for the Chesil and Fleet European marine site issued in fulfilment of Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994 (the 'Regulation 33 package'). Copies of key references quoted in this document are held at the English Nature local office.

In addition to providing such advice, the Regulation 33 package will inform the scope and nature of 'appropriate assessment' which the Directive requires to be undertaken for plans and projects (Regulations 48 & 50 and by English Nature under Regulation 20). In the future, English Nature may also provide more detailed advice to competent and relevant authorities to assess the implications of any such plans or projects.

1.3 The role of relevant authorities

The Conservation (Natural Habitats &c.) Regulations 1994 require relevant authorities to exercise their functions so as to secure compliance with the Habitats Directive. The management scheme which the relevant authorities are drawing up under Regulation 34 for the Chesil and the Fleet European marine site will provide the framework through which this will be done and it should be based on the advice in this package. In this respect, relevant authorities must, within their areas of jurisdiction, have regard to both direct and indirect effects on an interest feature of the site. This may include consideration of issues outside the boundary of the European marine site.

Relevant authorities should ensure that all plans for the area integrate with the management scheme for the European marine site. Such plans may include shoreline management plans, local Environment Agency plans, SSSI management plans, local BAP plans and sustainable development strategies for estuaries. This must occur to ensure that there is only a single management scheme through which all relevant authorities exercise their duties under the Conservation (Natural Habitats &c.) Regulations 1994.

Relevant authorities also need to have regard to changing circumstances of the SAC and SPA and may therefore need to modify the management scheme and/or the way in which they exercise their functions so as to maintain the favourable condition of interest features concerned in the long term. There is no requirement for relevant authorities to take any actions outside their statutory functions.

Under certain circumstances, where another relevant authority is unable to act for legal reasons, or where there is no other relevant authority, English Nature is empowered to use its bylaw-making powers for Marine Nature Reserves (MNR) for use in European marine sites.

1.4 Activity outside the control of relevant authorities

Nothing within this Regulation 33 package will require relevant authorities to undertake any actions or ameliorate changes in the condition of interest features if it is shown that the changes result wholly from natural causes[4]. This also applies if the changes, although causing deterioration or disturbance to the interest features, are the result of human or natural events

[4]Determination of what constitutes natural change will be based on the best available information and scientific opinion at the time.

outside their control. Having issued Regulation 33 advice for European marine sites, English Nature will work with relevant authorities and others to agree, within a defined time frame, a protocol for evaluating all observed changes to baselines and to develop an understanding of natural change and provide further guidance as appropriate and possible. On the Chesil and Fleet European marine site a Steering Group has already been set up and should be used to alert English Nature to such issues so that they may be assessed and any appropriate measures taken. This does not, however, preclude relevant authorities from taking action to prevent deterioration to the interest features, for example by introducing or promoting codes of practice through the Steering Group.

1.5 Responsibilities under other conservation designations

In addition to its candidate SAC status and SPA status, parts of Chesil and the Fleet are also designated and subject to agreements under other conservation legislation (eg. SSSIs notified under the Wildlife and Countryside Act 1981 as amended 1985). The obligations of relevant authorities and other organisations under such designations are not affected by the advice contained in this document.

1.6 Role of conservation objectives

Section 4 of this document sets out the conservation objectives for the Chesil and the Fleet European marine site. They are the starting point from which management schemes and monitoring programmes are to be developed as they provide the basis for determining what is likely to cause a significant effect, and for informing on the scope of appropriate assessments of plans or projects. The conservation objectives set out what needs to be achieved and thus deliver the aims of the habitats Directive.

1.7 Role of advice on operations

The advice on operations set out in Section 6 provides the basis for discussion about the nature and extent of the operations taking place within or close to the site and which may have an impact on its interest features. It is given on the basis of the working assumption that sites have been generally presumed to have been in favourable condition at the time they were identified. This assumption will be tested during the 2000 - 2006 reporting period. The advice should also be used to identify the extent to which existing measures of control, management and use are, or can be made, consistent with the conservation objectives and thereby focus the attention of relevant authorities and surveillance to areas that may need management measures.

This operations advice, when issued, will need to be refined through further detailed discussions with the management and advisory groups in formulating and agreeing a management scheme, where required, to agreed timescales for the European marine site.

2. Identification of interest features under the EU Habitats and Birds Directives

Chesil and the Fleet is a candidate Special Area of Conservation (SAC) and a Special Protection Area (SPA). The marine components of both sites qualify as European marine sites but for simplicity, and for the purposes of this advice, both the SAC and SPA components are treated as a single European marine site - the Chesil and the Fleet European marine site. Accordingly, the advice in this document covers both the habitat and bird interests, the boundaries of which are illustrated in Figure 1.

Where these habitats occur within the European marine site they are referred to as interest features. Sub-features have also been identified to highlight the ecologically important components of each interest feature. The interest features and sub-features for the Chesil and the Fleet European marine site are discussed in more detail below and are mapped at Figure 2 to show their distribution and extent.

Chesil and the Fleet qualifies as a European marine site for the following reasons:

i) Under Annex I of the EU Habitats Directive:

- **Lagoons[5];**
- **Annual vegetation of drift lines;**
- **Mediterranean and thermo-Atlantic halophilous scrub; and**

The Chesil and the Fleet SAC also qualifies for the Annex I habitat **perennial vegetation of stony banks**. This does not however, occur within the European marine site, and therefore within this document, as it occurs above Highest Astronomical Tide. Objectives to maintain perennial vegetation of stony banks in favourable condition are found within English Nature's conservation objectives for the relevant SSSI within the SAC boundary and will be dealt with through procedures outlined in the Conservation (Natural Habitats &c.) Regulations 1994. Relevant authorities need to have regard to such adjacent European interests, as they might be affected by activities taking place within, or adjacent to the European marine site.

ii) Under the Birds Directive:

- **Internationally important populations of regularly occurring bird species listed on Annex 1 of the Birds Directive**
- **Internationally important populations of regularly occurring migratory species.**

A qualifying interest feature of the Chesil and the Fleet SPA is an internationally important breeding population of the Annex 1 species little tern *Sterna albifrons*. The feeding habitat -

[5] This is one of a number of "priority habitats" which are defined in the Directive as those habitats in danger of disappearance and for which the European Union has particular responsibility in view of the proportion of their natural range which lies in the European Union.

waters of the lagoon - do occur within the European marine site and an objective is included within this advice package for this interest. The habitat required for this species to nest - the bare and sparsely vegetated shingle - does not however, occur within the European marine site, as it occurs above Highest Astronomical Tide. Objectives to maintain this aspect of bird interest in favourable condition are found within English Nature's conservation objectives for the relevant SSSI within the SPA boundary and will be dealt with through procedures outlined in the Conservation (Natural Habitats &c.) Regulations 1994. Relevant authorities need to have regard to such adjacent European interests, as they might be affected by activities taking place within, or adjacent to the European marine site.

Chesil and the Fleet was classified as an SPA in July 1985 and it is that citation on which this advice is based.

The complete boundary of the SAC and SPA, of which the European marine site is a component, is given in Figures 1 and 2.

3. SAC interest features and SPA interest features

This section describes and explains the importance of the SAC and SPA interest features of the Chesil and the Fleet European marine site.

3.1 SAC interest features

3.1.1 Lagoons

Definition

Lagoons are areas of shallow, coastal brackish or saltwater, wholly or partially separated from the sea by sandbanks, shingle or, less frequently, rocks. Five main sub-types of lagoon which differ in their form and function have been identified in the UK (Brown and others 1997).

Seawater enters percolation lagoons by percolating through the shingle or occasionally by over-topping the bank (eg in storms). The water level shows some variation with tidal changes, and salinity may vary. Since percolation lagoons are normally formed by natural processes of sediment transport, they are often transient features, which may be eroded and swept away over a period of years or decades or may become infilled by movement of the shingle bank. Larger examples of lagoonal inlets may have a number of different basins, separated by sills, and demonstrate a complete gradient from full salinity through brackish to fresh water. This salinity gradient significantly increases the habitat and species diversity of the sites in which it occurs.

The water in lagoons can vary in salinity from brackish (owing to dilution of seawater by freshwater) to hyper-saline (ie more salty than seawater as a result of evaporation). The plant and animal communities of lagoons vary according to the physical characteristics and salinity regime of the lagoon, and therefore there are significant differences between sites. Although a limited range of species may be present, compared with other marine habitats, these species are especially adapted to the varying salinity and some are unique to lagoon habitats.

Importance of Chesil and the Fleet

Lagoons are one of the priority habitats listed in the Directive and are relatively rare in the UK. The Fleet, which is the largest lagoon in England, supports the greatest diversity of habitats and species of any lagoon in the UK (Bamber 1997). It is illustrative of two of the five lagoonal types found in the UK as it is predominantly a lagoonal inlet but also has features of percolation lagoons. The lagoon is bordered by Chesil Bank, a shingle barrier beach, through which seawater percolates into the lagoon, but most of its water exchange occurs through the narrow channel that links it to Portland Harbour.

The marine invertebrate communities and flora of the Fleet are exceptionally diverse with a number of nationally rare, scarce and protected species. This diversity and the composition of its biological communities are influenced by a number of key ecological factors. A low freshwater input produces fully saline conditions throughout most of the Fleet, with reduced salinity occurring only in the west. The lagoon is extremely sheltered from wave action and

has weak tidal currents, except in the Narrows and entrance channel at Ferrybridge. The tidal range is much smaller and temperature range far greater than on the open coast and a range of seabed types are found within the lagoon. This suite of environmental conditions is rarely found in the UK in a single lagoon.

The Fleet can be divided into three zones; the lower Fleet or lagoonal inlet channel which is a typical estuarine lagoon and the mid and west Fleet which is a classic lagoon and also includes the third, smaller, reduced salinity zone at the far western end at Abbotsbury (Whittaker 1978, Bamber and others 1992, Dyrynda 1997). Much of the seabed of the Fleet is composed of fine mud and sands to coarse cobbles and pebbles but there are also areas of bedrock within the tide-swept Narrows (Dyrynda & Cleator 1995).

Intertidal sandy sediments occur in the south eastern part of the Fleet and characteristically support a variety of tube dwelling and burrowing animals, especially worms, including the nationally rare and protected saline lagoon sandworm *Armandia cirrhosa*. In the main lagoonal basin in the mid Fleet, mudflats crossed by narrow channels support the most extensive mixed seagrass meadows in Britain. The lagoon supports extensive populations of two species of eelgrass *Zostera marina* var. *angustifolia* and *Z. noltii* and two species of tasselweed *Ruppia* spp., including the rare spiral tasselweed *R. cirrhosa.* The tasselweeds are most abundant at the western embayment where more brackish conditions prevail and are associated with fine mud and green algae (*Ulva* spp. and *Chaetomorpha* spp.). There are also extensive stands of *Phragmites* reedbed grading to wet meadows behind.

