

# Heathland

on the Forestry Commission Estate in England

Survey Report by Jonathan Spencer  
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July 2005

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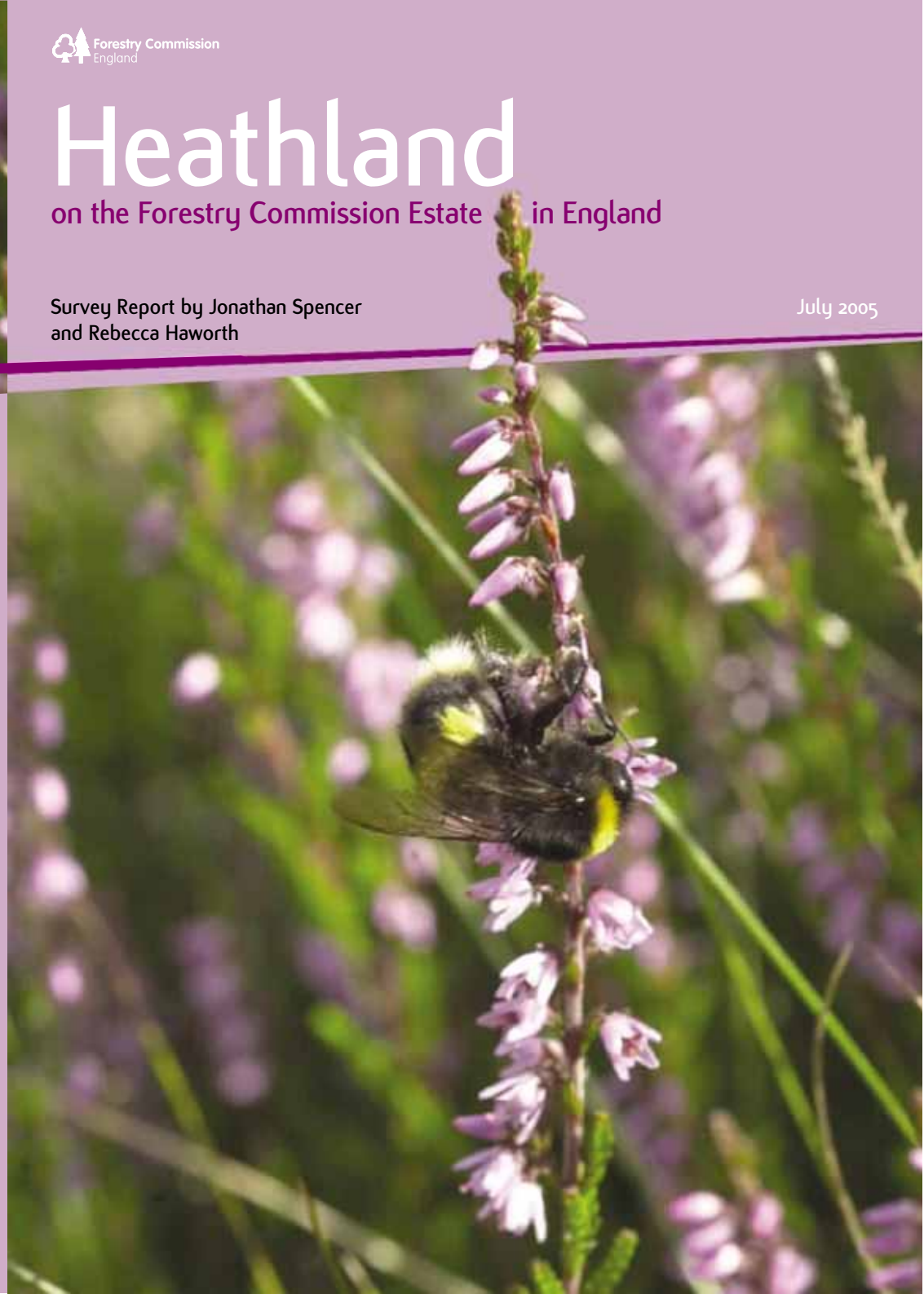
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# Preface by Nigel Webb



Chalk grassland held sway with conservation biologists when I began my career in conservation research over thirty-five years ago. In contrast, heathland was held in low regard. It was seen as a dull, species-poor community despite its attractiveness in late summer. Much as had been the case for the preceding two centuries, heathland was still seen as wasteland which could be 'improved'. Year by year, heathland diminished as it was ploughed up to make new arable land, or planted with trees, or covered with roads and houses. It was only after the publication of the research by Norman Moore, working on the heaths of Dorset, that this scene began to change. In a paper, which is now a classic example of conservation research, he drew our attention to three significant points.

- Firstly, he catalogued the changes that had taken place on the Dorset heaths since the mid-eighteenth century. From an area of some 40,000 hectares at that time the heathlands had declined to some 10,000 hectares by 1960.
- Secondly, his historical viewpoint brought home to us the role that human activity played in shaping these heathlands.
- Thirdly, he showed that shrinking patch size and, especially, increasing isolation of the remaining heathland patches resulted in an impoverishment of their flora and fauna. Thereby, he introduced conservation biology to the ideas of island biogeography before they became more formalised and popular.

Today in Dorset the extent of the heathlands is about 7000 hectares: a decrease of roughly 85% of the mid-eighteenth century area. This same pattern of decline can be traced throughout the heathlands of Europe and for the same reasons. Indeed, in many places such as northern Germany and southern Scandinavia the losses were even greater. Today there are, perhaps, nearly half a million hectares of heathland in Europe, no more than 10% of the former extent.

The depressing picture of heathland loss provided the spur to new action. Over the last forty years we have seen the strengthening of planning and wildlife legislation, both nationally and internationally which has helped to stem these losses, and we have begun to reverse the trends of the past two centuries by recovering heathland from other types of vegetation. Heathland has now moved to the top of the list of biotopes of conservation interest.

