Evaluation of the Natural Areas approach to woodland conservation

How significant are individual Natural Areas for woodland conservation at the national level?

Virtually all Natural Areas contain some woodland or tree features (including hedgerows) that have been identified as important for conservation in that area. Even Natural Areas that are poor in woods may contain nationally important sites eg Birklands & Bilhaugh SSSI within the Sherwood Forest Area. A broad evaluation of the woodland conservation significance of the entire woodland resource in an Area at a national level was made using a number of simple criteria (Figure 13; Appendix 4). This evaluation is provisional and must not be used to guide action or policy without reference back to the criteria and a re-assessment of whether weightings used in the evaluation are appropriate for the purposes to which it is to be put, for example:

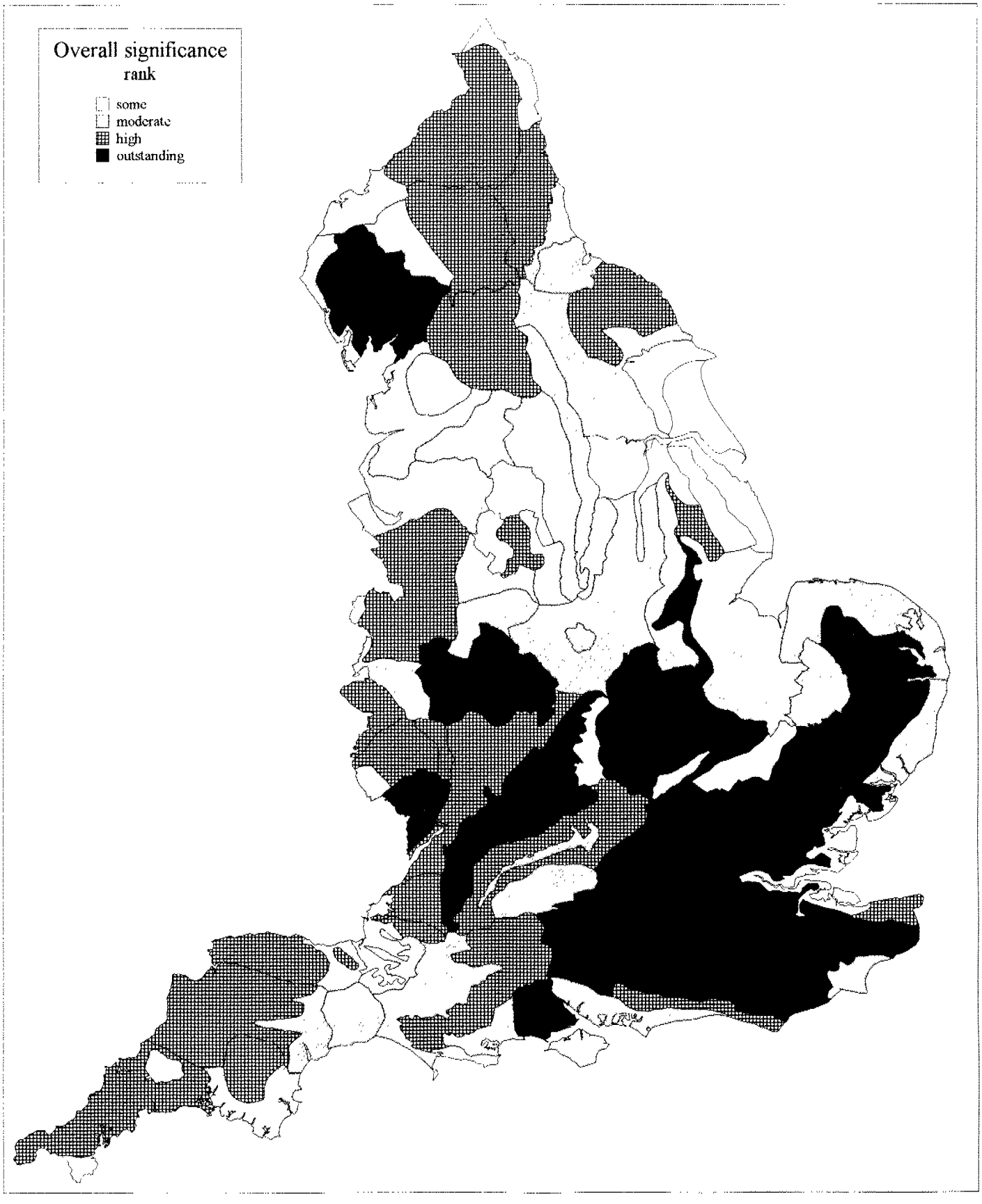
- if limited funds were being put into a series of Natural Areas specifically to help maintain the diversity of woodland types more weight needs to be given to (say) the 'NVC importance' column;
- if the value to particular species groups is being assessed then separate criteria will be needed which will be different for rare plants than for, say, dormice;
- if more might be achieved by working with major partners then the evaluation must look at where those partners have the greatest land holdings (Figure 12).