The lagoon supports a diverse fauna that includes a number of nationally rare and scarce species of lagoonal specialists such as the lagoon shrimp *Gammarus insensibilis*, the starlet sea anemone *Nematostella vectensis* and the sea slug *Tenellia adspersa.* There are nine species which are listed under The UK Steering Group report on Biodiversity (Anon. 1995). A large population of the dwarf form of the mollusc *Akera bullata* is an unusual feature which occurs in the mid and west Fleet. The rare foxtail stonewort *Lamprothamnium papulosum* occurs inshore along the landward edge of the lagoon. The distribution of this plant reflects the salinity gradient and its growth is probably limited by high levels of phosphates within the lagoon (pers. comm. A Martin). The lagoon cockle *Cerastoderma glaucum* is common.

Where the sediment is coarser and consists more of gravels, pebbles and cobbles in the eastern section of the lagoon between Smallmouth and the Narrows, the snakelocks anemone *Anemonia viridis* occurs in unusually high densities with the starfish *Asterina gibbosa.* The pebble habitat, adjacent to Chesil Bank, is surprisingly stable and is encrusted with low growing algae whilst a number of invertebrates live in the gaps amongst the pebbles themselves. Seawater from Lyme Bay percolates through Chesil Bank at the low shore level and in places, small saline springs occur and flow into the lagoon. These springs support an unusual assemblage of molluscs including DeFolin's lagoon snail *Caecum armoricum* which is not known elsewhere in the UK (Seaward 1987; Seaward 1989).

Where the fast flowing water in the Narrows scours the only subtidal bedrock in the Fleet, large conspicuous species, particularly sponges and large seaweeds, survive in the strong water flow carrying nutrients from the western Fleet (Dyrynda 1984). Notable species include the rare sponge *Suberites massa* and the sponge *Halichondria bowerbankii*.

The Fleet is an important nursery ground for a number of fish species and is a designated bass nursery. Over 25 different species of fish have been recorded, including grey mullet, two species of pipefish, sand and common gobies - 17 species of fish occur predominantly in the eastern section of the Fleet.

The documented history and intensity of ecological study of the Fleet are the greatest of any lagoon in the UK. A general review of the ecology of the Fleet can be found in Bamber (1997).

3.1.2 Annual vegetation of drift lines

Definition

This habitat type occurs on the shingle lying at or above mean high water spring tides. Varying amounts of sand are interspersed in the shingle matrix and the type found at Chesil generally lies at the lower end of the size range of shingle (2-200 mm diameter). These deposits occur as fringing beaches that are subject to periodic displacement or overtopping by high tides and storms. The vegetation is therefore ephemeral, composed of annual or short-lived perennial species, and is very distinctive. Colonising species are able to withstand periodic disturbance, which may involve the total removal of the surface by storms. Species are also tolerant of saltwater inundation, as the beaches are often over-topped by the tide or subject to spray from waves breaking over the beach (Brown and others 1997).

Importance of Chesil and the Fleet

This site includes the drift line of a large beach which has been subject to relatively little human intervention, and has been selected as one of two representatives of this habitat type on the south coast of England, the other being Dungeness. The inner shore of Chesil Bank supports extensive drift line vegetation dominated by sea beet *Beta vulgaris* subsp. *maritima* and orache *Atriplex* spp. On the shoreline of Portland Harbour this feature is additionally represented by a small area of sea sandwort *Honckenya peploides* and sea rocket *Cakile maritima*. Over a large part of the site, the strandline vegetation appears to exist in a dynamic equilibrium with the shrubby sea-blite dominated scrub, which is described below. Associated invertebrates with the strandline communities include the rare looping snail *Truncatella subcylindrica* and the rare and protected lagoon snail *Paludinella litorina* for which Chesil Bank is one of only 5 known UK sites.

3.1.3 Mediterranean and thermo-Atlantic halophilous scrub

Definition

This scrubby, salt-tolerant vegetation develops in the uppermost levels of saltmarshes, often where there is a transition from saltmarsh to dunes, but in some cases where the transition is to vegetated shingle. In the UK it is restricted to the south and south-east of England and is formed predominantly of bushes of shrubby sea-blite *Suaeda vera* and sea-purslane *Atriplex portulacoides*. This most frequently occurs at the upper limit of tidal inundation and is found in association with transitions to sand dunes or shingle structures. In a few sites on the south and east coasts of England a similar community develops, but with dense stands of perennial glasswort *Sarcocornia perennis* with small numbers of herbaceous species. Another local variant has reduced evidence of the characteristic shrubs and a greater abundance of

herbaceous species, such as sea-lavenders *Limonium* spp. and sea-heath *Frankenia laevis*, in a matrix with more common saltmarsh species, such as annual sea-blite *Suaeda maritima* or thrift *Armeria maritima* (Brown and others 1997).

Importance of Chesil and the Fleet

Chesil and the Fleet contains a major concentration of this scrub type and the site represents the western-most limit of this habitat in the UK. A band of shrubby sea-blite *Suaeda vera* and sea-purslane *Atriplex portulacoides* lines much of the 13 km length of the seaward margin of the Fleet and forms a clear zone between the Fleet and the shingle vegetation of the Chesil Bank. It is also found above the upper limit of tidal inundation in ground depressions where saline conditions occur, for example, at the southern end of Portland Harbour shore. Two other species: sea beet *Beta vulgaris maritima*; and the lichen *Xanthoria parietina*, occur in low abundance. It appears to exist in a dynamic equilibrium with the sea beet dominated drift line vegetation, for which the site has been separately selected. This replaces the scrub in areas subject to disturbance by waves or erosion, and is in turn displaced by the scrub after disturbance ceases.

3.2 SPA interest features

Background and context

A major aim of the Birds Directive is to take special measures to conserve the habitats of Annex 1 and migratory birds in order to ensure their survival and reproduction within the European Union. A key mechanism in achieving this is the classification by Member States of the most suitable sites as SPAs.

English Nature's conservation objectives at a site level focus on maintaining the condition of the habitats used by the qualifying species. Habitat condition will be delivered through appropriate site management including the avoidance of damaging disturbance. In reporting on Favourable Conservation Status, account will need to be taken both of habitat condition and the status of the birds on the SPA.

Accordingly, English Nature will use annual counts, in the context of five year peak means for qualifying species, together with available information on population and distribution trends, to assess whether an SPA is continuing to make an appropriate contribution to the Favourable Conservation Status of the species. Count information will be assessed in combination with information on habitat condition, at the appropriate time within the reporting cycle, in order to report to the European Commission

English Nature's advice focuses on the qualifying species for which the SPA was originally classified despite the fact that numbers and species composition may have changed on this site since that time. Such population and species composition changes are being documented through the UK SPA Network Review, led by JNCC, which will provide advice to Ministers on any changes in SPA citations required. Depending on the review and decisions from DETR, English Nature may reissue this advice on SPAs with updated bird information.

In addition to focussing on avoiding deterioration to the habitats of the qualifying species, the Habitats Directive also requires that actions are taken to avoid significant disturbance to the

species for which the site was designated. Such disturbance may include alterations in population trends and/or distribution patterns. Avoiding disturbance to species requirements is mentioned in the favourable condition table underpinning the conservation objectives for the SPA. In this context, five year peak mean information on populations will be used as the basis for assessing whether disturbance is damaging.

Attention is, however, also directed to the inclusion of disturbance in the advice on operations provided in section 6 . Where disturbance is highlighted in such advice, Relevant authorities need to avoid damaging disturbance to qualifying species when exercising their functions under the Directive.

Importance of Chesil and the Fleet

Chesil and the Fleet was designated as a Special Protection Area (and Ramsar site) in July 1985. At that time at least 1% of the north-west European population of wigeon *Anas penelope* regularly over-wintered on and around the Fleet. The shingle on Chesil Bank provided nesting habitat for internationally important numbers of little tern *Sterna albifrons* (Annex 1 species) which also fed in the Fleet, comprising c. 5% of the British breeding population. Breeding numbers of common tern *S.hirundo* (Annex 1 species) and ringed plover *Charadrius hiaticula* approached national importance. There were also nationally important populations of gadwall, mute swan, pochard, red breasted merganser and coot. Details on population size and thresholds of qualifying species are given in Table 1.

The site is currently internationally important for the breeding population of the Annex 1 species little tern which nests on Chesil and feeds in the Fleet and in addition, the dark bellied Brent goose *Branta bernicla bernicla* which winters around the Fleet and relies on the seagrass meadows for feeding habitat. In addition, wigeon (with over 5000 regularly recorded), pochard, red breasted merganser, coot, little grebe, shoveler and goldeneye occur in the Chesil and Fleet European marine site in numbers which are approaching the nationally important thresholds. The site also supports the largest resident mute swan *Cygnus olor* population in Britain (1000+ birds, with some 140 breeding pairs), which graze predominantly on the seagrass beds. Teal *Anas crecca*, tufted duck *Aythya fuligula* and pintail *Anas acuta* are also present.

4. Conservation objectives for all interest features

Under Regulation 33(2)(a) of The Conservation (Natural Habitats &c.) Regulations 1994, English Nature has a duty to advise other relevant authorities as to the conservation objectives for the European marine site. The conservation objectives for the Chesil and Fleet European marine site are provided below and should be read in the context of other advice given in this package, particularly

- the attached maps showing the extent of the various interest features and sub-features;
- summary information on the interest of each of the features; and
- the favourable condition table, providing information on how to recognise favourable condition for each of the features and which will act as a basis from which the monitoring programme will be developed.

4.1 Conservation objectives for SAC interest features

4.1.1 The conservation objective for the lagoon

Subject to natural change, maintain the **lagoon** in favourable condition[6], in particular:

- Seagrass bed communities
- Tide-swept communities
- Subtidal coarse sediment (gravel, cobbles, pebbles) communities
- Intertidal sediment communities
- Shingle spring line communities

4.1.2 The conservation objective for annual vegetation of drift lines

Subject to natural change, maintain the **Annual vegetation of drift lines** in favourable condition[7], in particular:

- *Beta vulgaris maritima* (sea beet) - *Atriplex* (orache) communities
- *Honkenya peploides* (sea sandwort) - *Cakile maritima* (sea rocket) communities

4.1.3 The conservation objective for the Mediterranean and thermo-Atlantic halophilous scrub

Subject to natural change, maintain the **Mediterranean and thermo-Atlantic halophilous scrub** in favourable condition, in particular:

- Shrubby sea-blite (*Suaeda vera)* communities

[6] For a detailed definition of how to recognise favourable condition see attached table (Section 5)

4.2 Conservation objectives for SPA interest features

4.2.1 The conservation objective for the internationally important populations of the regularly occurring Annex 1 bird species

Subject to natural change, to maintain in favourable condition the habitats for the internationally important populations of the regularly occurring Annex 1 bird species, under the Birds Directive, with particular reference to:

- Lagoon waters

Numbers of bird species using these habitats are given in Table 1

4.2.2 The conservation objective for the internationally important populations of regularly occurring migratory bird species

Subject to natural change, to maintain in favourable condition[7] the habitats for the **internationally important populations of regularly occurring migratory bird species**, under the Birds Directive, with particular reference to:

- Intertidal sediment communities;
- Seagrass bed communities

Numbers of bird species using these habitats are given in Table 1

Note: These SPA conservation objectives focus on habitat condition in recognition that bird populations may change as a reflection of national or international trends or events. Annual counts for qualifying species will be used by English Nature, in the context of five year peak means, together with available information on UK population and distribution trends, to assess whether this SPA is continuing to make an appropriate contribution to the Favourable Conservation Status of the species across Europe.