We also understand much more about the way in which heathland fitted into the landscape. We should not forget that it is farmers and foresters who are the inheritors of the long-held skills of landscape management and not conservationists. Conservation has been slow to appreciate this fact. Uniquely, in Britain, conservation has focussed on species and sites: a bottom-up approach which has neglected the landscape perspective. In other countries, the approach has been at the top-down or landscape level. The significance of this difference has only recently been appreciated. Heathland was the main component of a lost agricultural system that included the related communities of mire and rough grassland, as well as hay meadows, wood lots and arable plots. This was a cultural landscape – perhaps the most significant in north-western Europe – which operated on essentially the same principles wherever it occurred. The principles were the same everywhere because the farmers faced the same problem. How on very poor soils could they raise the fertility of arable plots to grow crops when their only inputs of essential plant nutrients were in the rainfall? The complex farming system that developed was a marvel and provided the farmers with a good living. The view that these farmers scratched a poor living on the 'blasted heath' was, I believe, a figment of late nineteenth century romanticism. This farming system has persisted in a few places in Europe until the present time, but for the most part, died out by the end of the nineteenth century. In Britain, however, agriculture began to change in the mid-eighteenth century – much earlier than elsewhere – and we lost the connection between heathland and the rest of the landscape.

The land uses that later developed, especially forestry and farming, tended to isolate the remaining heathlands. Forestry, particularly, created problems. Farming had priority on the better soils and so forestry tended to be confined to poorer soils dominated by heathland. Once heathland acquired a conservation interest an inevitable conflict arose between foresters and conservationists. Commercial forestry was an anathema to conservationists

with the Forestry Commission in particular being the principal opponent. It was not surprising forestry was the target of conservationists. The trees were planted on the same poor soils that had the potential to carry heathland. If the trees could be removed there would be a considerable gain in heathland. For instance, in Dorset the area of trees in the east of the county is roughly the same as the area of remaining open heathland. Remove the trees and you double the area of heathland. For a long time conservationists considered that the only acceptable type of heathland was large, treeless, continuous areas of heather. Heathland though was never like that in past centuries; it was much more diverse because the trees and scrub had their uses.

There is now a much greater accommodation between viewpoints. There are three significant factors. *Firstly*, the landscape-scale management characteristic of forestry has much to offer the conservation manager. We now have a new generation of foresters within the Forestry Commission who see forestry much more as a component of a complex and dynamic countryside. *Secondly*, changing attitudes and economic factors have led to changing views of the role of the countryside in general. *Thirdly*, we now have a much fuller understanding of heathland ecology and in particular our understanding of the heathland cultural landscape of past times. Coupled with this we now have the knowledge and techniques to recover heathland from other vegetation types.



*One subject remains contentious, though, and that is grazing. If we are not to operate the old agricultural system then we still have insufficient knowledge to implement grazing management effectively.*

These various factors are now coming together. Not surprisingly the Forestry Commission, with so much heathland or potential heathland within its Estate, has been at the forefront of new initiatives. Their experience of landscape-scale management has been a significant factor in guiding their action on three significant fronts:

- There has been a considerable improvement in the appearance of the forests from a landscape perspective. The "intrusive strips" derided by Thomas Hardy have been replaced by softer, more appealing landscapes.
- The management of the forest edge, with the removal of scrub and invasive species, has extended and improved the forest–heathland interface. This ecotone is an important zone particularly for a number of bird and insect species.
- The planned removal of trees in critical areas has enabled patches of heathland to be linked once again. This reverses the long trend of increasing fragmentation that has so adversely affected the survival of many species on heathlands.

All of this is a significant and important gain, not only for heathlands and the species associated with them, but also in attitudes and techniques to nature conservation. What the Forestry Commission has achieved for heathland is an example to the conservation of all habitats and the foresters are clearly at the forefront of rebuilding biodiversity in the English landscape.

Professor Nigel Webb  
Stoborough, Dorset

July 2005

## Foreword by Rod Leslie



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Right up to the 1980s lowland heath was seen as wasteland to be improved by whatever means possible. The people of the heaths subsisted on the margins of society, scraping a living from the ingenious use of the varied products of their wild and threatening environment. Most heaths were improved for farming, their only memorial the heath or moor place names amongst green, productive fields. But for land too infertile to grow crops forestry could turn the waste to profit. During the nineteenth and twentieth centuries lowland heath from Britain, Germany, Holland and Denmark to the vast sand forests of the French Landes were planted with pines.

Founded in 1919, the Forestry Commission played the key role in heathland afforestation in England, planting the enormous new Thetford Forest on the Breckland heaths and large areas stretching from East Devon and Dorset to North Yorkshire. It developed new techniques to grow trees on ever less promising land and applied them effectively in the biggest planned land use change in British history. Ironically, the Commission also found itself managing the largest protected heathland remaining in north-west Europe in the New Forest.

But as society has changed so has the way we see heaths. Today those blasted wastes are valued as the last wilderness in lowlands dominated by intensive agriculture and urban growth. Concern for the loss of rare species like Dartford warbler and sand lizard has led changing attitudes. Landscape and heritage values of lowland heath are increasingly recognised. Bronze Age barrows are frequent reminders that these were some of the first places in England occupied by man and increasingly we come to admire the self-sufficiency and skill of the commoning culture of the New Forest.

The Forestry Commission has led the heathland revival at a practical level. The 1990 Dorset Heathland project led a host of re-creation projects across England, including Sherwood Forest, Thetford Forest, Cannock Chase, the Forest of Dean and Haldon Forest. Decades of intense debate have established new heathland management regimes in the New Forest that balance conservation and common grazing priorities. Since then the New Forest community including the Commission, the Commoners and English Nature have made enormous strides in conserving Europe's finest heathland. Visionary new plans will create over 2,000 hectares of new habitat in the New Forest, including over 500 hectares of heathland restored from conifer plantation.

