

# **New Forest SAC Management Plan**

## **Part 2**

### **Evaluation, monitoring and priorities for management**



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## Part 2: Evaluation, monitoring and priorities for management

### 2.1 Nature conservation designations

The New Forest is covered by a range of national and international nature conservation designations and conventions, which are summarised in the following table:

SSSI	Area	SPA	Ramsar	cSAC
New Forest	28,947.37 ha	Yes (27,734 ha)	Yes (27,734 ha)	Yes (part)
Langley Wood	220.29 ha	No	No	Yes
Whiteparish Common	63.95 ha	No	No	Yes
Landford Heath	11.96 ha	No	No	Yes
Loosehanger Copse and Meadows	56.27 ha	No	No	Yes
Roydon Woods	295.3 ha	No	No	Yes
Lymington River	35.65 ha	Part	Part	Part
Totals	29,630.79 ha	27,734 ha	27,734 ha	29,262.36 ha

**SSSI:** The New Forest candidate SAC contains seven whole or part Sites of Special Scientific Interest (SSSIs) designated under the Wildlife and Countryside Act 1981 (as amended). The component sites which together cover 29,630.79 hectares, are the New Forest SSSI, Roydon Woods SSSI and the Lymington River SSSI in Hampshire, and Langley Wood and Homan's Copse SSSI, Landford Bog SSSI, Loosehanger Copse and Meadows SSSI and Whiteparish Common SSSI in Wiltshire. Hence all of the candidate SAC is also designated SSSI. Maps of individual sites are included in Appendix 1.

The Lymington River SSSI was notified as a site in its own right (for river features), in 1998. However, parts of the Lymington River were separately notified as part of the New Forest SSSI in 1987 (renotified in 1996), Lymington River Reedbeds SSSI in 1984 and Roydon Woods SSSI in 1985. Most of the Lymington River SSSI headwaters lie within the New Forest SPA and Ramsar site. The Highland Water is a Geological Conservation Review Site.

**SPA:** 27,734 ha of the New Forest candidate SAC is a Special Protection Area (SPA) for birds, designated under the Birds Directive. A boundary map is included in Appendix 1. The site qualifies under Article 4.1 of the Directive by supporting nationally important populations of the following species:

- a. During the breeding season:

Dartford Warbler, 538 pairs representing 33.6% of the breeding population in Great Britain.

Honey Buzzard, 2 pairs representing 12.5% of the breeding population in Great Britain

Nightjar, 300 pairs representing 8.8% of the breeding population in Great Britain

Woodlark, 184 pairs representing 12.3% of the breeding population in Great Britain

b. Overwinter:

Hen Harrier, 15 individuals representing 2% of the overwintering population in Great Britain

**Ramsar:** 27,734 ha of the New Forest candidate SAC is a Wetland of International Importance under the Ramsar Convention. The boundary is co-incident with the SPA boundary. It was selected under the following criteria (text taken from the Ramsar citation is in italics)

Criterion 1: *'by virtue of its valley mires and adjacent wet heaths which are of outstanding scientific interest'*

Criterion 2a: *'by supporting a number of rare species and animals'*

Criterion 2b: *by virtue of 'the high ecological quality and diversity of the mire communities and their undisturbed transition zones'*

**cSAC:** The boundary of the cSAC is included in Appendix 1. The candidate SAC has been selected under for the following criteria (including revisions under the Moderation process 2000)

### **European priority interests**

1. *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior**

- for which the New Forest is considered to be one of the best areas in the UK.

2. *Bog Woodland*

- which is considered to be rare as its total extent in the UK is estimated to be less than 1,000 ha;
- for which the New Forest is considered to be one of the best areas in the UK.

### **European interests**

3. *Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrub layer*

- for which the New Forest is considered to be one of the best areas in the UK.
4. *Old acidophilous oak woods with Quercus robur on sandy plains*
- for which the New Forest is one of only four outstanding localities in the UK;
  - for which the New Forest is considered to be one of the best areas in the UK.
5. *Asperulo-fagetum beech forests*
- for which the New Forest is considered to be one of the best areas in the UK.
6. *European dry heaths*
- for which the New Forest is considered to be one of the best areas in the UK.
7. *Northern Atlantic wet heaths with Eric tetralix*
- for which the New Forest is considered to be one of the best areas in the UK.
8. *Depressions on peat substrates of the Rhynchosporion*
- for which the New Forest is considered to be one of the best areas in the UK.
9. *Alkaline fens*
- for which the New Forest is considered to support a significant presence.
10. *Transition mires*
- for which the New Forest is considered to support a significant presence.
11. *Molinia meadows on calcareous, peaty or clay-silt-laden soils (Eu-Molinion)*
- for which the New Forest is considered to be one of the best areas in the UK.

12. *Oligotrophic waters containing very few minerals of sandy plains: Littorelletalia uniflorae*
- for which the New Forest is one of only four known outstanding localities in the UK;
  - which is considered to be rare as its total extent in the UK is estimated to be less than 1,000 ha;
  - for which the New Forest is considered to be one of the best areas in the UK.
13. *Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or the Isoeto-Nanojuncetea*
- for which the New Forest is considered to be one of the best areas in the UK.
14. *Coenagrion mercuriale*, southern damselfly
- for which the New Forest is considered to be one of the best areas in the UK.

15. *Lucanus cervus*, stag beetle

- for which the New Forest is one of only four known outstanding localities in the UK.

16. *Triturus cristatus*, great-crested newt

- for which the New Forest is considered to support a significant presence.

## 2.2 Obligations arising from the nature conservation designations

It is appropriate in this Management Plan to give only the briefest outline of the obligations under the various nature conservation designations. The reader is strongly advised to refer to the appropriate legislative texts, government guidance and explanatory documents for comprehensive information. The provisions of the CROW Act are new and untested and furthermore Government guidance has yet to be issued.

**SSSI:** The Countryside and Rights of Way Act (CROW) 2000 becomes law on 30.01.01. This Act amends Section 28 of the Wildlife and Countryside Act (W&CA) (covering SSSI notification and protection) through Schedule 9 of the CROW Act. In addition Sections 29 and 30 of the W&CA are repealed to make Nature Conservation Orders obsolete from 30.01.01. Section 80 of CROW amends Section 51 of the W&CA which defines English Nature's powers of entry in respect of SSSIs.

In accordance with Government policy aimed at preventing damage to SSSIs and to encourage them to be managed in a way consistent with achieving favourable condition, CROW provides legal mechanisms aimed at achieving positive management for SSSIs. This builds upon the positive relationships between English Nature and many owner / occupiers, but also provides effective back-up mechanisms should constructive dialogue break down.

SSSI designation places a duty on owner / occupiers to consult English Nature over proscribed operations. The operations are listed in the Operations Likely to Damage (OLD) the SSSI and are contained in Appendix 2 for the six SSSIs together with their respective citations.

Owner / occupiers cannot legally undertake any OLD without English Nature's consent, except under certain specific conditions (eg emergency situations). The CROW Act allows English Nature to propose positive management for SSSIs, (eg under a management agreement) and where this cannot be agreed, to enforce such management (in accordance with a *management scheme* under section 28J or a *management notice* under section 28I, subject to appeal procedures).



Public bodies (so-called Section 28G authorities) (includes Local Authorities, the Verderers, English Nature and the Forestry Commission in the case of the New Forest) are given a statutory duty to *further the conservation and enhancement of SSSIs* in carrying out their functions. They must give notice to English Nature before carrying out any OLD that would affect an SSSI, even if it would take place outside the SSSI. English Nature must respond with a notice assenting to the operation (with or without conditions), or refusing consent. Should an authority chose to carry out the operation without English Nature's assent, then they are required to notify English Nature of the start date (at least 28 days from the response from English Nature); notify English Nature how it has taken account of its written advice in response to the notice; cause as little damage as is reasonably practicable, taking account of English Nature's advice, and restore any damage they cause.