7 For a detailed definition of how to recognise favourable condition see attached table (Section 5)

Table 1 - Information on populations of internationally important species of birds under the Birds Directive using the Chesil and Fleet European marine site at the time the SPA was classified.

Bird Species	Qualifying status	Population (as at July 1985)*
Little tern *Sterna albifrons*	Internationally important breeding population of Annex 1 species	Up to 100 pairs (representing 5% British breeding population)
Wigeon *Anas penelope*	Internationally important population of regularly occurring migratory species	Up to 7000 individuals (representing at least 1% of the north-western European population)

* SPA citation held on Register of European Sites for GB

5. Favourable condition table

The favourable condition table is supplied as an integral part of English Nature's Regulation 33 advice package. It is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring the condition of the site and its features. The table **does not by itself** provide a comprehensive basis on which to assess plans and projects as required under Regulations 20 and 48-50, but it does provide a basis to inform the scope and nature of any 'appropriate assessment' that may be needed. English Nature will provide more detailed advice to competent and relevant authorities to assess the implications of any given plan or project under the Regulations, where appropriate, at the time a plan or project is being considered.

The favourable condition table is the principle source of information that English Nature will use to assess the condition of an interest feature and as such comprises indicators of condition. On many terrestrial European sites, we know sufficient about the preferred or target condition of qualifying habitats to be able to define measures and associated targets for all attributes to be assessed in condition monitoring. Assessments as to whether individual interest features are in favourable condition will be made against these targets. In European marine sites we know far less about habitat condition and find it difficult to predict what favourable condition may look like. Individual sites within a single marine habitat category are also all very different, further hampering the identification of generic indicators of condition. Accordingly, in the absence of such information, condition of interest features in European marine sites will be assessed against targets based on the existing conditions, which may need to be established through baseline surveys in many cases. These observed values will need to be used to assess whether interest features on sites continue to make an appropriate contribution to the Favourable Conservation Status of the habitat or species concerned.

The assumption that existing interest features on European marine sites are in favourable condition will be tested in the 2000 - 2006 reporting period and the results subsequently fed back into our advice and site management. Where there is more than one year's observations on the condition of marine habitats, all available information will need to be used to set the site within long-term trends in order to form a view on favourable condition. Where it may become clear that certain attributes are a cause for concern, and if detailed studies prove this correct, restorative management actions will need to be taken to return the interest feature from unfavourable to favourable condition. It is the intention of English Nature to provide quantification of targets in the favourable condition table during the 2000 - 2006 reporting period.

This advice also provides the basis for discussions with management and advisory groups, and as such the attributes and associated measures and targets may be modified over time. The aim is to produce a single agreed set of attributes that will then be monitored in order to report on the condition of features. Monitoring of the attributes may be of fairly coarse methodology, underpinned by more rigorous methods on specific areas within the site. To meet UK agreed common standards, English Nature will be committed to reporting on each of the attributes subsequently listed in the final version of the table, although the information to be used may be collected by other organisations through agreements.

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The table will be an important, but not the only, driver of the site monitoring programme. Other data, such as results from compliance monitoring and appropriate assessments, will also have an important role in assessing condition. The monitoring programme will be developed as part of the management scheme process through discussion with the relevant authorities and other interested parties. English Nature will be responsible for collating the information required to assess condition and will form a judgement on the condition of each feature within the site, taking into account all available information and using the favourable condition table as a guide.

Box 1	**Glossary of terms used in the favorable condition table**
Feature	The habitat or species for which the site has been selected.
Sub-feature	An ecologically important sub-division of the feature.
Attribute	Selected characteristic of an interest feature/sub-feature which provides an indication of the condition of the feature to which it applies.
Measure	What will be measured in terms of the units of measurement, arithmetic nature and frequency at which the measurement is taken. This measure will be attained using a range of methods from broad scale to more specific across the site.
Target	This defines the desired condition of an attribute, taking into account fluctuations due to natural change. Changes that are significantly different from the target will serve as a trigger mechanism through which some further investigation or remedial action is taken.
Comments	The rationale for selection of the attribute.

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Table 2 Favourable Condition Table for Chesil and the Fleet European marine site

NB - Many of the attributes will be able to be monitored at the same time or during the same survey. The frequency of sampling for many attributes may need to be greater during the first reporting cycle in order to characterise the site and establish the baseline.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
Lagoon		Extent	Area (ha) of lagoon basin, measured once per reporting cycle.	No decrease in extent from an established baseline, subject to natural change.	Extent is an attribute on which reporting is required by the Habitats Directive. The Fleet is a large lagoon, thus size (including the length:width ratio) will critically influence the hydrography of the site. Natural gradual reduction in area of the lagoon is inevitable, however, as a result of the natural progression of Chesil Bank.
		Salinity	Seasonal averages encompassing the east-west salinity gradient measured periodically throughout the reporting cycle (frequency to be determined).	Average seasonal salinity, and seasonal maxima and minima, should not deviate significantly from an established baseline, (to be derived from the Environment Agency monitoring programme), subject to natural change.	Salinity is a key structuring factor within lagoons and in the Fleet, the gradient from west to east is particularly notable. Note should be made of natural fluctuations that occur according to year on year variations in rainfall.
		Water clarity	Average light attenuation measured periodically throughout the reporting cycle (frequency to be determined).	Average light attenuation should not deviate significantly from an established baseline, subject to natural change.	Water clarity is important for maintaining the extent and density of algal and plant dominated communities. Clarity decreases through increases in amounts of suspended organic/inorganic matter.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
		Nutrient status - green algal mats	Extent across whole or parts of site, measured during summer months, annually.	No increase in extent of green algal mats from an established baseline, subject to natural change.	Nutrient status is important for the structure and functioning of the lagoon and its communities. The Fleet is probably naturally hypertrophic. Opportunistic green algae compete with other vegetation and affect the associated species. A late spring/early summer increase in filamentous green algae may be a related natural phenomenon or may indicate eutrophication.
		Characteristic species - *Rissoa membranacea membranacea*	Population size - average abundance (number of individuals/m^2), measured during the summer twice per reporting cycle.	Average numbers should not deviate significantly from an established baseline, subject to natural change.	Algal grazers (largely gastropods) affect the structure of the lagoon communities by consuming benthic and epiphytic growth. *R.membranacea* is the only species amenable to quantitative survey and can be used as a surrogate for grazers as a whole.
		Characteristic species - *Lamprothamnium papulosum* (foxtail stonewort)	Density (number of plants/m^2) and westward extent, measured during summer, twice per reporting cycle.	Average density should not deviate significantly from an established baseline (to be derived from Holme (in press), Martin (pers. comm.) and 1999 seagrass survey) subject to natural change. No eastward movement in westward limit.	The foxtail stonewort (*L. papulosum*) is a species characteristically found in lagoons which requires low nutrient conditions, particularly of phosphates, and therefore provides a possible indicator of nutrient status. It is a nationally scarce species.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
		Fish species assemblage	Number of composite species measured during mid-summer from the inlet channel**,** once per reporting cycle	Average number of composite species should not deviate significantly from an established baseline, subject to natural change.	Diverse fish community characteristic of large, inlet type lagoons, the sheltered conditions providing a nursery for a number of species. The fish community as a whole provides an integrated measure of the quality and functioning of the Fleet as well as indicating populations of the main predators.
	Seagrass bed communities	Extent	Total area (ha) of seagrass measured during peak growth period (Aug), twice per reporting cycle.	No decrease in extent from an established baseline (to be derived 1991 and 1999 surveys), subject to natural change.	Seagrass (including tasselweeds) contribute to the overall community structure within the Fleet and both are characteristic, to varying degrees, of lagoons. The area of seagrass provides a long-term integrated measure of environmental conditions.
		Characteristic species - density of *Zostera marina* and *Ruppia* spp.	Density (number of shoots/ m^2) measured during peak growth (Aug), twice per reporting cycle.	Average shoot density should not deviate significantly from an established baseline, subject to natural change.	Reduction in the density of plants is an early indicator of seagrass under stress and reflects changes in biomass. *Zostera marina, Ruppia cirrhosa* and *R. maritima* co-occur in many parts of the Fleet. Monitoring both *Zostera* and *Ruppia* may be justified as they have different salinity range preferences and therefore would provide an indication of conditions in different areas along the Fleet.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
	Tide-swept communities	Tide-swept communities - species composition	Presence and abundance of composite species, measured during summer, once per reporting cycle.	Presence and abundance of composite species should not deviate significantly from an established baseline, subject to natural change.	Tide-swept communities are characteristic of inlet lagoons and are therefore integral to the structure of such lagoons. The bedrock biotope, which includes a number of rare or southern species such as the sponge *Suberites massa*, is the most notable part of the community and potentially provides a long-term integrated indication of tidal flow of the Fleet and therefore of a key functional process.
	Subtidal coarse sediment (gravel, cobbles, pebbles) communities	Extent	Area (ha) of submerged coarse sediment (gravel, cobbles & pebble) communities, measured once per reporting cycle.	No decrease in extent from an established baseline, subject to natural change.	Extent of sediments in this part of the Fleet indicates proportion of a habitat that adds to the structural diversity of the site and is likely to reflect hydrological conditions.
		Characteristic species - density of *Anemonia viridis*	Density (number of animals/m^2), measured during summer once per reporting cycle.	Average density should not deviate significantly from an established baseline, subject to natural change.	The stability of the sediments enabling a diverse community to develop is notable. Monitoring of the community indicates condition of a distinct section of the Fleet and of water movement etc between the mouth and the Narrows. Unusually, the anemone *Anemonia viridis* occurs in high numbers and can therefore be readily measured. The species should be used as a surrogate for the community as a whole and indicator of a change in conditions.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
	Intertidal sediment communities	Extent	Area (ha) of intertidal sediment between the Narrows and Smallmouth, measured once per reporting cycle.	No decrease in extent from an established baseline, subject to natural change.	Extent of sediments in this part of the Fleet indicates proportion of a habitat that adds to the structural diversity of the site and is likely to reflect hydrological conditions in the entrance to the Fleet.
	Intertidal sediment communities	Species composition	Presence and abundance of composite species, measured during summer once per reporting cycle.	Presence and abundance of composite species should not deviate significantly from an established baseline, subject to natural change.	The infaunal community, which includes a number of rare and/or lagoonal specialist species, eg *A.cirrhosa,* is indicative of sheltered, fully saline conditions and is likely to change in relation to a number of factors including hydrological conditions in the entrance to the Fleet.
	Shingle spring line communities	Extent and distribution	Frequency and distribution of shingle springline communities, measured during summer, once per reporting cycle.	No decrease in extent from an established baseline, subject to natural change.	The spring line community is unusual and reflects both the stability of, and percolation through, the shingle bank. The extent of the community (as measured by distribution) will be indicative of saline seepages along much of the Chesil Bank
		Species composition	Presence and abundance of composite species, measured during summer once per reporting cycle.	Presence and abundance of composite species should not deviate significantly from an established baseline, subject to natural change.	The spring line community, which includes notable species such as *Caecum armoricum* (De Folins lagoon snail), is unusual and reflects both the stability of, and percolation through, the shingle bank. As such the community adds to the diversity (structure) of the lagoon and will reflect processes in relation to both the shingle and percolation of sea water into the lagoon.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
Annual vegetation of drift lines		**Extent**	Length (m) and area (ha) of annual vegetation of drift lines, measured once per reporting cycle.	No decrease in linear extent from an established baseline, subject to natural change. Extent must take account of natural variation of this habitat as a result of dynamic coastal processes.	This community is characteristic of the interface with *Suaeda vera* saltmarsh and is in equilibrium with it according to levels of natural erosion or disturbance. NB this attribute is dependent on there being sufficient shingle available to maintain the form of the shingle bank.
		Absence of landward constraints	% of linear extent and area not immediately constrained by introduced structures or landform, measured once per reporting cycle.	No increase in linear extent constrained by introduced structures or landform from an established baseline.	An important aspect of this habitat is its ability to modify its distribution in response to natural dynamic coastal processes. Introduction of landward constraints would reduce the extent of this community and affect the overall structure of the driftline communities.
	***Beta vulgaris maritima* (sea beet) - *Atriplex* (orache) SD1 community**	Characteristic species - *Beta vulgaris maritima* (sea beet) - *Atriplex* (orache) SD1 community	Frequency and abundance of characterising species (*Beta vulgaris* and *Atriplex*) community at the site, measured once per reporting cycle.	Frequency and abundance of characteristic species should not deviate significantly from an established baseline, subject to natural change.	This community is found in a narrow strip at the extreme high water mark. Changes in the frequency and abundance of these species may indicate changes in the overall hydrography and functioning of the driftline communities.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
	***Honkenya peploides* (sea sandwort) - *Cakile maritima* (sea rocket) SD2 community**	Characteristic species - *Honkenya peploides* (sea sandwort) *Cakile maritima* (sea rocket) SD2 community	Frequency and abundance of characterising species (*Beta vulgaris* and *Honkenya peploides*) community at the site, measured once per reporting cycle.	Frequency and abundance of characteristic species should not deviate significantly from an established baseline, subject to natural change.	This community is found in narrow patches around extreme high water mark as counterpart to the *Beta* community. Changes in the frequency and abundance of these species may indicate changes in the overall hydrography and functioning of the driftline communities.
Mediterranean and thermo-atlantic halophilous scrub		Extent	Length (m) and area (ha) of scrub measured once per reporting cycle.	No decrease in linear extent from an established baseline, subject to natural change. Extent must take account of natural variation of this habitat as a result of dynamic coastal processes.	This community is characteristic of the interface with drift line vegetation and is in equilibrium with it according to levels of natural erosion or disturbance. Changes in extent may indicate changes in the overall hydrography and functioning of the scrub communities.
		Absence of landward constraints	% of linear extent and area not immediately constrained by introduced structures or landform, measured once per reporting cycle.	No increase in linear extent constrained by introduced structures or landform from an established baseline.	An important aspect of this habitat is its ability to modify its distribution in response to natural dynamic coastal processes. Introduction of landward constraints would reduce the extent of this community and affect the overall structure of the driftline communities.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
	***Suaeda vera* saltmarsh SM25 community**	Characteristic species - *Suaeda vera* (Shrubby sea-blite)	Frequency and abundance of *Suaeda vera*, measured once per reporting cycle.	Frequency and abundance of characteristic species should not deviate significantly from an established baseline, subject to natural change.	This community is found in a narrow strip at the extreme high water mark and in depressions. Changes in community structure may indicate changes in the overall hydrography and functioning of the scrub communities. *S.vera* is dominant with an open mosaic of minor constant saltmarsh species sea purslane *Atriplex portulacoides*, sea beet *Beta vulgaris maritima* and lichen *Xanthoria parietina*.
Internationally important populations of regularly occurring annex 1 bird species	**Lagoon waters (feeding habitat)**	Food availability	Frequency and abundance of crustaceans, annelids, fish and molluscs, measured once per reporting cycle.	Frequency and abundance of food species during the breeding period should not deviate significantly from an established baseline, subject to natural change.	Little terns feed on crustaceans, annelids, fish and molluscs which occur in the lagoon and in adjacent waters of Lyme Bay. Food availability is important in maintaining the population of little terns.
Internationally important populations of migratory species	**Intertidal sediment communities**	Extent	Area (ha), measured once per reporting cycle.	No decrease in extent of intertidal sediment from an established baseline, subject to natural change.	Intertidal sediments and their communities provide both habitat and feeding areas for the migratory species of birds.
		Disturbance in feeding and roosting areas	Reduction or displacement of wintering birds measured using 5 year peak mean information on populations.	No significant reduction in numbers or displacement of wintering birds from an established baseline, subject to natural change.	Significant disturbance attributable to human activities can result in reduced food intake and / or increased energy expenditure. Five year peak mean information on populations will be used as the basis for assessing whether disturbance is damaging.