By 2005, as we report here, the 2,000th hectare of heathland will be re-created from conifer plantation on Forestry Commission land. The Forestry Commission's exceptional ability to deliver practical solutions on the ground, which led to the loss of so much heathland, has now been turned to its aid. Vital funding from EU LIFE and the Heritage Lottery Fund through Tomorrow's Heathland Heritage has allowed extensive and expensive work to go ahead. Already there are plans for hundreds more hectares and new opportunities like the wooded heaths of the Weald to address. But as the European Union funding for land managers is decoupled from primary production there are bigger questions: should much larger areas of heathland be re-created from farmland or forest? Should it be a simple swap between forest and heathland? Should there be a wider vision of a total increase in the area of land managed under low-intensity regimes for people and wildlife?

The need to measure progress has, as with so many other conservation projects, been a challenge. That is why we set out to record where we have got to with existing and new heathland. The information in this report records where we are and where we have come from and has set in place a system which allows us to measure future progress. It is a vital component in directing the efforts of and securing resources for our conservation work.

Rod Leslie  
Chief Executive, Forest Enterprise England

July 2005



# Heathland on the Forestry Commission Estate in England



## Section

# 1

# Heathland on the Forestry Commission Estate in England

## 1 Introduction

Lowland heathland today is of both national and international conservation importance due to its rarity and the variety and abundance of wildlife it supports. Lowland heathland is also very important, for both its past cultural significance and for the present day recreational opportunities it provides for people. Its very creation owes itself to man and represents a way of life that has all but disappeared today.

However, the conservation significance of the remaining heaths has only recently been fully recognised. The UN Convention on Biodiversity (1992) resolutions led to the 1994 UK Biodiversity Action Plan in which lowland heathlands were identified as a priority habitat with targets set for their conservation and re-creation. Many other heaths were given statutory protection at this time and enormous efforts are now being made to reverse the decline in the extent and condition of lowland heathland.

### 1.1 Scope of the report

This report summarises the extent of lowland heathland on the Forestry Commission estate, its condition and its quality. It also presents the efforts made by the Forestry Commission in reversing the decline in area, quality and active management of heathland patches across the estate. It is the culmination of an England wide investigation and covers all the heathland under Forestry Commission management, both freehold and leasehold. This area includes the huge extent of heath, mire and grassland of the ancient New Forest, the extensive but more fragmented areas in Dorset, Hampshire, Nottinghamshire and Lincolnshire, in East Anglia, Surrey and Sussex and the many smaller isolated areas in counties from Devon to Yorkshire.

### 1.2 Policy and direction today

The Forestry Commission promotes and implements the maintenance, restoration and expansion of heathland through the Government's UK Habitat Action Plans (HAPs) and through its own lowland heathland plan (GB Plan for Lowland Heath on Forestry Commission Land, 1997). This document tailored the UK HAP ambitions to the land managed by the Forestry Commission and operated between 1997 and 2005.

The Countryside and Rights of Way Act (2000) introduced a statutory obligation on public bodies to have regard to the purpose of conserving biodiversity. It also placed a more specific duty on Defra to take reasonably practicable steps to conserve habitats and species listed under the Act. Lowland heathland is one of these 'priority habitats'. With much of the Forestry Commission estate held in the name of the Secretary of State, there is a strong impetus and a clear mandate behind the Forestry Commission's actions in conserving and restoring heathland. The Act specifically defines 'conservation' as both restoring and enhancing habitats.

Since inception of the Forestry Commission HAP in 1997 Forestry Commission England has made a highly significant contribution to the UK Biodiversity Action Plan for lowland heath and now manages approximately 30% of the total lowland heathland resource in England. Of the 55,000 hectares of heathland in England some 16,500 hectares are managed by the Forestry Commission. This includes some of the most important heathland habitats in the country.



*Enormous efforts are now being made to reverse the decline in the extent and condition of lowland heathland*



In addition, the Forestry Commission has re-created many hundreds of hectares of lowland heathland through the permanent removal of the conifer plantations planted in the mid-twentieth century. In contrast to the changes brought about through agricultural improvement, heathland soil structure and fertility is often little altered by forestry. Heathland re-creation from former plantations is resulting in remarkable and widespread changes right across the Forestry Commission estate in England. The creation and management of heathland on the estate has to comply with other environmental drivers including the Government's UK Forestry Standard and the UK Woodland Assurance Scheme (UKWAS). UKWAS recommends that heathlands, bogs and other priority open habitats are re-created through premature felling without restocking. Increasingly the removal of established plantation stands to create extensive open habitats is subject to scrutiny under the Environmental Impact Assessment (The Town & Country Planning (EIA) (England & Wales) Regulations 1999) which aims to mitigate the effects of large scale land use change on the environment and its wildlife. As Forestry Commission policy becomes increasingly concerned with the delivery of environmental benefits (FEQR, 2002), a clearer understanding of heathland ecology and management will be essential to Forestry Commission staff in the devising and implementation of successful heathland conservation programmes.



### 1.3 Project objectives

In summary the objectives of the project were:

- To catalogue and map the extent and condition of lowland heathland sites under Forestry Commission management across England.
- To identify the extent of heathland created since publication of the Forestry Commission Heathland Habitat Action Plan 1997 – 2005.
- To estimate the area of heathland currently under active restoration or proposed within agreed existing Forest Design Plans.
- To quantify the condition of designated and undesignated sites across the estate and to report on a baseline of condition in 2005 against which to measure progress and change.

These objectives were largely met by the project, apart from the recording of condition of undesignated heathland sites. The information collated provides:

- Information for reporting on heathland restoration and management and identifies priorities for action to maintain favourable condition on designated heathlands across the estate.
- Site based ecological information for Forest Design Plans at the level of individual forests and forest blocks.
- Information that informs future conservation and restoration programmes, policy development and resource requirements. The activity recorded for the Forestry Commission may help to steer restoration plans of other owners of afforested heath.

*“a clearer understanding of heathland ecology and management will be essential to Forestry Commission staff in the devising and implementation of successful heathland conservation programmes”*

### 1.4 The historical context

Since the late eighteenth century, more than 80% of the UK's heathland has been lost through development, agricultural improvement and forestry. Only some 55,000 hectares of the original extent of 230,000 hectares remain in England today (Syms & Day, 2003). Much of the remaining heathland has been severely neglected through a decline in the management practices on which this habitat so closely depends.