Section 28G authorities are also required to notify English Nature before permitting any OLD, allowing 28 days before deciding whether to refuse a permission or grant it with conditions, taking into account English Nature's advice. Authorities proposing to permit an operation against the advice of English Nature must notify English Nature of the terms of that permission, including a statement of how it has taken account of its advice and not permit the operation to start before 21 days of their notifying English Nature.

The grant of planning permission for development on an SSSI takes away the need to consult English Nature about carrying out the authorised development. However, there are procedures to ensure that the special interest of a site is taken into account before planning permission is granted.

**SPA/ cSAC:** The Conservation (Natural Habitats, &C.) Regulations 1994:

- a. require competent authorities (ie those bodies exercising statutory functions) responsible for regimes covered by Part IV of the 1994 Regulations (for example, the Planning Authorities) to undertake a formal assessment (*appropriate assessment*) of any plan or project which is likely to have a significant effect on the nature conservation interests for which a candidate SAC has been put forward to Europe. Where the authority concludes that the plan or project, either alone or in combination with other plans or projects, would have an adverse effect on the integrity of the site, consent can only be given, in the absence of alternatives (ie less damaging ways of carrying out the plan or project), if there are imperative reasons of overriding public importance, after the authority has notified the relevant Minister and he has had the opportunity of directing it not to grant consent. The authority would have to consult English Nature as part of its assessment and have due regard to any representations which English Nature made;
- b. require competent authorities to review any extant consent (ie any unimplemented or partially implemented consent) which, if implemented, might have a significant effect on the on the nature conservation interests for

which a candidate SAC has been put forward to Europe. The process an authority will have to follow is virtually the same as that it would have to use for a new application. The major difference is that where its assessment concludes there will be an adverse effect on the integrity of the site and there are no alternative ways of carrying out the consent in a less damaging way, it will have to revoke the consent unless it considers there are imperative reasons of overriding public importance. Again, the relevant Minister would need to be notified so that he had the opportunity to direct the authority not to grant consent;

- c. enable English Nature to use byelaw making powers, compulsory purchase powers provided in the 1994 Regulations or request the Secretary of State to make a Special Nature Conservation Order in order to protect a candidate SAC.

**Ramsar:** The objective of the Ramsar Convention is to 'stem the progressive encroachment on and loss of wetlands now and in the future'. To achieve this the Convention seeks to promote the wise use of all wetlands, and special protection for wetlands included in the list of Wetlands of International Importance.

Government have issued a recent policy statement on Ramsar sites (DETR November 2000) which extends the policy found in *Planning Policy Guidance on Nature Conservation* (PPG 9) in respect to the application of the tests contained within the Habitats Regulations to Ramsar sites. The tests are now to be applied to:

- all new plans and projects (currently restricted to the development control framework);
- where the Ramsar site overlaps or is coincident with a Natura 2000 site, appropriate assessments must take full account of the Ramsar interests;
- in undertaking a review under Regulations 50 competent authorities are required to take full account of Ramsar interests where the site overlaps or is coincident with a Natura 2000 site;
- where a revocation or modification is required on the basis of the Ramsar interest, Government will consider reimbursing local authorities where costs are high, the action taken is no more than necessary to remove the risk to the site and less costly alternatives have been fully explored;
- in addition to planning authorities, other competent authorities are expected to use "whatever review powers are available within the regimes they administer to address any potential adverse effects on the integrity of listed Ramsar sites from extant consents". They will be expected to adopt an approach analogous to that under Regulation 50. Note that this will result in a widening of the scope of the EA review exercise;

- where a plan or project is to proceed for imperative reasons of overriding public interest, even though there is a negative assessment and in the absence of alternatives, compensation measures should be secured in a manner consistent with the Government outline position statement on the Habitats and Birds Directives May 1998.

## **2.3 Comparative evaluation of the features of nature conservation importance in the New Forest**

Table 2.3.1 shows the comparative status of the features for which the New Forest has been variously designated in terms of their international and national context. The national assessment of significance is also given in relation to the New Forest Natural Area, summarising the national evaluations for key habitats and species groups recently undertaken by English Nature. Individual habitats and species groups are discussed briefly under 2.3.1 and 2.3.2. Using these evaluations a more holistic evaluation is undertaken in 2.4 using the Ratcliffe criteria.

**Table 2.3.1 Comparative evaluation of New Forest features of nature conservation importance**

Site feature	NVC	Habitats Directive	Internationally important CSAC/SPA/RAM SAR	Nationally important SSSI	Significance of the New Forest Natural Area for site feature
Geology & Geomorphology	—	—		Yes	Considerable
Pasture Woodland	W15, W14 W16, W10a / W11 W10b/11 W14, W8b	Atlantic acidophilous beech Old acidophilous oak No equivalent <i>Asperulo-fagetum</i> beech woods	Yes (SAC) Yes (SAC) No Yes (SAC)	Yes Yes Yes Yes	Outstanding
Riverine Woodland	W7, W8	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	Yes (SAC)	Yes	Outstanding
Bog Woodland	W4b W5b	Bog woodland No equivalent	Yes (SAC) No	Yes Yes	Outstanding
Inclosure Woodland	None (Plantations)	No equivalent	No	Yes	
Dry Heath	H2a, H3c, H2c, H3a, H3b	European dry heaths	Yes (SAC)	Yes	Outstanding

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Wet Heath	M16a, M16b	Northern Atlantic wet heaths with <i>Erica tetralix</i>	Yes (SAC)	Yes	Outstanding
	M16c	Depressions on peat substrates ( <i>Rhynchosporion</i> )	Yes (SAC)	Yes	
Mire	M21a, M1, M29, M6di, M25a, M14	No equivalent	No	Yes	Outstanding
	M10a	Alkaline fens	Yes (SAC)	Yes	
	M9	Transition mires	Yes (SAC)	Yes	
Dry Grassland	U1, U3, U4, U20, MG6	No equivalent	No	Yes	Outstanding
Wet Grassland	M23a Rush pasture	No equivalent	No	Yes	Outstanding
	M24c / M25b Fen meadow	Eu-molinion ( <i>Molinia</i> meadows on chalk & clay)	Yes (SAC)	Yes	Outstanding
Temporary Ponds	M30 (OV35)	Oligotrophic waters containing very few minerals of Atlantic sandy plains with amphibious vegetation	Yes (SAC)	Yes	Outstanding
	Pool edge assemblages (No NVC equivalent)	Oligotrophic to	Yes (SAC)	Yes	

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	OV31, S22	mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and / or of the <i>Isoeto - Nanojuncetea</i>	No	Yes	
		Not included			
Permanent Ponds	A24b,  A22a	(Natural dystrophic lakes and ponds)  Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and / or of the <i>Isoeto - Nanojuncetea</i>	No  Yes (SAC)	Yes  Yes	Outstanding
Streams	A14, A20, A16a	(Floating vegetation of <i>Ranunculus of plain submountainuos rivers</i> )	No	Yes	Outstanding
Mammals	—	—	No	Yes	Otter: Medium Water Vole: Medium Dormouse: High Pipistrelle: High Hare: Low

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					Barbastelle: Not included Bechstein's bat: High
Birds	—	SPA	Yes	Yes	Outstanding
Amphibians & Reptiles	—	SAC (Great crested newt)	Yes	Yes	Smooth Snake: High Great crested newt: Medium Sand Lizard: High
Fish	—	—	No	Yes (probably)	Not reviewed
Invertebrates	—	SAC (Stag beetle, Southern damselfly)	Yes	Yes	Nationally significant
Lichens	—	Covered in woodland habitats	Yes	Yes	Outstanding
Vascular Plants	—	No	Yes	Yes	Outstanding
Bryophytes	—	No	Yes	Yes	Considerable
Fungi	—	No	Yes	Yes	Not reviewed

### 2.3.1 Habitat evaluation

**Pasture Woodland:** Pasture woodland extends to some 4,430 ha (excluding riverine and bog woodland), comprising some 3,100 ha of old growth woodland and 1,330 ha of more recent secondary expansion. Of the 3,100 ha of old-growth pasture woodland some 2,520 ha conforms to the Habitats Directive Annex 1 habitats of *Atlantic acidophilous beech* (2,000 ha), *Old acidophilous oak* (120 ha) and *Asperulo-fagetum beech woods* (400 ha). The remainder comprises more mesotrophic, herb-rich oak woodland which has no Habitats Directive equivalent. All old growth pasture woodland is of international importance for nature conservation.