Feature	Sub-Feature	Attribute	Measure	Target	COMMENTS
	Seagrass bed communities	Food availability	Extent and distribution of Seagrass (especially *Zostera*) beds and green algae.	No decrease in extent and distribution of *Zostera* from an established baseline, subject to natural change.	Seagrass beds are an important food source for the migratory species of birds.

NB .Extreme events (such as storms reducing or increasing salinities, exceptionally cold winters or warm summers) also need to be recorded as they may be critical in influencing ecological issues in the Fleet and may well be missed by routine monitoring

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6. Advice on operations

English Nature has a duty under Regulation 33(2)(b) of The Conservation (Natural Habitats &c.) Regulations 1994 to advise other relevant authorities as to 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. Information on how English Nature has developed this advice is given in section 6.2, and on how it may be reviewed and updated in the future, in Section 6.4.

The advice is provided in summary form in Table 3 and Section 6.5 and with more detail in Table 4 and Section 6.6, including advice in relation to specific interest features and their sub-features.

6.1 Purpose of advice

The aim of this advice is to enable relevant authorities to direct and prioritise their work on the management of activities that pose the greatest potential threat to the favourable condition of interest features on the Chesil and Fleet European marine site. The advice is linked to the conservation objectives for interest features and, once issued, will help provide the basis for detailed discussions within the management group to formulate and agree a management scheme to agreed timescales for the site. The advice given here will inform on, but is without prejudice to, any advice to be given subsequently under Regulation 48 or Regulation 50 on operations that qualify as plans or projects within the meaning of Article 6 of the Habitats Directive.

6.2 Methods for assessment

To develop this advice on operations English Nature has used a three step process involving:

- an assessment of the **sensitivity** of the interest features or their component sub-features to operations;
- an assessment of the **exposure** of each interest feature or their component sub-features to operations; and
- a final assessment of **current vulnerability** of interest features or their component sub-features to operations.

This three step process builds up a level of information necessary to manage activities in and around the European marine site in an effective manner. Through a consistent approach, this process enables English Nature to both explain the reasoning behind our advice and identify to competent and relevant authorities those operations which pose the most current threats to the favourable condition of the interest features on the European marine site.

All the scores of relative sensitivity, exposure and vulnerability are derived using best available scientific information and informed scientific interpretation and judgement. The process uses sufficiently coarse categorisation to minimise uncertainty in information, reflecting the current state of our knowledge and understanding of the marine environment.

6.2.1 Sensitivity assessment

The sensitivity assessment used is an assessment of the relative sensitivity of the interest features or the component sub-features of the Chesil and Fleet European marine site to the effects of broad categories of human activities. In relation to this assessment, sensitivity has been defined as the intolerance of a habitat, community or individual (or individual colony) of a species to damage, or death, from an external factor (Hiscock, 1996). As an example, seagrass beds are highly sensitive to increases in turbidity of the surrounding water. This reduces the light penetration which in turn, prevents adequate photosynthesis.

The sensitivity assessments of the interest features or their component sub-features of the Chesil and Fleet European marine site are based upon a series of scientific review documents. These include reports produced for the UK Marine SAC LIFE project (Davison and others 1998; Elliott and others 1998), the Countryside Council for Wales Science Report (Holt and others 1995) and the Marine Habitats Reviews (Jones and others in prep.).

The sensitivity assessments are based on current information but may develop with improvements in scientific knowledge and understanding. In particular, English Nature and Scottish Natural Heritage have commissioned the Marine Biological Association of the UK, through its Marine *Life* Information Network (MarLIN) to provide detailed sensitivity information to underpin this advice, over the next three years, and available to all over the World Wide Web (www.marlin.ac.uk).

6.2.2 Exposure assessment

This has been undertaken for the Chesil and Fleet European marine site by assessing the relative exposure of the interest features or their component sub-features on the site to the effects of broad categories of human activities currently occurring on the site. For example, the exposure of interest features within the site to changes in the thermal regime as a result of human activities is negligible but exposure of some of the interest features to nutrient enrichment is high.

6.2.3 Vulnerability assessment

The third step in the process is to determine the vulnerability of interest features or their component sub-features to operations. This is an integration of sensitivity and exposure. Only if a feature is both sensitive and exposed to a human activity will it be considered vulnerable. In this context therefore, ‘vulnerability’ has been defined as the exposure of a habitat, community or individual (or individual colony) of a species to an external factor to which it is sensitive (Hiscock, 1996). For example, eelgrass beds are highly sensitive to physical loss, through coastal development or dredging, which would result in the complete removal of the habitat. However, the eelgrass beds in the Chesil and Fleet European marine site are not currently considered vulnerable to such activities, due to their location and existing site management. The process of deriving and scoring relative vulnerability is provided in Appendix I.

6.3 Format of advice

The advice is provided within six broad categories of operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species. This approach therefore:

- enables links to be made between human activities and the ecological requirements of the habitats or species, as required under Article 6 of the Habitats Directive;

- provides a consistent framework to enable relevant authorities in England to assess the effects of activities and identify priorities for management within their areas of responsibility; and

- is appropriately robust to take into account the development of novel activities or operations which may cause deterioration or disturbance to the interest features of the site and should have sufficient stability to need only infrequent review and updating by English Nature.

These broad categories provide a clear framework against which relevant authorities can assess activities under their responsibility. The more detailed information in Table 4 provides relevant authorities with a context against which to consider an assessment of 'significant effect' of any plans or projects which may affect the site and a basis to inform on the scope and nature of appropriate assessments required in relation to plans and projects. It is important to note that this advice is only a starting point for assessing impacts. It does not remove the need for the relevant authorities to consult English Nature formally over individual plans and projects where required to do so under the Regulations.