The twentieth century drive to create a national reserve of utilisable timber for use in times of national emergency arose from the crises of the First and Second World Wars. In both these conflicts the blockade of shipping lanes forced all available cargo space to be allocated to munitions and food and supplies of overseas timber dried up almost completely. Wartime expediency and a utilitarian outlook borne of necessity thus led directly to a policy of extensive afforestation maintained throughout the remainder of the century.

The Forestry Commission was set up in 1919 with the objective of planting enough forest to meet Britain's post-war timber crisis and to provide a strategic reserve for future wars or national emergencies. In response to political will and Parliamentary targets in the years following the war, afforestation by the Forestry Commission took place on an unprecedented scale. A grant for 3.5 million pounds for the first ten years gave the Forestry Commission the opportunity to plant huge new forests with little or no regard for existing habitats.

*This combination of historical contingency, post war agricultural and forestry policy and a growing technical competence in the reclamation and improvement of land, determined the distribution of twentieth century afforestation and forced it to focus on the most unproductive soils of the uplands and lowland heathlands.*

Huge changes in the landscape were thus effected, zealously driven by the newly established organisation. The biggest impacts were made in Kielder Forest (the largest man-made forest in Europe), in the Brecklands of East Anglia (now Thetford Forest, established on very poor, sandy agricultural land as well as on former heath), and over large tracts of the former heathlands of Dorset, and southern England. Forest policy has thus had a bigger impact on lowland heathland than on any other habitat in lowland England.





*Considerable changes were also taking place in the wider landscape beyond the forest fence*



Afforestation rarely took place on pristine lowland heathlands: most were already in poor condition or had been significantly altered through agriculture that had since failed. The pattern of land-use change and the subsequent coniferisation by organisations such as the Forestry Commission took place throughout England, but is best documented in the Brecklands, a region of approximately 400 square miles in East Anglia (Skipper & Williams, 1997). Despite the sandy, impoverished soils agriculture continued to expand from the middle ages up until the mid-nineteenth century, when the import of cheap foreign grain gradually led to decreasing incomes and the desertion of arable fields. The agricultural land quickly reverted back to rough heath and warren and in the process the value of the land fell dramatically. Some 23,000 hectares of former heathland, old rabbit warrens and poor agricultural ground was acquired by the Forestry Commission between the 1920s and the 1960s, most in the years immediately following the First World War. The majority was planted with Corsican and Scots pine, making it the largest lowland pine forest in England.

Other large areas of plantation were established on the former heaths and sandy, unimproved fields of Dorset, Hampshire, Surrey, Sussex, Sherwood Forest, Cannock Chase and large parts of the unenclosed New Forest. Smaller areas of already enclosed and fragmented heaths were also afforested, by both the Forestry Commission and by private owners, in Devon, Berkshire, Yorkshire and most of the counties of the Midlands. In the South Pennines and northern Britain, where the distinction between lowland heath and upland moor is not so easy to make, other large areas were afforested.

Considerable changes were also taking place in the wider landscape beyond the forest fence. Large areas were lost to agricultural intensification as new techniques of land reclamation became available and, in later years, as agricultural subsidy ensured more and more marginal land was brought under the plough. Mineral extraction and housing development shrank this area of heathland still further. Only in the New Forest have extensive areas of traditionally managed and extensively grazed heathland survived intact into the present century.

*These sweeping changes in land use, and the passion with which they were pursued by the newly established Forestry Commission, with its goal of establishing a national forest estate capable of paying its way in peacetime and war, have determined the distribution of the present day heathland estate. They have also determined both the nature and the opportunities for heathland restoration and many of the obstacles faced in its delivery.*



*Wet areas of mire and bog, notably in Dorset, remained undrained and unplanted*

## 1.5 The Forestry Commission's inheritance of heathland

The drive to acquire land and establish a national forest was fervently driven, leaving the Forestry Commission today with an extensive heathland inheritance matched only by the Ministry of Defence and its heathland training areas. The planting took place rapidly following acquisition, radically and rapidly changing the appearance of the former heathland landscapes. However, the story is much more complex and much more interesting than one of simple heathland loss and forest gain.

Because of the origins of the Forestry Commission estate, the organisation owns and manages heathland in many distinctive regions across the country. The distribution though is far from even, with large areas in key heathland areas as widely separated as the New Forest and Dorset in the south, Nottinghamshire and Staffordshire in the Midlands and in parts of Surrey, the Sussex Weald and Devon. This stems from both the origins of the heathlands themselves and in the history of the Forestry Commission and its drive to create a strategic forest resource in the first half of the twentieth century.

The area of forest and the areas of associated heathland habitat managed by the Forestry Commission in each Forest District are given in **Tables 1 and 2**. The location of each heathland holding is shown in **Map (see pages 20–21)**.

Though huge areas were planted with tree species thought to be the fastest growing and most suited to the site, large areas remained open, supporting heathland wildlife throughout the forests' establishment phase. Wet areas of mire and bog, notably in Dorset, remained undrained and unplanted. Extensive networks of wide rides and mown firebreaks protected the newly established pines but also supported woodlarks, heathland insects such as the Silver-studded Blue, and many heathland plants unable to compete with the planted trees or plant growth of unmanaged heath. Many such plants persisted in the disturbed and droughty sites created by forest management activities that mimicked the disturbance created by the more traditional forms of management and exploitation of the past. Some, such as the Coral Necklace *Illecebrum verticillatum*, depend on the rutted, wet, clayey forest rides created by forest vehicles in many of their surviving localities.