Pasture woodland is a high priority for nature conservation in the UK and is encompassed within the Biodiversity Action Plan for Wood Pasture and Parkland.

International Perspective: Old growth woodland has declined internationally and is a priority for nature conservation. There is a shortage of literature concerning the European significance of British woodland (and other habitats). However, the context and character of UK examples are explored in Rodwell and Dring (in prep.) in a report currently being drafted for English Nature.

**Beech forests with *Ilex* and *Taxus*, rich in epiphytes (*Ilici-Fagion*):** The New Forest is considered in *Reasons for Recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this feature in the UK.

The *Interpretation manual of European habitats* (1996) lists three 'varieties' of the *Ilici-Fagion*..:

- a. subatlantic beech-oak forests of the plains and hill levels with *Ilex aquifolium*;
- b. hyper-Atlantic beech-oak forests of the plains and hill levels with *Ilex* and *Taxus*, rich in epiphytes;
- c. pure beech forests or acidophilous beech-fir forests of the montane level, with *Ilex aquifolium* in the field layer.

The UK has a substantial proportion of European *Ilici-Fagion* woodlands which are a distinctive form of acidophilous beech-oak forest with holly and oceanic herbs (Rodwell, in prep.). Indeed Brittany and the southern British Isles are the main locus for 'variety b' above. The striking physiognomy and historical interest of the New Forest stands gives them a particular character and individuality. Only the beech-holly pasture woodlands in northern Spain (type c), share and maintain this long continuity of wood pasture management, undoubtedly contributing to their outstanding richness floristically.



The *Ilici-Fagion* woodlands are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the priority habitat *Lowland beech and yew woodland*.

***Asperulo -Fagetum* beech forests:** The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this feature in the UK. This community is of international importance for nature conservation.

Compared with the more extensive stands of these complex range of beech forests which extend right across the north-west European lowlands into the mountains of the centre and south, UK examples tend to be small and fragmented. Hence, the occurrence of some 400 ha of *Asperulo-Fagetum* in the New Forest is of considerable significance.

The *Asperulo -Fagetum* beech forests are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the priority habitat *Lowland beech and yew woodland*.

**Old acidophilous oak woods with *Quercus robur* on sandy plains:** There are around 120 ha of old growth acidophilous oak woodland in the New Forest referable to the Habitats Directive Annex 1 habitat *Old acidophilous oak woods with *Quercus robur* on sandy plains*. This community is of international importance for nature conservation. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this feature in the UK, and for which the New Forest is one of only four known outstanding localities in the UK.

International Perspective: Britain has relatively little of this now much reduced and fragmented woodland. Very similar woodlands have been described on impoverished acid sands from Germany, Denmark, south Norway, south Sweden, The Netherlands, Belgium and France. It is often only the absence of May Lilly *Maianthemum bifolium* that distinguishes UK examples. (*Maianthemum bifolium* is present in eastern England, eg Swanton Novers Woods NNR which has the largest coppiced oak stand in East Anglia). The New Forest is far too oceanic for this species, indeed it is rather more oceanic than the oak woods described in this Annex 1 habitat, but not quite as oceanic as the woods selected for the Annex 1 habitat *Old oak woods with *Ilex* and *Blechnum** in Britain. Right across their range these woodlands, and the heathlands derived from them are now extremely local (eg the military training grounds at Luneberger Heide). Where stands have not been converted to agriculture, pine plantations have replaced native woodlands.

The old acidophilous oak woods are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the priority habitat *Lowland oak and mixed deciduous woodland*.

## Riverine woodland

There are around 212 ha of old-growth riverine woodland in the New Forest referable to the Habitats Directive Annex 1 priority habitat *Alluvial forests with alder and ash*. This community is of international importance for nature conservation. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this feature in the UK.

International Perspective: In general Alluvial forest with alder and ash habitat is widespread in Europe, but in the more intensively agricultural and long-settled lowlands where flooding is now tightly controlled and woodlands much reduced in cover, examples tend to be fragmented and small. The New Forest stands are relatively extensive and where not affected by localised stream canalisation, remain functionally intact. They also contain extensive old growth stands which are exceptionally rare in Europe.

The Alluvial forests with alder and ash are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the priority habitat *Wet woodland*.

**Bog woodland:** There is an estimated 250 ha of bog woodland in the New Forest, of which about 33 ha is ancient sallow carr referable to the Habitats Directive Annex 1 priority habitat *Bog woodland*, and which is of international importance. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this rare feature in the UK, whose total extent is estimated to be less than 1000 ha.

International Perspective: Extremely restricted and local in the north-western European lowlands where mire drainage and reclamation has destroyed large areas of former bog woodland. The most extensive areas lie in northern Finland in the huge peatlands in the distinctive aapamires, though these are comparable to Scottish pine dominated stands rather than the birch dominated lowland bog woodlands such as are found in the New Forest.

Bog woodland is considered a high priority for nature conservation in the UK and is encompassed within the Biodiversity Action Plan under the priority habitat *Wet woodland*

**Inclosure woodland:** On the Crown lands Inclosure woodland extends to some 8,410 ha, comprising relatively recent broadleaf and conifer plantation on former heathland or ancient woodland sites. Where recognisable, remnant heathland and woodland Habitats Directive annex 1 habitats contribute to the international importance of the individual annex 1 habitats. Particularly significant in this regard are the 400 ha of pasture, riverine and bog woodland

communities which were incorporated within 18<sup>th</sup> and 19<sup>th</sup> century Statutory Inclosures.

The 814 ha of so-called Verderers Inclosures were largely planted on heathland in the latter half of the 20<sup>th</sup> century. The underlying remnant heathland has a very high potential for restoration and, subject to appropriate restoration, would quickly recover to internationally important heathland communities.

Elsewhere, the broadleaved plantations, particularly on ancient woodland sites, have great potential. Those that have developed a more semi-natural character may form refuges for woodland plants and animals which are intolerant of high grazing pressure, many of which have suffered national declines in recent decades.

**Heathland:** New Forest heathland is extensive, including 7,600 ha of dry heath, 2,110 ha of wet heath and 2,021 ha of valley mire communities. Various communities are referable to the Habitats Directive Annex 1 habitats, *European dry heaths*, *Northern Atlantic wet heaths with Erica tetralix*, *Depressions on peat substrates (Rhynchosporion)*, *Transition mire* and *alkaline fen*. All remaining lowland heathland is of national and international importance for nature conservation.

International Perspective: Webb (1998) in a review of the extent of European heathlands reveals that lowland heaths occur throughout the Atlantic region of western Europe, occurring in a zone extending from northern Spain (Galicia) to beyond the polar circle on the north west coast of Norway.

Lowland heathland has declined internationally and is a priority for nature conservation. There is an estimated 350,000 ha of lowland heathland in the Atlantic zone (Diemont, Webb and Degn 1996) of which around 58,000 ha occurs in the UK. Whilst these figures are likely to be incomplete (eg data is incomplete for Ireland, Norway and Germany), it is manifestly clear from Table 2.3.1.1 that heathland has shrunk dramatically from several million hectares to the current figure largely as a result of conversion to farmland, forestry and urban and industrial development. Most of what remains is protected.