6.4 Update and review of advice

Information as to the operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the site has been designated, is provided in light of what English Nature knows about current activities and patterns of usage at the Chesil and Fleet European marine site. English Nature expects that the information on current activities and patterns of usage (which was used to derive table 4) will be refined as part of the process of developing the management scheme through further discussion with the relevant authorities. The option of zoning this information may be appropriate. As such, it is important that future consideration of this advice by relevant authorities and others takes account of changes in the usage patterns that have occurred at the site, over the intervening period, since the advice was issued. In contrast, the information provided in this advice on the sensitivity of interest features or sub-features (Table 4) is relatively stable and will only change as a result of an improvement in our scientific knowledge, which will be a relatively long term process. Advice for sites will be kept under review and may be periodically updated through discussions with relevant authorities and others to reflect significant changes in our understanding of sensitivity together with the potential effects of plans and projects on the marine environment.

6.5 Summary of advice on operations

6.5.1 Lagoon

In pursuit of the conservation objective for the lagoon (Section 4.1), the relevant and competent authorities for Chesil and the Fleet European marine site are advised to manage human activities within their remit such that they do not result in deterioration or disturbance to habitats or species for which the site has been selected, through any of the following:

- Removal or smothering of lagoonal habitats
- Physical damage resulting from siltation and/or abrasion
- Increased synthetic and/or non-synthetic toxic contamination
- Nutrient and/or organic enrichment and/or changes in turbidity
- Biological disturbance through the introduction of non-native species and/or selective extraction of species.

6.5.2 Annual vegetation of drift lines

In pursuit of the conservation objective for annual vegetation of drift lines (Section 4.2), the relevant and competent authorities for Chesil and the Fleet European marine site are advised to manage human activities within their remit such that they do not result in deterioration or disturbance to habitats or species for which the site has been selected, through any of the following:

- Removal of drift line habitats
- Physical damage resulting from abrasion
- Increased non-synthetic toxic contamination

6.5.3 Mediterranean and thermo-Atlantic halophilous scrub

In pursuit of the conservation objective for Mediterranean and thermo-Atlantic halophilous scrub (Section 4.3), the relevant and competent authorities for Chesil and the Fleet European marine site are advised to manage human activities within their remit such that they do not result in deterioration or disturbance to habitats or species for which the site has been selected, through any of the following:

- Physical damage resulting from abrasion
- Increased non-synthetic toxic contamination

6.5.4 SPA interest features

In pursuit of the conservation objective for "habitats supporting internationally important populations of regularly occurring Annex I species" (Section 4.4), the relevant and competent authorities for Chesil and the Fleet European marine site are advised to manage human activities within their remit such that they do not result in deterioration or disturbance to habitats or species for which the site has been selected, through any of the following:

- Physical damage resulting from abrasion
- Noise or visual disturbance

- Increased non-synthetic toxic contamination

Reference to sparsely vegetated or unvegetated shingle has been included in this advice on operations. This is because this habitat is directly adjacent to the European marine site and critical for the survival and continued presence of the breeding population of little terns within the European marine site.

In pursuit of the conservation objective for "habitats supporting internationally important populations of regularly occurring migratory species" (Section 4.4), the relevant and competent authorities for Chesil and the Fleet European marine site are advised to manage human activities within their remit such that they do not result in deterioration or disturbance to habitats or species for which the site has been selected, through any of the following:

- Noise or visual disturbance
- Increased non-synthetic toxic contamination

6.6 Plans and Projects

Under Regulation 48(1), an appropriate assessment needs to be undertaken in respect of any plan or project which:

a. either alone or in combination with other plans or projects would be likely to have a ***significant effect*** on a European Site; and
b. is not directly connected with the management of the site for nature conservation.

An appropriate assessment is required by law for all European Sites (Regulation 48). A European Site is any classified SPA and any SAC from the point where the Union and the Government agree the site as a Site of Community Importance. Appropriate assessment is also required, as a matter of Government policy, for potential SPAs, candidate SACs and listed Ramsar Sites for the purpose of considering development proposals affecting them. (PPG 9 paras 13 and C7).

English Nature's 'Habitats regulations guidance note: The Appropriate Assessment (Regulation 48)', is at Appendix II for further information.

Tables 3 and 4 provide relevant authorities with a guide against which to initiate an assessment of the 'significance' of any plans or projects (and ongoing operations or activities) proposed for the site although this will only be the starting point for assessing impacts and does not remove the need for relevant authorities to formally consult English Nature over individual plans and projects where required under the Regulations.

6.7 Review of consents

Regulation 50 of The Conservation (Natural Habitats, &c.) Regulations 1994 requires competent authorities to undertake a review of all existing consents and permissions affecting SAC and SPAs, as soon as possible after the site officially becomes a Site of Community Importance. This will have implications for discharge and other consents, which will need to be reviewed in light of these objectives and may mean that lower targets for background levels of contaminants etc. will need to be set.

Table 3 showing operations which may cause deterioration or disturbance to the Chesil and Fleet European marine site interest features at current levels of use[7]

The advice below is not a list of prohibitions but rather a checklist for operations for discussion with the management group, which may need to be subject to some form of management measure(s) or further measures where actions are already in force. Examples of activities under relevant authority jurisdiction are also provided. Operations marked with a ✓ indicate those features (or some component of them) that are considered to be highly or moderately vulnerable to the effects of the operations.

Standard list of categories of operation which may cause deterioration or disturbance	Lagoon	Annual vegetation of drift lines	Mediterranean and thermo-Atlantic halophilous scrub	Internationally important Annex I birds	Internationally important migratory species
Physical loss					
Removal (eg harvesting, coastal development)	✓	✓			
Smothering (eg by artificial structures, disposal of dredge spoil)	✓				
Physical damage					
Siltation (eg run-off, channel dredging, outfalls)	✓				
Abrasion (eg boating, anchoring, trampling)	✓	✓	✓	✓	
Selective extraction (eg aggregate dredging, entanglement)					
Non-physical disturbance					
Noise (eg boat activity)				✓	✓
Visual (eg recreational activity)				✓	✓
Toxic contamination					
Introduction of synthetic compounds (eg pesticides, TBT, PCBs)	✓				
Introduction of non-synthetic compounds (eg heavy metals, hydrocarbons)	✓	✓	✓	✓	✓
Introduction of radionuclides					
Non-toxic contamination					
Nutrient enrichment (eg agricultural run-off, outfalls)	✓				
Organic enrichment (eg mariculture, outfalls)	✓				
Changes in thermal regime (eg power stations)					
Changes in turbidity (eg run-off, dredging)	✓				
Changes in salinity (eg water abstraction, outfalls)					

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Standard list of categories of operation which may cause deterioration or disturbance	Lagoon	Annual vegetation of drift lines	Mediterranean and thermo-Atlantic halophilous scrub	Internationally important Annex I birds	Internationally important migratory species
Biological disturbance Introduction of microbial pathogens Introduction of non-native species & translocation Selective extraction of species (eg bait digging, wildfowling, commercial & recreational fishing)	 ✓ ✓				

[7]This advice has been developed using best available scientific information and informed scientific interpretation and judgement (as at October 1999). This process has used a coarse grading of relative sensitivity, exposure and vulnerability of each interest feature to different categories of operation based on the current state of our knowledge and understanding of the marine environment. This is shown in the sensitivity and vulnerability matrices at Table 4. The advice is indicative only, and is given to guide relevant authorities and others on particular operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species for which the site has been designated. The advice, therefore, is not a list of prohibitions but rather a check list for operations which may need to be subject to some form of management measure(s) or further measures where actions are already in force.

The precise impact of any category of operation occurring on the site will be dependent upon the nature, scale, location and timing of events. More detailed advice is available from English Nature to assist relevant authorities in assessing actual impacts and cumulative effects. Assessment of this information should be undertaken in the development of the management scheme by the management group and through wider consultation.

In accordance with Government policy guidance, the advice on operations is feature and site specific, and provided in the light of current activities and patterns of usage at the site as at July 1999. As such, it is important that future consideration of this advice by relevant authorities, and others, takes account of changes in usage patterns that have occurred at the site over the intervening period. Advice for sites will be kept under review and may be periodically updated through discussions with relevant authorities, and others, to reflect significant changes in our understanding of sensitivity together with the potential effects of plans or projects on the marine environment. The provision of the statutory advice given here, on operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the site has been designated, under Regulation 33(2), is provided without prejudice to specific advice given under Regulation 48 (3) or Regulation 50 on individual operations that qualify as plans or projects within the meaning of Article 6 of the Habitats Directive.

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6.8 Interest feature and sub-feature specific advice on operations

This section provides information to help relate general advice to each of the specific interest features of the Chesil and Fleet European marine site.

This advice relates to the vulnerability of the interest features and sub-features of the Chesil and Fleet European marine site as set out in Table 4 and summarised in Table 3. An explanation of the sensitivity of the interest features or sub-features follows with an explanation of their exposure and therefore their vulnerability to damage or disturbance from the listed categories of operations. This enables links between the categories of operation and the ecological requirements of the European marine site's interest features, as set out in Section 3, to be made.

6.8.1 Lagoon

i) Physical loss

- Lagoons are a priority habitat in Europe and the Fleet represents the best example of its kind in the UK. They also provide habitats for many specialist species, including rare and protected species. The loss of the lagoon or parts of it would therefore be entirely detrimental to favourable condition.

- All of the sub-features of the lagoon are sensitive to removal - loss of any marine plant and animal communities from the Fleet through removal or smothering is of high concern due to their long recovery times and their international importance. However, the most vulnerable are the subtidal coarse sediment communities at Ferrybridge due to the potential future need to carry out some channel dredging. This activity would also impact on the intertidal sediment communities within the eastern section of the Fleet. Activities which might lead to increased sedimentation including channel dredging and extreme cases of agricultural run-off could have a severe effect on filter feeders within sediment communities due to the smothering effect.

- Sponges and other filter feeders which occur within the tide-swept communities are sensitive to clogging and therefore smothering, although fast currents reduce the likelihood of this impact.

- Smothering can occur as a result of structures being placed on the floor of the lagoon or on the intertidal areas. Some intertidal sediment communities are not highly sensitive to this due to their ability to recover once the structure is removed. However, where structures are in place for long periods, such as oyster trestles, communities may be damaged and unlikely to recover to original state. The presence of rare species such as the saline lagoon sandworm *Armandia cirrhosa,* about which little is currently known, increases the vulnerability of intertidal sediments to smothering.

- Shingle spring line communities are restricted to the high water mark along Chesil Bank and require the flow of seawater through Chesil Bank from Lyme Bay into the Fleet. Their habitat is sensitive to sediment infilling the gaps between the pebbles, however there is no known current threat that would cause this.

- Deterioration or disturbance by physical removal or smothering can be the result of either one-off events or the cumulative effect of continuous activities.

ii) Physical damage

- Various sub-features of the lagoon are highly sensitive to physical damage. The most vulnerable are the coarse sediment communities due to the potential requirement for dredging near the mouth of the Fleet as discussed above and the shingle spring line communities from trampling pressure.

- Seagrasses are sensitive to siltation arising from high run-off or outfalls for example. The location of the seagrass beds within the Fleet coincides with parts of the Fleet which are exposed to these factors. Seagrasses can be easily dislodged and uprooted from the sediment during physical disturbances such as anchoring, boating and mobilising fishing gear. The vulnerability of the seagrass communities to these activities is moderately high.