*Though far from a complete suite of heathland plants and animals, and often much less frequent than before, much more of the wildlife of the former heathland landscape survived the transition to heathy forest than has persisted in many neglected heathlands outside the forest fence.*

Many areas, mostly small but often very significant in terms of their heathland biodiversity, persisted as nature reserves. These were retained at the dogged insistence of local wildlife trusts and others against the prevailing forest policy of the day and a lack of any widespread appreciation of heathland and its important wildlife. Alongside these surviving relict patches of the former heathland landscape other changes were beginning to take place. The establishment phase of many plantations on former heath supported many characteristic heathland species, such as nightjar and woodlark. The forest management activity itself provided opportunities for stress tolerant but uncompetitive plants more typical of heavily exploited heaths and the insects of open places and bare soils. Forest roads, tracks and paths and the disturbance of forest machinery, particularly in more recent years as plantations have matured and been felled, have begun to support significant numbers of rare heathland birds (notably woodlarks, nightjars and Dartford warblers) and significant numbers of rare heathland insects. This has been particularly notable in Dorset where many rare burrowing wasps are found within the bounds of heathy forests, and in the Brecklands where rare beetles more typical of the dry steppe regions of Europe can be found. Even sand lizards, once confined in the Forestry Commission forests of Dorset to particularly important and suitable locations, are now frequently found in the sandy and sunny areas of recently cleared and planted pine which remains suitable until the trees close canopy some five or six years after planting.

Dry heathland sites were extensively planted with Corsican pine and Scots pine, and occasionally more experimental and less successful species, usually after ploughing and the addition of phosphates. Productivity of these species has often proven to be very high with yield classes of Corsican pine of between 14 and 16 being obtained in some localities. Elsewhere though the yield has been very low, notoriously on the Bagshot Sands in and around Wareham, where Corsican pine has performed spectacularly poorly in some localities, obtaining yield classes of 4 or 5 in the worst situations. On wetter clay soils, large areas of wet heathland were ditched and drained and planted with lodgepole pine, leaving a legacy of poorly formed timber and expensive land restoration to recover the former wet heathland and its underlying hydrology. In the wettest mires and bogs a legacy of failed drainage and planting attempts attests to the drive and optimism of the early foresters, though leaving an inheritance of drainage restitution and mitigation to recover damaged heath and mire.

Other changes have also taken place over decades that are only now being addressed. Rhododendron was not controlled and has spread over large areas. Other perennial plants, such as *Gaultheria shallon* and other exotics have spread over heathland in many localities. Native plants too have encroached on otherwise unmanaged heath, especially tough perennials such as bracken, birch, oak and Scots pine. The extent and nature of these problems has varied considerably across the country, with rhododendron being particularly pernicious in the south and west and bracken in the Midland heaths of Sherwood and Lincolnshire.

This complex inheritance of heathland habitat and biodiversity needs to be viewed in the context of extensive and permanent loss of heathland elsewhere as agricultural technology and subsidy has led to significant losses. It must also be viewed in the context of extensive decline and neglect of surviving heathlands whether designated as SSSI or as nature reserves, as resources have proven inadequate to the task of supporting heaths and traditional management practices. Only recently has this trend in neglect begun to be addressed as the pressure on heathland in the face of development and agricultural improvement has waned.

The most enduring, and arguably the most important aspect of the Forestry Commission's inheritance with respect to heathland has been the continuity of management of the New Forest. The New Forest has been managed by the Forestry Commission since 1923, when it was handed responsibility for the Royal Forest by the then Office of Woods. This area demonstrates to all heathland managers across the country and beyond how the heathland landscapes of the past were managed through a combination of impressive scale, heavy grazing, active vegetation management and controlled winter burning. It is the New Forest and its 13,875 hectares of heath, mire and lawn that provides the best and most thoroughly understood model for heathland management and conservation at other sites across the country.



*Native plants too have encroached on otherwise unmanaged heath, especially tough perennials such as bracken, birch, oak and Scots pine*



## 1.6 Key characteristics of the Forestry Commission heathland estate

Despite extensive replacement of heathland with pine plantations and other forest stands, three key characteristics of Forestry Commission heathland have contributed to their importance for wildlife conservation; their huge extent, their long history of continued management and their context within self-supporting multipurpose forests.

Though the estate contains some 16,500 hectares of lowland heathland, it is very variable in its management history, its surviving scale, level of fragmentation and its conservation potential. The New Forest makes up the largest and most important single tract: some 13,875 hectares of near continuous heathland, mire, lawn and acid grassland, linked by intervening stands of pasture woodland, plantation and carr. It has a continuous and ancient history of grazing and heathland management. By comparison the Dorset and Breckland heaths are more fragmented though still linked by extensive stands of pine plantation and associated rides and clearfells. Their management history is more disrupted with long periods where grazing has been by rabbits alone. Elsewhere in North Lincolnshire, Nottinghamshire, Devon, Staffordshire, the Thames basin and the Dean the heathland patches are much smaller though often with quite long 'recent' histories of active conservation management by both volunteers, Wildlife Trust staff and Forestry Commission personnel.

*Records of past and present wildlife interest are generally very good and for heathland birds, reptiles, butterflies and dragonflies often exceptional. The involvement of local enthusiasts and specialists has often led to excellent wildlife conservation management at smaller more local sites that would otherwise have declined and been lost through inadequate management.*

Finally, the critical key characteristic of the Forestry Commission's heathland sites is that they are sustained as components of self-supporting multipurpose forests. They lie within a context that provides both a modern functional landscape with income streams to support management operations that in the modern era would be wholly cost negative and dependant on grant support or other outside funding. This balance of "asset and liability" in the context of a modern heathland forest is unique to Forestry Commission sites and not replicated elsewhere. It provides a model for future sustainability of heathland and other wildlife habitat in the modern landscape functioning in a modern economy.



## 1.7 The need for survey and reporting

Because the lowland heathland extent throughout the England estate is not static and is gradually increasing through re-creation projects and because much of it is designated under statutory protection, these habitats are a priority for recording and reporting purposes.

The need for accurate recording and reporting of lowland heathland habitats and heathland SSSI across the Forestry Commission estate became evident towards the end of the current Heathland Habitat Action Plan period. No simple reliable and universal reporting mechanism was available to summarise the Forestry Commission's contribution to heathland conservation, nor an account of the existing heathland landholding and its condition. The project was conceived to address this need for reporting and for the development of future heathland conservation programmes.