**Table 2.3.1.1:** Estimates of current area of lowland heathland in Europe (Diemont, Webb and Degn 1996)

Country	Area (ha) in 19 <sup>th</sup> century	Current Area
United Kingdom	145,000	58,000
The Netherlands	800,000	40,000
Belgium	163,000	13,000
France	200,000	65,000
Germany	1,000,000	55,000
Denmark	658,000	70,364

Sweden	300,000	93,000
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If we just consider the contribution that the New Forest dry and wet heath communities make to the UK total (ie excluding mire and acid grassland communities), then with 9,710 ha we have about 17% of the total UK resource or around 2.7% of the total Atlantic zone resource. If we add in mires and the dry acid grassland communities then the figure becomes 14,559 ha or 25% of the total UK resource, or around 4% of the total Atlantic zone resource.

**Dry heath:** There are around 7,600 ha of dry heath in the New Forest all of which is referable to the Habitats Directive Annex 1 habitat *European Dry Heaths*. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for this feature in the UK. Dry heath communities are of international importance for nature conservation.

International perspective: Covered above

Dry heath is considered a high priority for nature conservation in the UK and is encompassed within the Biodiversity Action Plan under the costed habitat action plan for *Lowland heathland*.

**Wet Heath:** There are around 2,110 ha of wet heath in the New Forest of which some 1,890 ha is referable to the Habitats Directive Annex 1 habitat *Northern Atlantic wet heaths with Erica tetralix* and 210 ha is referable to the Habitats Directive Annex 1 habitat *Depressions on peat substrates (Rhynchosporion)*. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for these two habitats in the UK. Wet heath communities are of international importance for nature conservation.

International perspective: Covered above.

Wet heath communities are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the costed habitat action plan for *Lowland Heathland*

**Mires:** The national importance of New Forest mire communities has been described in Tubbs (1986). Whilst undoubtedly locally damaged by drainage, most of the New Forest mire system is still largely intact, and its extensive cover and transitions to other heathland communities is unparalleled in the UK. Outside of the New Forest comparable mire communities have suffered considerable direct loss through urbanisation, forestry and management neglect, and now exist in fragmentary form in Dorset, the East Devon Pebble Beds and the Surrey heaths, with some scattered outliers on fragments of lowland heath elsewhere.

**International perspective:** There are particular difficulties in evaluating the New Forest mires at the European level, in that the largest proportion are ground water-fed valley bogs (NVC : M21), a vegetation type simply not recognised in the Corine classification or the Habitats Directive, even though comparable examples undoubtedly exist in north-west France. However, three individual components of valley bog complexes are recognised in the Directive, none of which could exist in isolation outwith the valley bogs and wet heaths of the New Forest. It is unlikely that such variation in mire communities over such an extent in an intimate mosaic with other heathland exists in comparable form anywhere else in the Atlantic zone. Whilst no absolute figures are available, a small proportion of the total mire area of 2,020 ha is referable to the Habitats Directive Annex 1 habitats, *Transition mire* and *Alkaline fen*.

**Dry grassland:** There are no Habitat Directive equivalents to the New Forest dry grassland communities. Sanderson (1998) has conducted a review of the extent, conservation interest and management of lowland acid grassland in England for English Nature. From this he concludes (Sanderson 1999) that the New Forest acid grassland is of national importance in that the composite area on the common grazings is the largest single surviving area of unimproved acid grassland and estimates that this represents around 20% of the surviving resource of parched acid grassland (U1) in England. The floristic diversity of the U1 communities is unparalleled. In addition around 75% of the lowland U3 (Heathy acid grassland) resource in England is contained in the Forest dry grassland communities.

**Wet grassland:** There are around 1063 ha of wet grassland in the New Forest comprising a complex and intimate mosaic of various vegetation communities. Most is referable to the Habitats Directive Annex 1 habitat *Eumolinion (Molinia meadows on chalk and clay)* for which the New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas in the UK. The New Forest is probably second only to the Culm Grasslands for acid fen meadow (M24c), particularly as both exist within a wider heathland context. Wet grassland communities are of international importance for nature conservation.

**International perspective:** Very little comparative data exists. The costed action plan for purple moor grass and rush pastures (UK Steering Group 1995) suggests that with the possible exception of the Republic of Ireland, the UK contains considerably more of this habitat than survives in the rest of Europe.

Wet grassland communities are considered a high priority for nature conservation in the UK and are encompassed within the Biodiversity Action Plan under the costed habitat action plan *Purple moor-grass and rush pastures (Molinia - Juncus)*.

**Temporary ponds:** The New Forest temporary ponds support a complex suite of vegetation communities some of which are referable to the Habitats Directive

Annex 1 habitats *Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)*, and *Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto - Nanojuncetea*. The New Forest is considered in *Reasons for recommendation as a Candidate Special Area of Conservation* (English Nature 2000) as one of the best areas for these two habitats in the UK. In addition, the New Forest is one of only four known outstanding localities in the UK for the *Littorelletalia uniflorae*, which is considered to be rare as its total extent in the UK is estimated to be less than 1,000 ha. The New Forest temporary pond communities are of national and international importance for nature conservation.

Probably the best comparative study was carried out by Chatters (1996) who compared the floristic quality of ephemeral ponds and provided totals of Red Data Book and nationally scarce species for the best areas. This study indicates that the New Forest is the most important area in Britain for ephemeral pond specialist flora, even when directly compared to the Lizard Peninsula sites in Cornwall.

**Permanent ponds:** There are a number of permanent ponds in the New Forest of varying acidity and nutrient status. Hatchet pond is notable for its extensive population of shoreweed and associated flora including the nationally scarce six-stamened waterwort *Elatine hexandra*. This together with the distinctive marginal amphibious vegetation communities are referable to the Habitats Directive Annex 1 habitat *Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and Nanojuncetea*.

**Streams:** The New Forest streams are a geographically isolated type with no equivalent in lowland England. The largest is the Lymington River with its two contrasting tributaries the Ober Water and Highland Water. As the streams flow downstream they become progressively less acidic and nutrient poor and consequently exhibit a unique vegetation succession from acid communities at the source akin to mountainous upland regions, through richer stream floras as they pass through open grassland and woodland communities, to more typical enriched neutral river plant communities in the lower reaches.

NB. *There is no data available for a comparative evaluation of the European importance of temporary and permanent ponds and streams. Several of the characteristic species of temporary ponds, however, are also threatened species in France including Pilularia globulifera and Pulicaria vulgaris.*

## 2.3.2 Species evaluation

**Mammals:** The assemblage of mammal species in the New Forest is of national importance as indicated by the presence of some 14 species of conservation concern, principally bats (especially Bechsteins and Barbastelle), and otter and water vole along the Lymington River.

Britain's mammalian fauna is naturally impoverished in species through its early post-glacial isolation as an island from the rest of Europe. It has also been reduced by man's activities. No full species of mammal is endemic to Britain.

**Birds:** With 37 bird species of conservation concern regularly occurring, the New Forest is of national importance for its bird populations. The heathland and woodland assemblages both exceed the threshold site index values given in the *Guidelines for selection of SSSIs* (NCC 1989).

In addition, the New Forest is of international importance for breeding woodlark, nightjar, Dartford warbler and honey buzzard, and for its wintering population of hen harrier.

**Amphibians and reptiles:** The New Forest is of national importance for its reptile and amphibian populations, supporting all six native species of reptiles and five of the six native species of amphibians.

In addition, the New Forest is of international importance for its population of great crested newt, given its distribution in 13 localities with an estimated population of between 500-1,000 individuals (Davidson-Watts 2000).

**Fish:** With 20 species of fish having been recorded in the New Forest streams and rivers, including bullhead and brook lamprey (both species listed on annex II of the Habitats Directive) and brown trout, the Forest is probably of national importance for its native fish populations, though further work is required to provide data for full description and evaluation.