- Some of the sponges occurring in the Narrows may be relatively slow growing and are therefore sensitive to physical damage. Activities which occur in this area, including bridging trials, invoke a moderate vulnerability scoring.

iii) Toxic contamination

- Information on the sensitivity of the plant and animal components of the Fleet lagoon system to toxic contaminants is lacking. However, due to the nature of some of the contaminants and the information which does exist, including the toxicity of some contaminants at even very low levels, it is wise to take a precautionary approach. The lagoonal communities are recognised as being very diverse, therefore any disturbance to species composition of marine communities which may result in changes to population structure, and hence biodiversity, is considered harmful.

- Communities within the lagoon are also sensitive to acute events, such as oil spills, due to their toxicity and smothering effects. They often take many years to recover depending upon recruitment rates and the dispersal of the toxic substance. The presence of bunkering and transfer facilities near to the site poses a risk which requires assessment.

- Seagrasses can readily take up heavy metals and tributyl tin (TBT) but damage has not been observed. However seagrasses provide habitat for a host of invertebrate communities which could be adversely affected by metal contamination. Seagrasses are also sensitive to hydrocarbon spills, however associated communities may be more vulnerable to oil pollution than the seagrass beds themselves.

- Some sediment species display a tolerance of heavy metal contamination, but the larval and juvenile stages can be very sensitive.

- Shingle spring line communities are sensitive to changes in the through-flow of water which might arise from chemical or oil pollution.

iv) Non-toxic contamination

- Activities or operations, usually the result of diffuse sources or chronic input, but may also be point source inputs, which significantly alter the physical and chemical regime of the waters of the Fleet have the potential to disrupt the community structure and species diversity characteristic of the lagoon.

- Nutrient pollution can reduce diversity of communities. Some species could be very sensitive in terms of recovery because of their slow growth and low larval dispersal. Excessive input of organic matter can cause anoxic conditions to prevail in sediment communities leading to extinction of most, if not all, fauna living in the sediment. Some species may be tolerant to eutrophication with the result that they thrive at the expense of the more sensitive species and the community composition is altered

- Seagrass beds are highly sensitive to nutrient and organic enrichment which can lead to phytoplankton blooms increasing turbidity, increased growth of blanketing, floating or attached algae and lack of light penetration. The location of the seagrass beds towards the western end of the lagoon where flushing levels are lower and run-off is relatively high increase their vulnerability to activities which would lead to nutrient or organic enrichment and increases in turbidity.

- Some sediment communities are sensitive to non-toxic contamination resulting in excessive blanketing of green algae. They also act as nutrient sinks. The muds in the lagoonal basin are particularly vulnerable to enrichment due to the poor flushing rates and the relatively high inputs of nutrients and organic matter in this part of the lagoon.

- Seagrasses are thought to be tolerant of a range of salinities, however many other species, for example the invertebrate assemblages of the shingle seepages would be vulnerable to changes in salinity. However current usage of the Fleet and adjacent areas is unlikely to cause changes to salinity and vulnerability is therefore low.

v) Biological disturbance

- Seagrass beds are sensitive to a wasting disease (caused by a slime mould) which can cause significant decline especially if the plants are already stressed. However the vulnerability of the seagrass beds within the Fleet is believed to be low as they have not been affected to the same extent as other seagrass beds on more open coastal areas around the country.

- The non-native Japanese seaweed *Sargassum muticum* is known to occur in relatively high densities at the Narrows and has the potential to out-compete some of the other species which occur here. Whilst there is concern that it also has the ability to replace *Zostera* seagrass, there is no evidence to indicate that this is in fact occurring within the Fleet. This possibility is reduced by the need of *Sargassum* plants to have a pebble holdfast.

- Different species within the intertidal sediments are affected to different levels by activities such as bait digging - densities of lug worm populations and some bivalve molluscs can be reduced for instance whilst other worms may be unaffected. Recent

studies of bait digging around Ferrybridge indicates that lugworm populations are in decline (D. Moxom pers com).

- The farming of the non-native Pacific oyster within the Fleet increases the risk of a non-native species becoming resident. This requires temperatures to be sufficiently high to allow survival of the oyster spat. Whilst there is no evidence that this has occurred, it is an issue which requires monitoring.

6.8.2 Annual vegetation of drift lines

i) Physical loss

- Coastal defence measures have the potential to change erosional and depositional patterns of the shoreline and so could impact on this type of vegetation. Erosion of Portland Harbour shore could lead to a move to increase the length of coastal defences in this area

- Deterioration or disturbance by physical removal or smothering can be the result of either one-off events or the cumulative effect of continuous activities.

ii) Physical damage

- This vegetation type is particularly sensitive to excessive long term trampling and other physical disturbance to the shingle. The location of some of this habitat type in an area which is subject to considerable trampling pressure invokes a high vulnerability scoring.

iii) Toxic contamination

- Oil or chemical spills could have a direct impact on this low growing vegetation which occurs at the top of the shore. The dispersants which are sometimes used in oil spills would also be likely to cause damage to growth and recovery rates. The presence of bunkering and transfer facilities near to the site poses a risk which requires assessment.

6.8.3 Mediterranean and thermo-Atlantic halophilous scrub

i) Physical loss

- Chesil and the Fleet represents one of only three locations in the UK with extensive Mediterranean and thermo-Atlantic halophilous scrub communities therefore loss of any of this habitat would have an impact on its favourable condition. Developments which reduce the availability of the shingle will have a direct impact on the lateral and areal extent of this habitat. Coastal defence measures would have the potential to change erosional and depositional patterns of the shoreline and so could effect this vegetation type. There are no current proposals to increase coastal defence here and so this does not currently appear to present a significant threat.

ii) Physical damage

- Trampling and other erosion caused by visitor pressure or use of vehicles could significantly impact on the ability of this vegetation type to maintain its lateral and areal extent. Ongoing pressure of this kind will significantly reduce its ability to recover.

iii) Toxic contamination

- Oil or chemical spills could have a direct impact on this scrubby vegetation which occurs at the top of the shore. The dispersants which are sometimes used in oil spills would also be likely to cause damage to growth and recovery rates. As with the drift-line vegetation , the presence of bunkering and transfer facilities near to the site poses a risk which requires assessment.

6.8.4 SPA interest features

i) Physical damage

- Habitats in the lagoon and on Chesil Bank contribute to the "health" of the little tern colony and the wildfowl populations and their associated food supplies, therefore operations or activities that adversely affect the functional regime of the lagoon and shingle bank should be avoided.

- Both seabirds and wildfowl have the potential to become entangled in litter or fishing gear. However, current levels of use do not appear to present a threat at this site.

ii) Non-physical disturbance

- Seabird colonies and overwintering wildfowl are disturbed by sudden movements of objects and increases in noise disturbance over or adjacent to the lagoon and shingle bank. This can have the effect of displacing the birds from their roosting or feeding grounds. During the breeding season in particular, this may result in disturbance to the nesting little terns causing eggs, or chicks to be abandoned. Current patterns of use on the water and along the Fleet and Chesil Bank are unpredictable, but persistent disturbance would have a more significant impact than one-off events. These management issues require resolving.

iii) Toxic contamination

- Seabirds and wildfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when feeding. Their ability to feed can also be affected by changes in the palatability of prey items caused by toxic contamination. There is no evidence to show that this is occurring or likely to occur within this site, however, this is an area which requires further assessment.

iv) Non-toxic contamination

- Organic or nutrient enrichment can reduce the availability of food for birds by increasing growth of algal mats on the intertidal area. It can also cause a reduction in water clarity, thereby reducing the visibility of prey items for little terns in particular. As with toxic contamination above, there is no evidence to show that this is occurring

or likely to occur within this site, however, it is an area which requires further assessment.

v) Biological disturbance

- Over exploitation of the fisheries which support the breeding little tern, within the European marine site and adjacent waters, could adversely affect the favourable condition of the site. However, little information exists on this issue which requires further investigation.

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Table 4. Assessment of the relative vulnerability of interest features and sub-features of Chesil and the Fleet European Marine site to different categories of operations. Categories of operations to which the features or sub-features of the site are highly or moderately vulnerable are indicated by shading. Table also incorporates relative sensitivity scores used in part to derive vulnerability.[8]

Key

High vulnerability	●●●● High sensitivity
Moderate vulnerability	●●● Moderate sensitivity
	●● Low sensitivity
	● No detectable sensitivity

Categories of operations which may cause deterioration or disturbance	Lagoon				
	Seagrass bed communities	Tide-swept bedrock communities	Subtidal coarse sediment communities	Intertidal sediment communities	Shingle spring line communities
Physical Loss					
Removal (eg harvesting, land claim)	●●●●	●●●●	●●●●	●●●●	●●●
Smothering (eg by artificial structures, disposal of dredge spoil)	●●●	●●●	●●●●	●●	●●
Physical Damage					
Siltation (eg run-off, channel dredging, outfalls)	●●●	●●	●●●●	●●	●●●
Abrasion (eg boating, anchoring, trampling)	●●●●	●●●	●●●	●●●	●●●●
Selective extraction (eg aggregate dredging, entanglement)	●●	●●	●●●	●●	●●
Non-physical disturbance					
Noise (eg boat activity)	●	●	●	●	●
Visual presence (eg recreational activity)	●	●	●	●	●

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Categories of operations which may cause deterioration or disturbance	Lagoon				
	Seagrass bed communities	Tide-swept bedrock communities	Subtidal coarse sediment communities	Intertidal sediment communities	Shingle spring line communities
Toxic contamination					
Introduction of synthetic compounds (eg pesticides, TBT, PCBs)	●●●	●●●	●●●	●●●	●●●●
Introduction of non-synthetic compounds (eg heavy metals, hydrocarbons)	●●●	●●●	●●●	●●●●	●●●●
Introduction of radionuclides	●	●	●	●	●
Non-toxic contamination					
Nutrient enrichment (eg agricultural run-off, outfalls)	●●●●	●●●	●●	●●●	●●●
Organic enrichment (eg mariculture, outfalls)	●●●	●●●	●●	●●●	●●●
Changes in thermal regime (eg outfalls, power stations)	●●●	●●●	●●	●●	●●●
Changes in turbidity (eg run-off, dredging)	●●●●	●●●	●●	●●	●●●
Changes in salinity (eg water abstraction, outfalls)	●●●●	●●●●	●●●	●●●	●●●●
Biological disturbance					
Introduction of microbial pathogens	●●●●	●	●	●	●
Introduction of non-native species & translocation	●●	●●●	●	●●●	●●
Selective extraction of species (eg bait digging, wildfowling, commercial & recreational fishing)	●●●	●●●	●●●	●●●●	●●●

