Natural England Research Information Note RIN002

The condition of lowland heathland: results from a sample survey of non-SSSI stands in England

A random sample of English non-statutory non-SSSI lowland heathland stands, both inside and outside of agri-environment agreements, was surveyed during 2005 and 2006 to provide baseline information on condition. English Nature, the Rural Development Service (both now part of Natural England), Defra, the Royal Society for the Protection of Birds (RSPB) and the Joint Nature Conservation Committee (JNCC) commissioned this survey. This information complements similar condition data routinely collected for all statutory heathland sites and both will be used to monitor contributions towards the UK Biodiversity Action Plan (BAP) targets for the lowland heathland priority habitat.

What was done

Sites were randomly selected from the combined area of the Lowland Heathland Inventory (LHI) and the RSPB's Heathland Extent And Potential (HEAP) data set. The final accepted sample contained 104 stands representing the full geographical spread of the non-statutory heathland population in England. Approximately equal numbers of sites were selected from within agri-environment agreements (including Environmentally Sensitive Areas (ESA), the Countryside Stewardship Scheme (CSS) and the Wildlife Enhancement Scheme (WES) and outside of such agreements.

An adapted version of the lowland heathland Common Standards for Monitoring (CSM) methodology and field form (JNCC 2004) was used. A range of structural and species composition attributes were recorded and assessed against generic targets. A second set of targets were also used, based mainly upon those suggested for species-poor sites within the heathland CSM guidance. Further information was recorded at the stand level, including management activities and related attributes.

The BAP definition of heathland applied was fairly broad - the stands selected for survey ranged from heaths with a high cover of dwarf shrub species, to those with such species only scattered throughout. (However, non-heathland habitats including extensive stands of grassland, bracken or scrub woodland with dwarf shrubs very scarce or absent were excluded.)

Results and conclusions

No stand passed all attribute targets (using either standard or species-poor sites CSM targets) and hence none could be considered to be in favourable condition. Stands passed an average of 69% of standard CSM targets and 73% of the species-poor sites CSM targets.

Even when less stringent targets developed for the Higher Level Stewardship (HLS) Scheme were applied, less than 5% of the dry heathland sample was considered to be in good/favourable condition (although this figure rose to 43% if the targets for dwarf shrub structural diversity were excluded).

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The results showed relatively low pass rates for a wide range of attribute targets. A high proportion of dry heathland stands (41%) failed to even meet the basic target of 25-90% cover of dwarf shrubs and many failed targets for cover of negative indicators.

In wet heaths, targets for favourable condition were often not met, most notably due to low cover of dwarf shrubs (38% pass rate) and too high frequency of *Molina caerulea* (13% pass rate). Pass rates were also low for frequencies of desirable forbs (38%) and graminoid diversity (13%).

Stands greater than 8 ha in size tended to have a wider range of dwarf shrub species present, which also occurred at higher frequency, than in smaller stands.

Nearly a third of the sites in the sample were managed for conservation purposes (by scrub control, grazing, heather mowing/cutting, burning and bracken management), most frequently within agri-environment agreements. Many were used for various forms of recreation (38%).

Both within and outside of agri-environment scheme agreements, 'publicly' owned land was more likely to receive some kind of conservation management. Both 'public' and private land was more likely to receive conservation management if it was within an agri-environment agreement. Such management may, over time, lead to recovery towards good/favourable condition.

The pass rate of 0% compares to 17% for UK SSSI lowland heathlands (Williams 2006), though there may be differences in the way in which CSM guidance has been applied in the two data sets, both in terms of stand selection and target setting.

Agri-environment agreements appeared to facilitate positive conservation management, though such positive action was not restricted to agreement stands. However, the interpretation of differences between agri-environment schemes and options/tiers was limited by the coarseness of the agreement groupings used, and by the lack of detailed information on length of time under agreement and option types.

The source inventories were found to contain some significant areas of non-heathland habitat. Conversely, heathland habitat is was thought to extend beyond areas covered by the inventories.

Natural England's viewpoint

Lowland heathlands outside statutory sites are in poor condition. However, evidence of conservation management on many sites, particularly those under agri-environment agreements, suggests that some may be recovering. This could be further addressed by better targeting and tailoring, and increased uptake, of agri-environment scheme agreements and consideration of further designations to adequately protect the resource.

The Lowland Heathland Inventory and the Heathland Extent and Potential data set need to be reviewed and updated.

The guidance on Common Standards for Monitoring heathland also requires a review involving, in particular, consideration of the total number of attributes, the dwarf shrub targets, the cover of *Molinia caerulea* in wet heaths, the number of forb and graminoid species required to pass and the convenience of adding further negative indicators.

This survey should be repeated at regular intervals, possibly with the rolling addition of new sites, to enable proper assessment against BAP targets.

Selected references

ENGLISH NATURE/RSPB. 1994. *The Lowland Heathland Inventory*. Peterborough: English Nature.

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Further information

For the full details of the research covered by this information note see Natural England Research Report NERR002 - *The condition of lowland heathland: results from a sample survey of non-SSSI stands in England*.

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