**Invertebrates:** Some 164 Red Data Book species and 380 notable species have been recorded from the New Forest. More targeted survey would undoubtedly produce new records. The New Forest is clearly of national importance for its invertebrate populations.

It is difficult to evaluate Britain's invertebrate fauna in a European context due to the lack of consistent recording and data. As knowledge of invertebrates improves it is likely that a number of features of invertebrate populations in Britain and in the New Forest in particular will be recognised as being of international importance. Already, the New Forest dead wood invertebrate fauna is regarded as being of international importance, and it is likely that in future specialist invertebrate communities of heathland and wetland habitats will also prove to be important at this European level. However further

studies are required to assess the invertebrate faunas in Britain and continental Europe before sites can be evaluated at the International level.

**Lichens:** 399 species have been recorded from the New Forest since 1967, representing some 23% of the British and Irish flora. Of these some 109 species are of conservation concern. 95% are epiphytes, all but one found in pasture woodlands, and 5% are heathland species. The New Forest pasture woodlands are of international importance for their lichen flora.

A total of 350 checklist taxa have been recorded from the pasture woodlands of the SAC and this is clearly the single most significant habitat in the SAC for lichens (Sanderson, 1998). A further associated 27 fungi, mainly lichen parasites, have also been recorded. The pasture woodlands carry a lichen flora that is rich in species characteristic old growth stands (ie with a stand continuity greater than 200 years) and this flora is of the highest international importance. This is due to the destruction of old growth pasture woodland by forestry management across the northern Temperate Zone (Vera, 2000). For example the pasture woodlands support 48 species listed in a draft of International Responsibility Species (ie species which Britain holds a significant proportion of the European or world population). Most of these species still have large viable populations in the New Forest but are very rare and threatened beyond Britain. In this context one of the most important communities is that found on the dry bark of ancient oaks characterised by species such as *Lecanactis premnea* and *Lecanactis lyncea*. The latter species, which is not even nationally scarce in Britain, is otherwise known from a handful of ancient oaks in France, while the BAP species, *Enterographa soredata*, which is endemic to Britain, also occurs. This community, endemic to western Europe, is at its most extensive anywhere in Europe within the SAC.

**Vascular Plants:** Some 540 species of vascular plant have been recorded from the New Forest SAC representing 36% of the total British flora. Of these some 41 species of conservation concern have been recorded in the last 50 years, of which 10 are listed in the *Red Data Book of Vascular Plants* (Perring and Farrell 1983), and 5 of these 10 are listed in Schedule 8 of the Wildlife and Countryside Act (1981). The remaining 31 are nationally scarce. The New Forest is clearly of national importance for its vascular plant flora.

The British vascular plant flora is not rich by comparison with that of continental Europe. Island isolation has resulted in floristic impoverishment, yet it has been too recent for any appreciable degree of endemism to have developed. However, the strongly Atlantic element restricted to the north-west European seaboard has several species better represented in Britain and Ireland than elsewhere. These range from common British species, some of which are community dominants (eg all three species of gorse *Ulex*, bluebell *Hyacinthoides non-scripta* and heath rush *Juncus squarrosus*, to species of specialised habitats such as *Pinguicula lusitanica* and *Rhynchospora alba*.



**Bryophytes:** There are about 1,030 species of bryophytes in Britain of which at least 326 have been recorded from the New Forest SAC (96 liverworts and 230 mosses), representing some 31% of the British flora (Paton, 1961 & Crundwell & Rose, 1996). Of these 33 are of conservation concern and have been recorded in the last 50 years. Four liverworts of conservation concern are known only from 19<sup>th</sup> century records. Of the recently recorded species, a third (11) are woodland species and the rest are heathland species.

The full importance of the New Forest bryophyte flora, however, is not expressed by simply looking at the species of conservation concern. A major feature of the New Forest is the presence of many species that are otherwise rare or absent in the lowlands. Some of these disjunctions are very marked; for example *Thuidium delicatulum* is common on sloping wet lawns on clay (M24a & M16b) in the New Forest but is otherwise totally absent from lowland Britain. Concentrations of such species are found particularly in transition mires and in the pasture woodlands. The former include species such as *Sphagnum teres*, *Sphagnum contortum* and *Sphagnum subsecundum* and the latter quite a few Atlantic bryophytes including *Saccogyna viticulosa*, *Plagiochila killarniensis*, *Bazzania trilobata*, *Frullania fragilifolia*, *Harpalejeunea ovata* and *Hyocomium armoricum*. Other examples are the liverwort *Preissia quadrata* in alkaline fen at Stony Moors and *Splachnum ampullaceum* on pony and cattle dung in wet heath and mires.

The bryophyte flora of the SAC is the richest in lowland Britain and clearly of national importance.

**Fungi:** At least 89 fungi of conservation concern have been recorded from the SAC, of which 18 have not been seen in the last 50 years. Of the species of nature conservation concern most are woodland species, with only 9 heathland and grassland species recorded. These include species of acid grassland and species that are mycorrhizal on *Salix repens*. The best known heathland species is *Poronia punctata*, which is a specialist confined to dung from horses grazing acidic rough pastures. It is found on dung deposited on acid grassland and heath and is possible now confined to the New Forest (and recently from introduced dung in Dorset) in Europe.

The 71 woodland species include a group of 11 species confined to old trees, or fallen large trees, within the pasture woodlands. These include the toothed fungi *Hericium cirrhatus*, *Hericium coralloides*, *Hericium erinaceum* and the bracket fungi *Phellinus robustus*. These are clearly old growth dependant species and have very low population densities Wicks (1999). They are only ever found on tiny numbers of old trees in a pasture woodland complex with approximately 250,000 old trees. Many epiphytic lichens exhibit a similar restriction to tiny numbers of trees and suggests very large areas of pasture woodland are require to support such old growth dependant species. The

rest of the woodland fungi are ground growing species, mainly mycorrhizal on trees, but including some saprophytes.

The fungal diversity of the New Forest is clearly high and a large number of species of conservation concern have been recorded and on present evidence the woodlands are of international significance for fungi.

## 2.4 Evaluation of the ecosystem using the Ratcliffe Criteria

In the *Nature Conservation Review* (ed Ratcliffe 1977) the New Forest is listed as a NCR Grade 1\* for woodlands and heathlands. (NCR Grade 1\* = Internationally important). Whilst now somewhat dated the NCR sets an accepted standard for evaluation of sites of nature conservation importance and this is followed in this evaluation carried out from the perspective of the ecosystem as a whole.

**Size:** The SAC extends to around 29,000 ha, which makes it the largest semi-natural lowland heathland and wood pasture ecosystem in the Atlantic zone. It is particularly significant in a region where similar habitats tend to be highly fragmented as a result of enormous habitat losses. Rarely do the combination of habitats present in the Forest occur together and nowhere else on such a scale and diversity.

**Diversity:** The New Forest supports an outstanding range of vegetation communities and rare and scarce plant and animal species. The Description in Part 1 describes 17 features of European importance, an extensive range of NVC communities and lists some 860 species of conservation concern. Individually this variation is highly significant, but when considered as a whole, operating in a dynamic equilibrium at the ecosystem scale, with a multitude of transitions, it is without parallel in the intensively farmed lowlands of north western Europe.

**Naturalness:** With 5,000 years of recorded human interventions, the New Forest can hardly be regarded as natural in the sense of virgin wilderness. However, those interventions have maintained a wood pasture / heathland system which is likely to have continuity with prehistoric lowland Britain. Woodlands will have existed on many of the ancient woodland sites in the Forest since those times, and canopy gaps will have supported grassland and heathland communities in a mosaic of mire and swamp, maintained by large wild grazing animals. Vera (2000) questions the widely held belief that a climax vegetation of closed forest covered the lowlands in prehistoric times before the onset of agriculture. He argues that vegetation communities were governed by the activities of large herbivores creating a prehistoric parkland landscape consisting of grasslands, scrub, solitary trees and groves bordered by a mantle and fringe vegetation. This is arguably analogous to the situation

in the Forest today, though in a greatly modified form, with Commoners animals having replaced wild herbivores.