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Categories of operations which may cause deterioration or disturbance	Annual vegetation of drift- lines	Mediterranean and thermo-Atlantic halophilous scrub	Internationally important populations of regularly occurring Annex 1 species		Internationally important populations of regularly occurring migratory species	
			Sparsely vegetated or unvegetated shingle	Lagoon waters	Intertidal sediment communities	Seagrass bed communities
Physical Loss						
Removal (eg harvesting, land claim, coastal defence)	●●●●	●●●●	●●●●	●●●	●●●●	●●●●
Smothering (eg artificial structures, disposal of dredge spoil)	●●●●	●●●	●●●	●●●	●●●	●●●
Physical Damage						
Siltation (eg run-off, channel dredging, outfalls)	●●●	●●●	●	●●	●●	●●
Abrasion (eg boating, anchoring, trampling)	●●●●	●●●	●●●●	●●	●●	●●
Selective extraction (eg aggregate dredging, entanglement)	●●●●	●●●●	●●●●	●●	●●●	●●●
Non-physical disturbance						
Noise (eg boat activity)	●	●	●●●●	●●	●●●●	●●●●
Visual presence (eg recreational activity)	●	●	●●●●	●●	●●●●	●●●●
Toxic contamination						
Introduction of synthetic compounds (eg pesticides, TBT, PCBs)	●●	●●	●	●●●	●●●	●●●
Introduction of non-synthetic compounds (eg heavy metals, hydrocarbons)	●●●●	●●●	●	●●●	●●●	●●●
Introduction of radionuclides	●	●	●	●●	●●	●●
Non-toxic contamination						

Categories of operations which may cause deterioration or disturbance	Annual vegetation of drift- lines	Mediterranean and thermo-Atlantic halophilous scrub	Internationally important populations of regularly occurring Annex 1 species		Internationally important populations of regularly occurring migratory species	
			Sparsely vegetated or unvegetated shingle	Lagoon waters	Intertidal sediment communities	Seagrass bed communities
Nutrient enrichment (eg agricultural run-off, outfalls)	●●●	●●●	●	●●●	●●●	●●●
Organic enrichment (eg mariculture, outfalls)	●●●	●●●	●	●●●	●●●	●●●
Changes in thermal regime (eg outfalls, power stations)	●	●	●	●●●	●●	●●
Changes in turbidity (eg run-off, dredging)	●●	●●	●	●●●	●●	●●
Changes in salinity (eg water abstraction, outfalls)	●●●	●●●	●	●●●	●●●	●●●
Biological disturbance						
Introduction of microbial pathogens	●	●	●	●●	●●	●●
Introduction of non-native species & translocation	●●	●●	●	●●	●●●	●●●
Selective extraction of species (eg bait digging, wildfowling, commercial & recreational fishing)	●●	●●	●	●●●●	●●●●	●●●●

[8]English Nature's advice on operations is derived from an assessment combining relative sensitivity of the features or sub-features with information on human usage of the site (as at October 1999), to identify relative vulnerability to categories of operations. In accordance with Government policy guidance this advice is provided in the light of current activities and patterns of usage at the site. It is important therefore that future consideration of this advice by relevant authorities, and others, takes account of changes in the usage patterns at the site. In contrast, the sensitivity of interest features, or sub-features, is relatively stable with alterations reflecting improvement in our scientific knowledge and understanding. To this end, information on sensitivity has been included in this table to assist the management and advisory groups with the future management of the site.

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8. Glossary

Advisory Group	The body of representatives from local interests, user groups and conservation groups, formed to advise the management group.
Annex I habitat type(s)	A natural habitat type listed in Annex I of the Habitats Directive for which Special Areas of Conservation can be selected.
Annex II species	A species listed in Annex II of the Habitats Directive for which Special Areas of Conservation can be selected.
Annex V	The listing, in the Habitats Directive, of the animal and plant species whose taking in the wild and exploitation may be subject to management measures.
Assemblage	A collection of plants and/or animals characteristically associated with a particular environment.
Attribute	Characteristic of an interest feature/sub-feature which provides an indication of the condition of the feature or sub-feature to which it applies.
BAP	Biodiversity Action Plan
Benthos	Those organisms attached to, or living on, in or near, the seabed, including that part which is exposed by tides.
Biotope	The physical habitat with its biological community; a term which refers to the combination of physical environment and its distinctive assemblage of conspicuous species.
Biodiversity	The total variety of life on earth. This includes diversity within species, between species and of ecosystems.
Characteristic	Special to or especially abundant in a particular situation or biotope. Characteristic species should be immediately conspicuous and easily identified.
Community	A group of organisms occurring in a particular environment, presumably interacting with each other and with the environment, and identifiable by means of ecological survey from other groups.
Competent authority	Any Minister, government department, public or statutory undertaker, public person or person holding a public office that exercises legislative powers (see also relevant authority).
Conservation objective	A statement of the nature conservation aspirations for a site, expressed in terms of the favourable condition required for the habitats and/or species for which the site has been selected.
Epifauna	Benthic animals living on the seabed
European marine site	A European site (SAC or SPA) which consists of, or in so far as it consists of, marine areas.

Favourable condition	A range of conditions for a natural habitat or species at which the sum of the influences acting upon it are not adversely affecting its distribution, abundance, structure or function within an individual *Natura 2000* site. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.
Favourable conservation status	A range of conditions for a natural habitat or species at which the sum of the influences acting upon it are not adversely affecting its distribution, abundance, structure or function throughout the biogeographic region**.** The condition in which the habitat or species is capable of sustaining itself on a long-term basis.
Halophilous	Plants which can thrive in, or tolerate the presence of saline conditions
Interest feature	A natural or semi-natural feature for which a European site has been selected. This includes any Habitats Directive Annex I habitat or Annex II species and any population of a bird species for which a site has been selected under the Birds Directive
Management scheme	The framework established by the relevant authorities at a European marine site under which their functions are exercised to secure compliance with the Habitats Directive in relation to that site
Natura 2000	The European network of protected sites established under the Birds Directive and the Habitats Directive
Operations which may cause deterioration or disturbance	Any activity or operation taking place within, adjacent to, or remote from a European marine site that has the potential to cause deterioration to the natural habitats for which the site has been designated or disturbance to the species and its habitat for which the site has been designated.
Plan or project	Any proposed development that is within a relevant authority's function to control, or over which a competent authority has a statutory function to decide on applications for consents, authorisations, licences or permissions.
Relevant authority	The specific competent authority which has powers or functions which have, or could have, an impact on the marine environment, or adjacent to, a European marine site.
Sensitivity	The intolerance of a habitat, community or individual (or individual colony) of a species to damage or disturbance from an external factor.
Typical species	A species that is considered to be a typical component of a feature or sub feature
Vulnerability	The exposure of a habitat, community or individual of a species to an external factor to which it is sensitive.

Appendix I Matrix of relative vulnerability

The relative vulnerability of an interest feature or sub-feature is determined by multiplying the scores for relative sensitivity and exposure, and classifying that total into categories of relative vulnerability.

		Relative sensitivity of the interest feature			
		High (3)	**Medium (2)**	**Low (1)**	**None detectable (0)**
Relative exposure of the interest feature	**High (3)**	9	6	3	0
	Medium (2)	6	4	2	0
	Low (1)	3	2	1	0
	None (0)	0	0	0	0

Categories of relative vulnerability	
High	6 - 9
Medium	3 - 5
Low	1 - 2
None detectable	0

Appendix II English Nature's 'Habitats regulations guidance note: The Appropriate Assessment (Regulation 48)'

ENGLISH NATURE

Habitats regulations guidance note

NATURA 2000

HRGN 1

Issued by Greg Smith, Environmental Impacts Team, English Nature. Tel: 01733 455210

The Appropriate Assessment (Regulation 48) The Conservation (Natural Habitats &c) Regulations, 1994

Introduction

1. This Guidance Note has been prepared to assist competent authorities and English Nature staff when undertaking the ***"appropriate assessment"*** required by Regulation 48 of the *Habitats Regulations 1994* implementing Article 6(3) of the *Habitats Directive* (92/43/EEC). Only the Courts can provide authoritative interpretation of the Regulations, but these notes have been developed in the light of practical experience and a close examination of the Regulations, the Habitats Directive and central government guidance, particularly in PPG 9.

When Does An 'Appropriate Assessment' Need To Be Undertaken?

Types of Proposal

2. Under Regulation 48(1), an appropriate assessment needs to be undertaken in respect of any plan or project which:

a. either alone or in combination with other plans or projects would be likely to have a ***significant effect*** on a European Site, and
b. is not directly connected with the management of the site for nature conservation.

3. Appropriate assessment is required by law for all European Sites (Regulation 48). A European Site is any classified SPA and any SAC from the point where the Commission and the Government agree the site as a Site of Community Importance. Appropriate assessment is also required, as a matter of Government policy, for potential SPAs, candidate SACs and listed Ramsar Sites for the purpose of considering development proposals affecting them. (PPG 9 paras 13 and C7).

Timing of the Assessment

4. An appropriate assessment needs to be undertaken in respect of a plan or project described above **before** any ***"competent authority"***:

a. decides to undertake the plan or project, in cases where no consent, permission or other authorisation is required. (Reg. 48(1));
b. decides to give any consent, permission or other authorisation for the plan or project. (Regs. 48(1) *et al*);
c. reviews the decision to undertake a plan or project or reviews consents, permissions or other authorisations for plans or projects that are incomplete. (Regs. 50(2) *et al* - see also English Nature Habitats Regulations Guidance Note No. 2);
d. decides whether to approve an application for development that would otherwise be permitted development. (Reg. 62(6)).

Significant Effects

5. The plan or project does not have to be located within the designated area. Significant effects may occur even if the plan or project is some distance away and even outside any consultation area defined by English Nature (PPG 9 paras 30-32). The effects may be direct or indirect, temporary or permanent, beneficial or harmful to the site, or a combination of these.

6. The initial determination of likely significance is intended to ensure that all relevant plans and projects likely to have a material effect on these internationally important sites are subject to an appropriate assessment. In all but the most clear cut cases, competent authorities are likely to need advice. English Nature will advise, on request, as to whether any particular plan or project may be likely to have a significant effect on any of these sites. If the decision as to whether or not the development would have a significant effect on the designated site is inconclusive, on the information available, the competent authority should make a fuller assessment; in doing so they may ask the developer or other parties for more information. (PPG 9 para C10).

Who Undertakes the Appropriate Assessment?

7. The appropriate assessment must be undertaken by the *competent authority*, as defined in Regulation 6(1) of the Habitats Regulations, which includes any Minister, Government Department, public or statutory undertaker, public body of any description or person holding a public office. The developer or proposer of the plan or project is required to provide relevant information. English Nature must be consulted, during the course of the assessment, but it is the duty of the competent authority to undertake the assessment itself.

8. Most competent authorities will not have the technical expertise "in house" to assess the effects of the plan or project on the international nature conservation interests. Most will need to rely heavily on the advice, guidance and recommendations of English Nature, at each stage, including the scope and content of the assessment, the site's

conservation objectives, the information required from the developer or proposer and the effects on the integrity of the site, all of which are discussed below. The appropriate assessment, in many cases, is likely to be an iterative process. In the simplest cases a general statement in a single consultation response from English Nature may suffice to enable the competent authority to complete the assessment. However, in most cases, it is envisaged that a more detailed response from, and dialogue with, English Nature is likely to be necessary.