However some Natural Areas would seem to be significant for woodland by almost any criteria, while others are generally poor except for a few isolated sites or features (Table 11).

Table 11. The poorest and best Natural Areas for woodland conservation (Appendix 4).

'Some' significance	*'Outstanding' significance*
10. Yorkshire Wolds	24. Middle England
11. Plain of Holderness	33. East Anglian Plain
15. Humberhead Levels	34. Chilterns
16. Coversands	38. London Basin
22. Lincolnshire Wolds	41. North Downs
23. Lincolnshire Marsh and Coast	43. Low Weald
25. Northamptonshire Uplands	44. High Weald
28. East Anglian Southern Chalk	46. Greensand
39. Thames Marshes	47. Hampshire Chalk
53. Isles of Portland and Purbeck	50. New Forest
60. The Lizard	69. Greater Cotswolds
67. Somerset Levels and Moors	72. Dean Plateau and Wye Valley
78. Oswestry Uplands	75. Midlands Plateau
84. South west Peak	89. Cumbrian Fells and Dales
85. Dark Peak	

Figure 13. Overall significance of ancient woodland within Natural Areas (based on Appendix 4)



Natural Areas as a methodology for woodland conservation

In the Introduction (page 5) a series of questions were raised about the use of Natural Areas for woodland conservation purposes - these are revisited below.

- Do Natural Areas broadly reflect patterns in the distribution of ancient woodland sites?

In many instances the current boundaries do reflect broad patterns in the distribution of ancient woodland (for example the well wooded area of the Chilterns is clearly picked out, as is the striking difference between the Breckland and the East Anglian Plain, or between the Cumbria Fells and Dales and the Solway Basin). In some parts of the country, woodland is reasonably uniformly distributed across the Natural Areas (eg Wessex Vales, High Weald, Culm Measures), whilst in others it is largely associated with some key feature of the Natural Area such as the river valleys eg in the northern Pennines and Border Uplands.

- Are there major anomalies between Natural Area boundaries and woodland distribution?

(NB. Some of the anomalies found may be resolved through the Character of England Joint Map process described in the introduction).

There are some apparent groupings (or absences of ancient woodland) that are not related to the Natural Area boundaries. For example, the pattern of ancient woodland in the south-eastern half of the Cornish Killas and Granites is much closer to that of the adjacent South Devon area than to the western half of Cornwall. The ancient woods of the southern end of the Lincolnshire Limestone continue into Middle England. The Cumbrian Fells and Dales NA contains both the typical "western oakwoods" and a very distinct suite of woods on the carboniferous limestone in the south-east that spreads round Morecambe Bay into Lancashire. Because of the nature of ancient woodland ie that it represents a remnant of a former much more widespread woodland cover, it is not altogether surprising that it's distribution does not always follow the Natural Area pattern - if more of the former cover still existed it would perhaps be easier to distinguish particular patterns related to the present Natural Area boundaries.