**Rarity:** Heathland communities are now internationally fragmented and scarce. The combination of extensive woodland and heathland in an intimate mosaic is unparalleled. The niche separation afforded by this functional ecosystem is vast and hence the New Forest supports a significant proportion of the rare and scarce plant and animal species characteristic of such habitats. They are listed and described in Part 1 but in summary by group:

Group	Status
Mammals	14 Species of conservation concern
Birds	37 Species of conservation concern
Amphibians & reptiles	11 Species of conservation concern
Invertebrates	RDB 1: 38 Species RDB 2: 28 Species RDB 3: 89 Species RDB K: 9 Species Notable A: 59 Species Notable B: 287 Species Notable: 34 Species  Total 544 species of conservation concern
Lichens	109 Species of conservation concern
Vascular Plants	41 Species of conservation concern
Bryophytes	33 Species of conservation concern
Fungi	71 Species of conservation concern

**Fragility:** Maintenance of the features for which the New Forest is designated requires continuation of extensive livestock grazing and additional interventions including cutting and burning. In their absence, (and in the absence of a suite of prehistoric herbivores), the open communities would change over time to secondary woodland and the majority of the features of interest would be lost.

Given the continuation of essential maintenance regimes, the vulnerability of the key wetlands habitats to drainage is largely safeguarded by designation and legislation. Indeed, Government policy is to restore SAC habitats to favourable condition. Given therefore that the habitats are likely to improve over the coming years, many characteristic plant and animal species are likely to also be more secure. The exception probably lie with those species (eg ground nesting birds) which are susceptible to disturbance, particularly during the breeding season, given the ever-increasing recreational pressures which will inevitably come to bear on the New Forest. In the longer term issues associated with climate change may result in species changes to the various plant and animal communities, though it is currently difficult to predict what form they may take.

**Typicalness:** Taken as a whole the New Forest ecosystem is unique. However, the individual features also provide a suite of type localities for the range of variation in lowland heathland and woodland community types.

**Recorded history:** Land use history is well recorded down the centuries enabling statements about habitat continuity, and priorities for restoration to be made. The New Forest is a site which lends itself to ecological research and a great many studies have been carried out there and will undoubtedly continue to do so.

**Position in an ecological / geographical unit:** The New Forest contains a comprehensive suite of characteristic woodland and heathland (in the widest sense) communities associated with the geographical area and underlying formations, in one huge site. This is truly exceptional in the lowland context; elsewhere, habitat fragmentation has meant that a series of individual sites are required to achieve anything like the full representation.

**Potential value:** The New Forest is unquestionably of international importance for those habitat units in favourable condition. However, some of the issues described in Part 3 have resulted in some habitat units becoming unfavourable over time. Of particular significance in this regard are the wetland communities which have been adversely affected by artificial drainage, (eg mires, riverine woodland, bog woodland), and the woodland communities affected by modern silviculture. The potential for habitat restoration is enormous, particularly given the surrounding sources of plants and animals, which virtually guarantees successful re-establishment of semi-natural communities over time, given appropriate restoration management.

**Intrinsic appeal:** The New Forest supports an outstanding suite of plant and animal communities, in which many characteristic species both common and rare may be found. However it is also a key locality for many features of nature conservation value which do not have the wider public appeal associated with birds and vascular plants, such as saproxylic invertebrates, epiphytic lichens and geomorphological features.

## 2.5 New Forest nature conservation objectives for European features

Subject to natural change, to maintain\*:

1. New Forest Pasture Woodland in favourable condition with particular reference to: beech forests with holly (*Ilex aquifolium*) and yew (*Taxus bacata*), rich in lichens and mosses (*Illici-Fagion*), old acidophilous oak woods with pedunculate oak (*Quercus robur*) on sandy plains, *Asperulo-Fagetum* beech forests, stag beetle (*Lucanus cervus*), honey buzzard (*Pernis apivoris*), and nightjar (*Caprimulgus europaeus*).
2. New Forest riverine woodland in favourable condition with particular reference to Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*.
3. New Forest Inclosure Woodland in favourable condition, with particular reference to early 19th century broadleaf and / or Ancient Woodland Sites (AWS), or ancient semi-natural woodland, beech forests with holly (*Ilex aquifolium*) and yew (*Taxus bacata*), rich in lichens and mosses (*Illici-Fagion*), old acidophilous oak woods with pedunculate oak (*Quercus robur*) on sandy plains, honey buzzard (*Pernis apivoris*), and nightjar (*Caprimulgus europaeus*).
4. New Forest bog woodland in favourable condition.
5. New Forest wet heath in favourable condition with particular reference to Northern Atlantic wet heath with cross-leaved heath (*Erica tetralix*) and Southern damselfly (*Coenagrion mercuriale*).
6. New Forest dry heath in favourable condition with particular reference to European dry heaths, breeding nightjar (*Caprimulgus europaeus*), woodlark (*Lullula arborea*), Dartford warbler (*Sylvia undata*) and wintering hen harrier (*Cygnus cyaneus*).
7. New Forest mires in favourable condition with particular reference to depressions on peat substrates (*Rhynchosporion*), transition mires, alkaline fens and Southern damselfly (*Coenagrion mercuriale*).
8. New Forest wet grassland in favourable condition, with particular reference to *Molinia* meadows on chalk and clay (NVC M24), M25 and M23 communities.
9. New Forest dry grassland in favourable condition, with particular reference to U1, U3, U4 grasslands and U20-related species-rich bracken and woodlark (*Lullula arborea*).

10. New Forest permanent ponds in favourable condition, with particular reference to oligotrophic waters with very few minerals of Atlantic sandy plains with amphibious vegetation.
  11. New Forest temporary ponds in favourable condition, with particular reference to oligotrophic waters containing very few minerals of Atlantic sandy plains, and oligotrophic to mesotrophic standing waters with amphibious vegetation belonging to *Littorelletae uniflorae* and / or *Isoeto-Nanojuncetea*.
  12. The habitats in favourable condition of the populations of Annex I species that contribute to internationally important populations in the New Forest SPA, for breeding Dartford warbler (*Sylvia undata*), nightjar (*Caprimulgus europaeus*), woodlark (*Lullula arborea*), honey buzzard (*Pernis apivorus*) and for wintering hen harrier (*Circus cyaneus*).
  13. The habitats in favourable condition of the populations of Annex II species: Southern damselfly (*Coenagrion mercuriale*).
  14. The habitats in favourable condition of the populations of Annex II species: stag beetle (*Lucanus cervus*).
  15. The habitats in favourable condition of the populations of Annex II species: great crested newt (*Triturus cristatus*).
- \* **maintenance implies restoration if the feature is not currently in favourable condition.**

## 2.6 Monitoring

The nature conservation objectives state that the features for which the New Forest is designated must be maintained or restored to favourable condition. The Monitoring Strategy for the New Forest has been developed to answer the question: *What does the feature look like when it is in favourable condition?*

## 2.6.1 Purpose of monitoring

The fundamental purpose of monitoring is to assess whether the conservation objectives for the New Forest cSAC are being achieved, and if not then to focus action.

There are also obligations to monitor sites designated under International Agreements within Europe, obligations resulting from UK Governments commitment to achieving targets set under Biodiversity Action Plans, and obligations under the LIFE programme to monitor the long-term health of the cSAC. Specifically:

- **Habitats Directive:** Article 11 requires, *'Member States shall undertake surveillance of the conservation status of the natural habitats and species referred to in Article 2 with particular regard to priority natural habitat types and priority species'*.
- **Birds Directive:** Special Protection Areas established under the Birds Directive, are to be protected and managed using the same measures as applied to SACs, implying that measures taken to monitor SPAs should match those applied to SACs.
- **The Ramsar Convention:** Article 3.2 requires, *'Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference'*.
- **Biodiversity Action Plan:** Requires reporting on the achievement of specified targets and hence surveillance and monitoring programmes to measure progress.
- **LIFE Programme:** Requires the establishment of a monitoring programme to monitor the long term health of the entire cSAC.