What is an 'Appropriate Assessment'

9. It is a self contained step in a wider decision making process, required by the Habitats Regulations and described more fully in PPG 9, Annex C. Its conclusions must be based only on the scientific considerations under steps laid out in the Habitats Regulations. The assessment should not be influenced by wider planning or other considerations.

10. The Regulations do not specify how the assessment should be undertaken but describe it simply as "an appropriate assessment". This is taken to mean that the assessment must be appropriate to its purpose under the Regulations (and also the Directive, which originated the use of the term). Its purpose is to assess the implications of the proposal in respect of the site's "***conservation objectives***". The conclusions of the assessment should enable the competent authority to ascertain whether the proposal would adversely affect the integrity of the site.

Scope and Content

11. PPG 9 indicates that the scope and content of an appropriate assessment will depend on the location, size and significance of the proposed plan or project (PPG 9 box C10). The PPG indicates that English Nature will advise on a case-by-case basis. According to the nature conservation interests of the site, English Nature will identify particular aspects that the appropriate assessment should address. Examples given are hydrology, disturbance and land-take, but there are clearly many other potential matters that may need to be addressed in particular cases.

12. Procedures under the Habitats Regulations should be confined to the effects on the internationally important habitats or species for which the site is or will be internationally designated or classified, including any indirect effects on these interests, for example, via their supporting ecosystems and natural processes. Notwithstanding a favourable assessment in respect of the plan or project's effects on the international nature conservation interests for which the site was classified or designated, decisions to undertake or give consent to the plan or project may need to take account of other international, national, regional or local nature conservation interests in the light of other policy and legislative provisions. (PPG 9 paras 4, 18 and 27).

Environmental Assessment

13. The appropriate assessment is not the same as an environmental assessment under the provisions of the various *Environmental Assessment (EA) Regulations* (1988-95), in compliance with the Directive 85/337/EEC. In many cases, plans or projects that will be subject to an appropriate assessment will need an Environmental Statement (ES) to be prepared under the EA Regulations. (PPG 9 paras 38 and 39).

14. The ES will address all significant environmental effects. It will be appropriate to use the information assembled for the ES when carrying out the appropriate assessment under the Habitats Regulations. In view of this it would be helpful if the relevant ES clearly identified, under a specific subject heading, the likely significant effects on the internationally important habitats and/or species.

How is an Appropriate Assessment Undertaken?

Key Steps

15. Having established that an appropriate assessment is required, the following conclusions may be drawn (from the foregoing considerations and Government guidance) in respect of how it should be undertaken.

The Key Steps in an Appropriate Assessment

The competent authority:

I
Must consult English Nature

II
May consult the general public

III
Should clearly identify and understand the site's conservation objectives having regard to the advice of English Nature

IV
Should require the applicant to provide such information as may reasonably be required for the purposes of the assessment

V
Should identify the effects of the proposal on the habitats and species of international importance and how those effects are likely to affect the site's conservation objectives

VI
Should decide whether the plan or project, as proposed, would adversely affect the integrity of the site in the light of the conservation objectives

VII
Should consider the manner in which the plan or project is proposed to be carried out, whether it could be modified, or whether conditions or restrictions could be imposed, so as to avoid adverse effects on the integrity of the site

VIII
Should conclude whether the proposal, as modified by conditions or restrictions, would adversely affect the integrity of the site

IX
Should record the Assessment and notify English Nature of the conclusions

The Key Steps Explained

These key steps are explained in more detail below.

I. Consulting English Nature

16. Under Regulation 48(3) the competent authority must consult English Nature and must have regard to any representations made by English Nature. It may be inferred from PPG 9 (box C10 and para C9) that the competent authority would be expected to follow the advice of English Nature and normally to decide the case "*in accordance with the recommendations of English Nature*". If it does not do so, the competent authority should be prepared to explain its reasons. In cases where it proposes to agree to a plan or

project notwithstanding a negative assessment, the competent authority is required to notify the Secretary of State in advance of any decision.

II. Consulting the General Public

17. Under Regulation 48(4) the competent authority may (if it considers it appropriate) take the opinion of the general public, on the implications of the proposal for the site's conservation objectives, using whatever steps they consider necessary. This may usefully include taking the opinion of others with relevant knowledge or expertise.

III. The Site's Conservation Objectives

18. The Regulations do not define what is meant by the site's conservation objectives but PPG 9 box C10 describes them as:

"*the objectives.... / the reasons for which the site was classified or designated*"

English Nature will be able to give a clear statement of the site's conservation objectives in the light of its European Site Register entry (compiled by Government under Regulation 11), its citation, its reasons for recommendation, English Nature's knowledge of the site, national and international objectives for the international nature conservation interests (such as may be contained in the UK Biodiversity Action Plan) and any Management Plan or Management Statement for the site in so far as they relate to the interests for which the site was selected.

19. The site may also host habitats and/or species of Community interest (see Article 1 of the Habitats Directive) which are not mentioned in the European Site Register, the citation or the reasons for recommendation because they were not, at the time, a reason for classification or designation. Such features are not relevant to the appropriate assessment itself. Nevertheless their presence may be material to the decision as to whether or not to undertake or to consent to the plan or project.

IV. Requiring Further Information

20. The competent authority, taking the advice of English Nature where necessary, should require the applicant to provide such information as the competent authority may reasonably require for the purposes of making the assessment (Reg.48(2)). The information required may relate to any environmental information, or information about the proposal, relevant to the assessment and may include:

i. information already available, or
ii. new information from surveys that may need to be carried out, or
iii. data analysis, predictions, comparisons or assessments of a technical nature.

V. Identifying the Effects

21. Having regard to English Nature's advice and other consultation responses and, where relevant, taking account of the ES or any other information supplied by the developer/proposer, or otherwise available, the competent authority should identify what the effects of the proposal are likely to be. The effects considered should be those of the plan or project, either alone or in combination with other plans or projects, on the habitats and species of international importance and how those effects are likely to affect the site's conservation objectives. This will involve considering, for example, the nature, scale, geographic extent, timing, duration and magnitude of direct and indirect effects; considering the degree of certainty in the prediction of effects; considering all mitigating measures already contained in the proposal and the extent to which these measures are likely to avoid, reduce or ameliorate adverse effects on the international nature conservation interests. It is the residual effects, after mitigation, that are considered at this stage.

VI. Integrity of the Site

22. Having regard to English Nature's advice, other consultation responses and any other information available, the competent authority should decide whether the plan or project, as proposed, would adversely affect the integrity of the site, in the light of its conservation objectives. That is, whether the plan or project would adversely affect the "*coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified*" (PPG 9 box C10). An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation.

23. The form of words used in Regulation 48(5) implies that a precautionary approach should be taken in considering effects on integrity, in line with the Government's principles for sustainable development (see *Sustainable Development: the UK strategy* page 33). Regulation 48(5) says that (subject to Regulation 49) projects may only proceed if the competent authority has ascertained that it **will not adversely affect** the integrity of the European site.

VII. Considering How To Avoid Adverse Effects

24. If the proposal would adversely affect the integrity of the site then, having regard to English Nature's advice, the competent authority should consider the manner in which it is proposed to be carried out and whether the plan or project could be modified, or whether conditions or restrictions could be imposed, so as to avoid the adverse effects. This may include, for example, changes to the siting, layout, timing or use of the proposal and the use of obligations or legal agreements. (Reg. 48(6)).

25. Compensatory measures that may be offered in the proposal at this stage, seeking to redress but not remove residual harm to the international interests (such as the provision of land for habitat creation purposes), should not be considered in the appropriate assessment, but may be considered later in the decision making process. (See Reg. 53).

VIII. Conclusion on Effects In The Light of Conditions and Restrictions

26. The competent authority should reassess the conclusions in the light of any such modifications, conditions or restrictions that may be agreed or imposed.

IX. Recording the Assessment

27. It would be advisable for this conclusion, and the reasons for it, to be recorded. English Nature should be notified of the conclusion of the appropriate assessment and the authority's decision as to the effects on the integrity of the site, before the

authority undertakes the plan or project or issues any permission, consent or other authorisation (PPG 9 para 30).

28. The subsequent courses of action open to a competent authority are set out in Regulations 48(5) - (7), 49 and 54(3). The Regulations prohibit a competent authority from undertaking or giving consent to any plan or project unless the appropriate assessment concluded that it would not have an adverse effect on the integrity of the site, or specific criteria are met and the Secretary of State has been informed.

Good Practice Outline of an Appropriate Assessment Record

29. A suggested model or good practice outline record of an appropriate assessment is set out below. It may be contained in, for example, a planning officer's committee report or the minutes of a competent authority's decision. In other cases it may be a file note, clearly recording compliance with the Regulations. The record may take many different forms because each assessment needs to be appropriate to the type, scale, location and significance of the proposal and to the relevant nature conservation interests. It is provided here as a guide to assist competent authorities and English Nature staff, not as an authoritative legal formula. Any record made of an appropriate assessment should be copied to English Nature and to any other parties who were consulted on the assessment.

Title of Plan or Project/Application
Location of Plan or Project/Application
[With location plan attached showing relationship to the international designation]
International Nature Conservation Site
Nature/Description of Plan or Project/Application
[Including brief description of manner in which plan or project is proposed to be carried out]
Date Appropriate Assessment Recorded

This is a record of the appropriate assessment, required by Regulation 48 of the Habitats Regulations 1994, undertaken by [name of competent authority] in respect of the above plan/project, in accordance with the Habitats Directive (Council Directive 92/43/EEC). Having considered that the plan or project would be likely to have a significant effect on the [name of international site] and that the plan or project was not directly connected with or necessary to the management of the site, an appropriate assessment has been undertaken of the implications of the proposal in view of the site's conservation objectives.

*English Nature was consulted under Regulation 48(3) on [date] and their representations, to which this authority has had regard, are attached at Annex 1. The conclusions of this appropriate assessment * are/are not in accordance with the advice and recommendations of English Nature.*

**The applicant was required to submit further information reasonably necessary for this assessment on [date] under Reg.48(2) * and replied with the information on [date]/but did not supply the information.*

** The opinion of the general public was taken under Reg. 48(4) by way of *public advertisement/further consultation etc and the views expressed (attached at Annex 2) have been taken into account.*

The site's conservation objectives have been taken into account, including consideration of the citation for the site and information supplied by English Nature (see Annex 1). The likely effects of the proposal on the international nature conservation interests for which the site was designated may be summarised as:
[List of Effects]

The assessment has concluded that:
a) the plan or project **as proposed would not adversely affect the integrity of the site,*
or
b) the plan or project **as proposed would adversely affect the integrity of the site.*
[If (b):]
The imposition of conditions or restrictions on the way the proposal is to be carried out has been considered and it is ascertained that:
**a) conditions or restrictions cannot overcome the adverse effects on the integrity of the site.*
or
**b) the following conditions and/or restrictions would avoid adverse effects on the integrity of the site. [list conditions/restrictions]*

Signed ..... Date ..... (delete as appropriate)*
Annexes to also include relevant correspondence, minutes or meetings with English Nature, the applicant etc.