From a woodland conservation point of view it may often be desirable to treat clumps of woodland which cross Natural Area boundaries as one unit. For example if we were promoting a woodland management initiative or deer management group in area where the Middle England/Lincolnshire Limestone clumps occur, the unit would have to cover both sets of woods.

- Are major differences in the distribution of woodland vegetation and structure types reflected in the pattern of Natural Areas?

Natural Areas provide a guide to the broad differences between woodland NVC communities (See Table 5 and Apppendix 2). Stand Types and woodland structure are also correlated with Natural Area boundaries at a broad level.

- How can Natural Areas provide a suitable framework for organising our ideas and approaches on a range of woodland issues?

Information has been collated for each Natural Area to produce the Core Profiles (Table 1). These are increasingly being used to derive work plans of both local and national teams across English Nature, where they have highlighted the key issues addressing nature conservation. By combining the woodland information they contain with national woodland datasets we will try to set the

Figure 14. Grouping of Natural Areas into broad zones.

Zone 0 Areas with virtually no ancient woodland and of virtually no nature conservation interest for woodland communities. This includes the Fens, Brecks, the Humber valley and the East Yorkshire/Humberside plain. Smaller areas occur on the Essex coast, Pevensey levels, Somerset levels, Cheshire and Lancashire Plains. There may be some woodland species interest *eg.* red squirrel in the Brecks, but otherwise these are definitely the lowest priority for any woodland conservation work.

Zone 1 "South-east". Distinguished by having the highest densities of ancient woodland and with many stands of hornbeam and beech. These woods have the strongest affinities to those of France and south-central continent. Various plants, invertebrates, mammals and birds have their strongest populations here. NVC types W10, W8 and the beech-yew types W12-15 predominate, with locally W16.

Zone 2 "East Anglia" (but stretching onto parts of Hertfordshire). Distinguished by amongst other things the frequency of hornbeam stands, but scarcity of beech. The density of woodland and the average size of woods is notably less in Norfolk and East Suffolk than in Essex and Hertfordshire. NVC types W8, W10 and W16 (less often) predominate.