## 2.6.2 Objective of monitoring

The following objectives embrace the fundamental purpose of monitoring and the requirements of the other drivers:

- To assess and report on the condition of important New Forest habitats and species.
- To assess and report on the effectiveness of existing management programmes.
- To assess and report on the effectiveness of restoration programmes.

- To assess and report on the impacts of long-term environmental and social changes such as variations in grazing pressure, global warming etc.
- To trigger appropriate action in terms of adjustments to management regimes where monitoring reports dictate.

### 2.6.3 Favourable conservation status

Article 1 of the Habitats Directive defines criteria for determining whether the conservation status of a habitat or species is favourable:

*The conservation status of a natural habitat will be taken as 'favourable' when:*

- *its natural range and areas it covers within that range are stable or increasing, and*
- *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and*

*the conservation status of its typical species is favourable as defined by:*

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

Essentially this means that to achieve 'favourable conservation status' across Europe a feature's extent, abundance and range must be stable or increasing, and that those factors which ensure its continued existence are present (Shaw and Wind 1997). Conservation Status will presumably be determined through aggregation of data provided by Member States on each of the main components of FCS.

In the UK the adoption of Common Standards for Monitoring Designated Sites has determined that *assessments on conservation status will be made at UK level from analysis of individual feature specific condition assessments.*

### 2.6.4 Common standards for monitoring designated sites

Common standards for monitoring designated sites have been established and agreed by the Conservation Agencies (JNCC 1998). The standards apply to SSSIs and to sites with European designations. Their purpose is to provide a framework to ensure consistent monitoring throughout the UK in order to fulfil reporting requirements under European Directives and International



Conventions. The basic framework of common standards for monitoring covers:

- **Features to be monitored:** these will be the interest features for which the site is designated.
- **Conservation Objectives:** to define what constitutes favourable condition of each feature by describing broad targets which should be met if the feature is to be judged favourable.
- **Judging the condition of sites:** using definitions of *favourable-maintained*, *favourable-recovered*, *unfavourable-recovering*, *unfavourable-no change*, *unfavourable-declining*, *partially destroyed* and *destroyed*.
- **Recording activities and management measures:** activities on or near the site and practical management measures affecting the condition of interest features will be included in the monitoring process.
- **Monitoring cycle:** The overall cycle will ensure that the interest features for all statutory sites will be monitored at least once within six years. However, for any particular site all the interest features should be monitored within a three year period.
- **Reporting arrangements:** Information will be presented at the UK level on the basis of the biodiversity broad habitat types originally described in the UK Biodiversity Action Plan (1994). Reporting on species is for an agreed set of species categories. A full report will be produced every six years. The monitoring framework will generate information on the condition of features across the statutory site network as a whole, or on the status of features within individual sites, and will be used to fulfil reporting requirements under European Directives and International Conventions.

## 2.6.5 New Forest monitoring strategy: protocol

In order to comply with all of the above, LIFE partners have endorsed the following protocol for monitoring the New Forest cSAC:

- Monitoring of New Forest cSAC habitats and species will be in accordance with the national guidance in *Common standards for monitoring designated sites* (JNCC 1998). This will enable the condition assessment results from the New Forest to contribute to UK level assessment and reporting on Favourable Conservation Status of European habitats and species.
- cSAC-wide monitoring will be accomplished through Condition Assessment at the habitat level (Level 1), using standard templates derived from plant and animal community attributes (Level 2), customised for specific Condition Assessment Units.

This will be supported by specific Validation Monitoring programmes (at habitat or species level; Level 1 or Level 2), the results of which may dictate periodic adjustment to Level 1 Condition Assessment Templates.

- All LIFE partners managing land within the New Forest cSAC will conduct Condition Assessment Monitoring to the specification and programme identified in the cSAC Management Plan for the duration of the LIFE project. Subsequently, condition assessment will be undertaken and coordinated by English Nature. Support by the present LIFE partners will be anticipated contingent upon availability of resources.
- English Nature will coordinate the Condition Assessment Programme, and receive and validate condition assessment reports from LIFE partners. These will be transmitted via ENSIS (English Nature's Site Information System) to national specialists to contribute to national reporting on favourable conservation status.

This two strand approach ensures that:

- through condition assessment objectives are set which define favourable condition for each interest feature (SSSI, SAC, SPA and Ramsar) for which the New Forest was designated and site (or feature) condition is assessed using standard templates;
- through the validation programme BAP priority species which do not coincide with designated SSSI features, and assessments of key species in more detail (eg population size or other measures of viability), as appropriate, are also covered.

## **2.6.6 Condition assessment monitoring**

Condition assessment enables overall site condition to be evaluated using standard assessments based on primary habitat ('Level 1 features') condition using criteria derived from characteristic and rare species ('Level 2 features'). Monitoring templates which define what a habitat looks like when meeting objectives for favourable condition have been developed for the level 1 features in the New Forest. These are based on generic criteria developed by specialists at the national level, but customised within acceptable limits, to accommodate the unique requirements of the New Forest. They aim to incorporate the overall known ecological requirements for individual species and plant communities within the managed fabric of the New Forest.

## **2.6.7 Condition assessment templates and levels of acceptable change**

The individual monitoring templates for use in the field, together with guidance notes for their use are given in Appendix 3. Defining favourable condition is not an absolute measure. There is a range of conditions in terms of structure,

quality etc within which the habitat remains favourable. These are the limits of acceptable change and are defined in each template.

### **Favourable Condition Table**

The Favourable Condition Table (See Appendix 4) will be used by English Nature and other relevant authorities when regularly monitoring the condition of the SSSI. It will form the basis for monitoring the condition of the site and its features undertaken by English Nature in pursuance of its duties under Regulation 3(2) of the Habitats Regulations 1994. Favourable condition is achieved when the targets given below are met.

The Favourable Condition Table should inform the scope and nature of any 'appropriate assessment' under the Habitats Regulations, but an appropriate assessment will also require consideration of issues specific to the individual plan or project. The Favourable Condition Table does not by itself provide a comprehensive basis on which to assess plans and projects as required under Regulations 20-21, 24, 48-50 and 54 to 85. The scope and content of an appropriate assessment will depend upon the location, size and significance of the proposed project. English Nature will advise on a case by case basis. Following appropriate assessment, competent authorities are required to ascertain the effect on the integrity of the site. The integrity of the site is defined in paragraph C10 of PPG9 as the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

Annual counts for qualifying bird 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 the SPA is continuing to make an appropriate contribution to the Favourable Conservation Status of the species across Europe.

### **2.6.8 Reporting to English Nature and ENSIS**

Completed Condition Assessment forms will be returned to English Nature for validating and entering onto the Corporate Database ENSIS (English Nature Site Information System) from which reports for individual sites or habitat overviews can be generated.

### **2.6.9 Condition assessment summary baseline 2001**

It has not been possible during the LIFE project to complete condition assessment of all the habitat units in the New Forest. Some, (eg mires and pasture woodlands) have a reasonable coverage, others have not been surveyed and should be **regarded as provisional**. Map 2.6.9.1 gives the provisional overview. All units will be covered in the forthcoming years.

## 2.6.10 Validation survey and monitoring programme

The use of generic criteria as described above for condition assessment requires testing over time to ensure that the correct suite of critical 'indicators' (be they species or plant communities), have been identified. For instance, does condition assessment based on a proscribed quantity and quality of dead wood in old growth acidophilous oak woodlands adequately cover the requirements for the suite of saproxylic invertebrates?