Combining past field survey, the existing mapping potential of the Forestry Commission's forest Sub-Compartment Database and the detailed knowledge of Forestry Commission Forest District staff, the database now informs and directs management activity aimed at delivering heathland conservation targets. It also allows for the monitoring of progress towards such targets and the condition of sites. The establishment of a reliable baseline of heathland condition and extent will be of critical importance in measuring future contributions to heathland conservation and management.

## 1.8 Heathlands and favourable condition

As a Government agency The Forestry Commission is committed to the government Public Service Agreement (PSA) target of getting 95% of all Sites of Special Scientific Interest into favourable or unfavourable recovering condition by the year 2010 (Defra Spending Review 2000, Public Service Agreement 2001–02, 2003–04). With so much lowland heathland designated as SSSI (over 95% of the Forestry Commission heathland estate) the achievement of this ambitious target would bring a considerable proportion of the heathland in lowland England into favourable condition.

Monitoring of progress towards reaching the PSA target is undertaken by English Nature and acts as an independent index of the Forestry Commission's success in maintaining heathland quality. To complement this Forestry Commission England will develop and maintain a similar condition assessment approach for the small area of heathland (683 hectares or 4.1% of the total) that remains outside of the SSSI series.

Under the EU Habitats and Species Directive (1992) member states are also required to ensure the "favourable conservation status" of internationally significant species and habitats (Special Areas of Conservation [SACs]). Under the Birds Directive (1979) member states are required to take special measures to conserve vulnerable bird species and all migratory birds in designated Special Protection Areas (SPAs). In both instances the recording and reporting of condition is undertaken by English Nature (though often via contracts awarded to the Royal Society for the Protection of Birds with regard to the SPAs). Delivery of favourable condition, however, remains the responsibility of the Forestry Commission on its own estate.





*Forest edges were widened and softened to provide a gradation from open heathland to forest and a diversity of heathland habitats were created*

## 1.9 Changing times

Most lowland heathlands are now designated as Sites of Special Scientific Interest (SSSIs). England also has responsibilities under European Union legislation: many heathland sites are designated as SPAs and SACs under the Birds Directive (1979) and the Habitats and Species Directive (1992) and collectively known as Natura 2000 sites. The extent of heathland SSSI, SPA and SAC on the Forestry Commission estate is shown in Table 3. The majority of Forestry Commission heathland, some 95% of the total, is designated as SSSI. The CROW Act places obligations on all public bodies to take reasonable steps to conserve and enhance the features for which the SSSI was notified.

In 1995 the Biodiversity Action Plan set targets to maintain and conserve the existing extent of lowland heathland and to recreate a further 6000 hectares of lowland heathland across the UK by the year 2005. Experience on Forestry Commission sites had already demonstrated that where suitable soils exist, heathland vegetation often rapidly returns when conifer forest is returned to open land by clear-fell and that it is much quicker and easier than recreating heathland from improved agricultural land.

The lowland heathland re-creation projects of the early 1990s were the first of many projects to take place across the estate. Planning proposals generally worked on the principle that the best outcomes for heath re-creation were likely to be on land that was most recently heathland, that were close to existing heaths and that provided links between remaining sites. Plantations were removed and remaining rectilinear forest blocks were restructured and landscaped to produce more organically shaped forests. Forest edges were widened and softened to provide a gradation from open heathland to forest and a diversity of heathland habitats were created.

Many of the newly re-created heathlands are now supporting a diverse variety of important lowland heathland species that were once only found in low numbers in isolated pockets throughout the forest, most notably sand lizards in Dorset. This has recently been recognised by the proposed designation of Thetford Forest as a Special Protection Area because of the significant increases in woodlark and nightjar populations that are found throughout the forest/heathland complex.

With the growing recognition of the importance of conservation and the ability of modern foresters to plan operations with unprecedented levels of control using modern Geographical Information Systems (GIS), the contribution the surrounding forest can make to the conservation of heathland species has also been greatly enhanced. Areas of low yield, poor species choice or high conservation potential can be readily identified and built into Forest Design Plans, the long-term plans that guide the management and shape the future of Forestry Commission forests. The forest stands themselves can be thinned, felled and restocked in patterns that enhance their contribution to heathland biodiversity, significantly increasing the abundance of some heathland species. The forest itself has also begun to take on a conservation importance. Novel bird and plant communities have evolved, supporting significant numbers of nationally rare and scarce birds such as goshawk and raven, hobby and buzzard, crossbills, siskins and wintering birds, along with important assemblages of woodland fungi and scarce insects.



Justified by the high national and international conservation value of lowland heathland, the Forestry Commission agreed in its 1997 lowland heathland plan to deliver 2000 hectares of lowland heath re-creation by the year 2005. The areas identified included wet areas planted with lodgepole pine, poor yielding areas of Corsican pine on Bagshot sands, strategically important areas of new heathland increasing connectivity and fragment size and corridors connecting areas of existing heath both on and off the Forestry Commission estate. The majority of the areas identified were in the New Forest, Dorset and the Brecklands where the return in biodiversity conservation was seen to be greatest. The decision to permanently remove large areas of conifer plantations is also supported by the UK Forestry Standard which states that "In areas where important open ground habitat are rare, it can sometimes be successfully restored by clearance of plantations". The UK Woodland Assurance Scheme (the UK benchmark for sustainable forestry) and the Forest Stewardship Council also support deforestation for the purposes of conservation.











Heathland is now a major component in many forests. The 2000th hectare of new heathland is expected to be felled and permanently given over to heathland sometime in the autumn of 2005. By April 2005, 1878 hectares of lowland heathland had been re-created. Some 40% of this total area has been re-created in the New Forest and Dorset (744 hectares) and a further 33% has been re-created in East Anglia Forest District (619 hectares) with additional significant areas in all other heathland Forest Districts (totalling some 515 hectares). A further 450 hectares (Table 4) are currently under conversion back to lowland heath across the country and will emerge as heathland within the landscape as restoration management is completed and heathland vegetation returns.