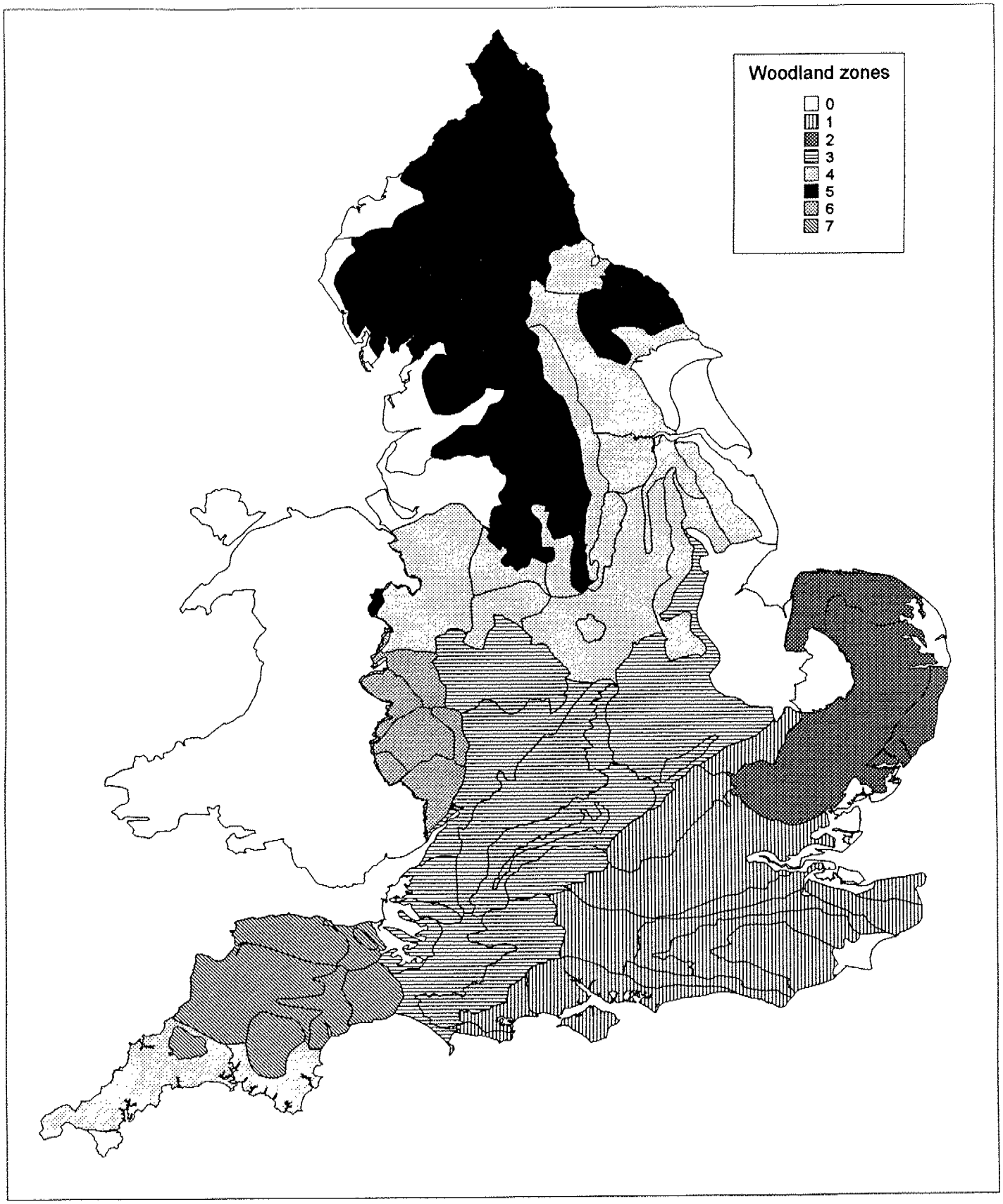
Zone 3 Southern lowlands (Worcestershire to Beds. through to Dorset and Somerset). Except in the Cotswolds, beech generally absent as are hornbeam stands throughout. Moderate densities of woodland. Many of the southern species commonly found in Zone 1 *eg. Luzula forsteri*, dormice also regularly occur in this zone. NVC types W8, W10 and W16 predominate.

Zone 4 Northern lowlands (Cheshire through south Derbyshire, Nottinghamshire and Lincolnshire and the Vale of York). Less woodland than in 3. Fewer southern species but some of the north and west specialities start to come in. Beech and hornbeam stands absent. Parts of west Cornwall could probably be included with this. NVC types W8 and W10 are still common but with shifts in the pattern of sub-communities (more W8d-g, W10e).

Zone 5 Northern uplands. Major shifts in vegetation types and species. Moderate to low density of woodland. The Western part (particularly the Lake District) might be separated off because of the Atlantic influence and consequent effects on lower plants particularly. W11 and W9 become common with W17 in the most Atlantic zones.

Zone 6 Welsh borders. Second highest concentration of woodland and in the Wye Valley probably the greatest diversity of woodland types and species as both upland and lowland elements are present. Almost all NVC types may occur but those of the uplands (W10e, W11, W17 W8e-g and W9 tend to be common).

Zone 7 South-west uplands. Parts of Devon, Cornwall, Somerset. Moderate woodland density, reasonable 'Atlantic' element in part, and because of southern location lacks some of the species of northern upland woods, but has others of more southerly disposition. Similar NVC communities to Zone 5 but less W17 and more W16.



An attempt to define broad woodland zones (5)

priorities of the core profiles in a national context. For some woodland conservation purposes, particularly at the policy level, groupings of Natural Areas (Figure 14) may be more useful than trying to deal with each Area separately. In other cases the Natural Area may need to be sub-divided where the woodland cover or the forestry potential shows very marked differences across the Natural Area.

This approach, combined with other sources of data, can help us target where effort is most needed and likely to be most effective, for example in addressing issues such as woodland fragmentation, recreation pressure, or opportunities for woodland expansion or restoration of replanted ancient woodland.

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