A range of projects may be envisaged to contribute to and validate the Condition Assessment programme. For example:

- Vegetation maps and aerial photographs : Repeated every 5 years to examine changes in area of habitat features (eg progress towards heathland restoration target).
- Fixed point photography programme: Repeated annually to record progress with eradication of alien species and habitat restoration.
- Fixed transect and quadrat studies: Repeated periodically to check validity of condition assessment templates.

### Survey and data collation

Biological surveys and data collation in connection with lichens, selected invertebrate groups, vascular plants and deadwood resource have been targeted to yield information essential for development and operation of the Monitoring Protocol. Surveys have also been completed on negative indicators including *Rhododendron* and bracken distribution in the Crown lands.

In addition considerable effort has been expended on necessary preliminary work on survey and classification of mires, together with an evaluation on their hydrology, geology and condition. This work will guide and inform the preparation of sensitive restoration proposals and long-term water level monitoring systems.

### Monitoring and review

It is recognised that the existing SAC boundary does not encompass all areas of European interest. In addition, certain features (eg riverine features) require investigation to research their qualification against the Habitats Directive habitat classes. It is recommended that this issue is addressed by English Nature in due course.

## 2.7 Factors influencing management

The issues associated with the factors described below are fully discussed in Part 3 from which the Generic Prescriptions are formulated. Hence, they are not discussed in any depth below.

### 2.7.1 Natural trends

The New Forest is a dynamic ecosystem whose individual habitats enlarge and contract over time according to environmental conditions (climatic) and levels of management intervention. Left to itself, in the total absence of grazing, cutting and burning, the drier habitats would quickly succeed to scrub and woodland. The wetlands would rapidly become dominated by *Molinia* tussocks and would progress towards closed carr habitats. Whilst this evolving ecosystem would undoubtedly develop its own nature conservation interest over the millennia, it would be at the expense of the vast majority of the individual habitats, plant and animal communities for which the New Forest is designated.

The global scarcity of these designated features, particularly in the uniquely intimate mosaic in which they exist in the New Forest, requires that they be maintained in favourable condition. It is clear that a return to the self-maintaining ecosystem of pre-history with attendant wild herbivore herds and associated predators (mainly extinct) is out of the question. Hence, maintenance of favourable condition is now dependent upon management interventions through a maintenance programme of grazing, cutting and burning. The maintenance programme keeps habitats open and diverse, and also exerts control on competitive species requiring restraint such as *Molinia*, bracken, invasive woody species and invasive alien and re-introduced species such as *Rhododendron ponticum* and Scots pine.

Principle natural trends are:

- Scots pine regeneration on open heathland and open woodland habitats.
- Spread of invasive alien species such as *Rhododendron ponticum*, *Crassula helmsii*, and *Gaultheria shallon* on heathland habitats and alien conifers in woodland.
- Increasing deer populations.
- An increase in bracken cover.
- An increase in scrub cover.

### 2.7.2 Man induced trends

The Forest wetland habitats have been profoundly affected by drainage schemes and drier habitats by forestry operations including planting of alien conifers and shrubs. Areas of neglect (ie lack of positive management) are apparent in the Inclosure woodlands within the Crown lands, in parts of Roydon Woods and in some of the private lands, where considerable restoration work is required.

Recreational activities and their associated infrastructures have also adversely affected both heathland and woodland habitats.

### 2.7.3 External factors

The depasturing of livestock on open Forest habitats is essential. Issues surrounding Commoning are explored in Part 3. The forthcoming National Park may provide opportunities for a more holistic approach to some of the issues affecting the Forest, particularly with regard to enhanced agri-environment schemes and management of recreational pressures and infrastructure.

### 2.7.4 Legal constraints

The principle legal constraints lie with the nature conservation designations, particularly the Wildlife and Countryside Act and its considerable strengthening under the Countryside and Rights of Way Act 2000, and the requirement under the Habitats Directive to maintain habitats in favourable condition. All plans or projects, either alone or in combination, not directed towards achieving favourable habitat condition must be subject to thorough assessment. A plan or project cannot be sanctioned if it would demonstrably result in a decline in the condition of designated features. English Nature cannot issue consent for any activity which would cause damage to an SSSI; owner / occupiers cannot carry out a damaging operation without English Nature's consent. Public bodies have a statutory duty to further nature conservation in the exercise of their various functions. Government policy is clearly aimed at preventing further damage to SSSIs and to restore sites to favourable condition within a specified time frame.

There is potentially conflicting legislation with regard to some of the provisions of the New Forest Acts. For example, the requirement to keep the Forest drained under the New Forest Act 1949 clearly conflicts with the provisions of the Habitats Directive and the implementing Regulations. It is supposed that the Habitats Directive has supremacy over previous legislation, but it would probably require amendment or repeal of conflicting legislation in the unlikely event of a test case arising. The weak provision under the New Forest Act 1964 requiring the Forestry Commission and the Verderers to *have regard to the desirability of conserving flora and fauna* has clearly been superseded by the CROW Act 2000 which gives such public bodies a statutory duty to *further* nature conservation in the exercise of their various functions.

This duty is reflected in the Forestry Commissions revised Ministers Mandate (1999) which sets out the operational priorities for the Forestry Commission for the New Forest in the following decreasing order of priority:

- nature conservation and cultural heritage;
- recreation;
- silviculture;

Health and safety considerations are applicable to all aspects of New Forest management.

## **2.7.5 Management constraints**

Whilst nature conservation and the cultural heritage upon which favourable condition depends are the priority, recreation and silviculture, whilst of lower priority are nonetheless currently important land uses in the New Forest.

**Access and recreation:** The provisions for public access under the CROW Act (2000) are unlikely to have a significant impact on the majority of the SAC since most is currently open access anyway. The Countryside Agency's forthcoming open access map for heath (which will not be based upon vegetative characteristics) may indicate a wider access, particularly on private lands, than currently exists. There are clauses in the Act to protect sensitive locations (eg for breeding bird colonies) subject to English Nature's advice. The issue of ever increasing recreational pressure (regardless of CROW) is clearly a major management priority and will continue to absorb resources.

**Forestry:** For as long as it remains acceptable practice to engage in commercial forestry within the SAC, then land which could otherwise be restored to heathland or broadleaved woodland will remain under conifer rotations.

**Public opinion:** This must be taken fully into consideration in all proposed management. It can present a considerable constraint particularly on the speed of change in the appearance of the Forest, and the necessary management interventions which directly impact upon the public use of the Forest. The solution lies in open and constructive public consultation as was conducted so successfully by the Forest Design Plan Forum for the Inclosures.

**Finance:** The maintenance of SAC habitats in favourable condition requires considerable management interventions and on-going costs. The restoration and re-creation of habitats is generally expensive, and may reduce income from former sources (eg forestry products). It is likely that considerable additional resources will need to be made available to land managers to achieve the nature conservation objectives in this Management Plan. It is important that the key organisations work together to demonstrate the need

for additional funding and that all available sources are explored. Whilst European funds and other grant sources may be tapped in the short term, it would be imprudent to rely on them in the longer term.

## **2.8 Priorities for managing New Forest habitats and species**

The priorities for managing New Forest habitats and species may be summarised thus:

- Maintain existing habitats in favourable condition by continuing to implement essential maintenance programmes outlined in the Generic Prescriptions (Part 3).
- Restore designated habitats currently in unfavourable condition to favourable condition, through a series of restoration programmes discussed in the Generic Prescriptions (Part 3).

Those habitats categorised as unfavourable-declining, especially where inherent fragility makes them particularly vulnerable to damage (eg wetland habitats) are the first priority for restoration treatments.

Those habitats categorised as unfavourable-maintained can be regarded as the second priority for restoration treatments.

- Re-create SAC habitats from the Verderers and statutory Inclosures (See Forest Design Plan in Part 4), and other enclosed land.
- Diversify plantations over time to a more semi-natural character.