*Heathland is now a major component in many forests*

# Heathland on the Forestry Commission Estate in England

1

Map 1 – Heathlands Across the Forestry Commission Estate

<p>1</p> 	<p><b>Sherwood and Lincolnshire Cover-sands</b></p> <p>Over 200 ha of heathland re-creation taken place within Sherwood Forest and throughout the Lincolnshire Cover-sands since 1990. Grassy heath dominated by heather, bell heather and fine grasses such as wavy hair grass on poor acid soils and sands and of significant local importance for heathland conservation.</p>	<p><b>The Vale of York</b></p> <p>Forestry Commission lowland heathland in the northern-most part of its range on glacial clays, sands and gravels. Over 37 ha of heath re-created at Strenshall, Allerthorpe and Grimston Moor. Allerthorpe Common, planted with pine in the 1950s, has been designated a SSSI and undergone extensive heathland re-creation in partnership with Tomorrow's Heathland Heritage, and is now of high entomological and ornithological interest. Nightjars have returned and plans are in place to carry out more heath re-creation.</p>	<p>6</p> 
<p>2</p> 	<p><b>Cannock Chase, Staffordshire</b></p> <p>Over 60 ha of heathland has been re-created from former plantation. Cannock Chase is the most extensive heathland area in the Midlands, and is at the transition between upland and lowland heath. It is dominated by heather, western gorse and wavy hair grass with occasional bilberry and supports typical heathland species such as nightjar.</p>	<p><b>Brecklands, East Anglia</b></p> <p>Approximately 600 ha managed by the Forestry Commission, 400 ha of which re-created since 1990. Heath habitats range from podsolized acid sands supporting typical heathland communities to rich calcareous swards that are botanically unique in the UK. Recently designated as a SPA for populations of woodlark and nightjar that thrive in the forest mosaic of young plantation, clearfell and permanent open heathland. Stone curlew are now also using the barer heathland sites.</p>	<p>7</p> 
<p>3</p> 	<p><b>Forest of Dean, Gloucestershire</b></p> <p>The largest heathland site in Gloucestershire is the Forestry Commission managed "The Park" at Tidenham. Shortly after the site was re-created from former Corsican pine plantation nightjar were observed at the site. Hebridean sheep and white park cattle are now grazing the 12 ha area. Other species include green hairstreak butterflies and "The Anomalous" and "Heath Rustic" moths. Extensive heath re-creation is also proposed at Edgehills, another site in the Forest of Dean main block.</p>	<p><b>Suffolk Sandlings</b></p> <p>Extensive work has taken place throughout this SPA to re-create the heathland and acid grassland habitats that form such an important part of the coastal scenery. The heathlands are dry sub-continental heaths, dominated by heather, bell heather and western gorse, and supporting species such as Dartford warbler, woodlark, nightjar, adder and stonechat. Work has now commenced at Dunwich forest to re-create a mosaic of heathland, wet woodland and forest.</p>	<p>8</p> 
<p>4</p> 	<p><b>Dorset Heaths</b></p> <p>Important western oceanic dry heaths, wet heaths and mires dominated by heather, bell heather and dwarf gorse. A total of 850 ha of lowland heath managed by the Forestry Commission with over 480 ha re-created from former forestry throughout Wareham, Ringwood and Purbeck forests with support from Tomorrow's Heathland Heritage (THH). Mosaic of landscaped forest and heathland habitats critically important for sand lizard, smooth snakes, nightjar and Dartford warbler.</p>	<p><b>South East England</b></p> <p>Some 130 ha of lowland heath, over 80 ha of which have been re-created from plantation. Bramshill, Castle Bottom and Bagshot and Broadmoor heath SSSIs have recently been designated as SPA for populations of woodlark, nightjar and Dartford warbler. Lullington heath is a scarce chalk heathland SSSI – plans are in place to expand this area.</p>	<p>9</p> 
<p>5</p> 	<p><b>Haldon Forest, Devon</b></p> <p>Extensive areas of heathland re-creation have taken place in Haldon Forest, Devon. A mosaic of young conifer crops, heathy rides, way-leaves and permanent heath provide excellent habitat for various species including Dartford warbler, nightjar and various invertebrates. An integrated SSSI management plan and Forest Design Plan has been written to ensure further re-creation of heathland habitats and to ensure the long-term survival of species reliant on this habitat.</p>	<p><b>The New Forest</b></p> <p>The most extensive tract of heathland in Europe with a high diversity of wet and dry heaths, fens, acid grasslands, and carr woodland comprising over 13,800 ha. Unique due to long history of grazing by ponies and cattle and now designated as SSSI, SPA and SAC. An extensive programme of open heath management in place, plus over 250 ha of heathland has been re-created within the forest Inclosures. Important for species such as nightjar, woodlark, Dartford warbler, marsh gentian, smooth snake and sand lizard.</p>	<p>10</p> 

# Definitions of heathland in this report

## 2.1 The inclusive nature of heathland

We have taken a broad and inclusive view of the definition of heathland. Lowland heathland, largely created from the late Bronze Age onwards when woodlands were cleared for man and his animals, was once only present as open glades and clearings in a landscape of forest and wood pasture. They spread in extent and coalesced as forest cover declined where soils, climate and land use combined to create these distinctive open plant communities. In this report we have not undertaken a complex breakdown of the vegetational elements that make up the heathland landscape, but have contrasted it against other extensive and more formal and readily identifiable land uses such as plantation forestry and agricultural grassland. Consequently “heathland” in this report consists of a range of heathland habitats encompassing dry and humid heath, wet heath and mire, seeps, bogs, small carrs, acid grassland, bracken brakes, gorse and thorn scrub and small stands of oak, birch, pine and sallow. “*Not woodland*” and “*not plantation*” has been a better guide than any attempt to catalogue the complexity of heathland vegetation!

All these lowland heathland components depend to varying degrees on acidic, free draining or waterlogged soils derived from base poor sands, gravels and clays, generating thin and peaty soils in moist, cool climates. They usually occur below 300m above sea level, thus distinguishing them from moors, and are mostly dominated by a small range of tough and competitive perennials, most notably ericaceous dwarf shrubs such as heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix*, purple moor-grass *Molinia caerulea*, bracken *Pteridium aquilinum* and gorse *Ulex* spp.

Management activities such as grazing, swiping, cutting and burning, as well as periods of neglect, across this wide range of plant communities, lead to a wide and complex array of vegetation structures, varying in composition and supporting assemblages of heathland plants and animals with preferences for particular combinations of particular attributes. All these combinations can legitimately be described as heath. Again we have taken a broad and inclusive view in our definition and have included heathland with a wide range of structural and compositional variation in this report. Only when the woody elements such as oak and birch have become established over large areas for long periods of time have we treated such areas as woodland rather than as heathland in poor condition. This we believe to be both a pragmatic view of heathland in its dynamic relationship with treatment and management and also as a reflection of its origins as an important component of the original forest cover of lowland England.

The composition and structure of any particular heathland location is nevertheless a critical aspect of its condition, where appropriate combinations of structure, composition, exposed soil and scale determine what suite of species it can support and in what numbers. The desired outcome for nature conservation, reflecting local objectives and species of particular concern thus drives condition more than its definition as lowland heathland. A combination of heathland habitat and desired condition determines progress towards successful heathland conservation rather than habitat definition alone.



# Section 2



the most diverse lowland heathlands are actually composed of a range of elements each contributing to the overall variety and richness of the heathland habitat



## 2.2 Variation between and within lowland heathlands

Just as woodland habitats show great variety from place to place depending on physical factors such as climate, underlying soils and geology, so do lowland heathland communities. Lowland heathland automatically conjures up an unbroken expanse of purple heather. However, although dominated by characteristic ericaceous shrubs, the most diverse lowland heathlands are actually composed of a range of elements each contributing to the overall variety and richness of the heathland habitat. They are comprised of a series that can be broadly related to variations in regional climates, soils and treatments and can be described using the National Vegetation Classification (NVC) system (Rodwell, 1991). The lowland heathlands present across the Forestry Commission England estate are found from the North York Moors down to Hampshire and from the Suffolk coasts across to Devon and encompass a variety of different NVC types.

## 2.3 Forestry Commission England heathland vegetation types

The following accounts are adapted from the full description given in *British Plant Communities, Volume 2, Mires and Heathland*, edited by J.S.Rodwell. They are intended to give a brief flavour of each heathland for those unfamiliar with the NVC system.

### Dry heaths

Dominated by ericaceous dwarf-shrubs such as heather *Calluna vulgaris*, which often occurs in combination with gorse *Ulex* spp., bilberry *Vaccinium* spp. or bell heather *Erica cinerea*, though other dwarf-shrubs are important locally. Nearly all dry heath is semi-natural, being derived from woodland through a long history of grazing and burning.

Four main NVC types meet the definition of this habitat type throughout the Forestry Commission England estate:

### H1 *Calluna vulgaris* – *Festuca ovina* heath Heather and sheep fescue heath

These grass-rich species-poor heaths occur on the dry, base-poor sands of the Brecklands, the Suffolk Sandlings and other areas of East Anglia and south-eastern England where rainfall is low and extremes of temperature prevail throughout the year.

### H2 *Calluna vulgaris* – *Ulex minor* heath Heather and dwarf gorse heath

Occur on dry acid soils in the lowlands of south-eastern and central southern England from the Weald to Hampshire where higher rainfall and lesser extremes of temperature typically occur. Dominated by mixtures of heather, dwarf gorse and bell heather.

### H8 *Calluna vulgaris* – *Ulex gallii* heath Heather and western gorse

At low to moderate altitudes in warm oceanic parts of southern Britain, this is the typical form of heath, characterised by abundant heather, western gorse and bell heather and found in the western heaths of the south west of England from Poole to Cornwall. Also found on the coasts of East Anglia, i.e. where western gorse itself has a few eastern populations.

### H9 *Calluna vulgaris* – *Deschampsia flexuosa* heath Heather and wavy hair-grass

Species-poor heaths overwhelmingly dominated by heather and wavy hair-grass. Often the least diverse of the UK heaths and found at low to moderate elevations in the Midlands and northern England (North York Moors) on acid soils including those derived from millstone grit. Characterised by an increase in bilberry and a generally impoverished flora determined by a consistently wetter, cooler climate.



Lowland heathland automatically conjures up an unbroken expanse of purple heather



## Wet heaths

Wet heath usually occurs on acidic, nutrient-poor substrates, such as shallow peats or sandy soils with impeded drainage. The vegetation is typically dominated by mixtures of cross-leaved heath *Erica tetralix*, heather *Calluna vulgaris*, grasses, sedges and *Sphagnum* bog-mosses. In the south, species such as marsh gentian *Gentiana pneumonanthe*, brown beak-sedge *Rhynchospora fusca* and meadow thistle *Cirsium dissectum*, enrich wet heaths. Wet heaths occur in several types of ecological gradient. In the drier areas of the south and east, wet heaths are local and restricted to constantly wet valley mires.

Four NVC types meet the definition of this habitat type throughout the Forestry Commission England estate:

### H3 *Ulex minor* – *Agrostis curtisii* heath

Dwarf gorse and bristle bent heath

On impoverished, acidic soils with impeded drainage in Dorset, the New Forest and further east on the Surrey commons, these heaths are dominated by dwarf gorse with varying abundance of heather, bell heather as well as cross-leaved heath. The rare Dorset heath is also found locally within this community.

### H4 *Ulex gallii* – *Agrostis curtisii* heath

Western gorse and bristle bent heath

On slightly damp soils in the mild, oceanic climate of south west England this is an infrequently occurring heathland type, characterised by the frequency of bristle bent and western gorse, alongside heather and cross-leaved heath. The rare Dorset and Cornish heather are found locally in this community.

### M14 *Schoenus nigricans* – *Narthecium ossifragum* mire

Black bog rush and bog asphodel mire

A very local wet heath type found in east Devon, south east Dorset and the New Forest. Mainly associated with transitions from heath to valley bog and in isolated flushes, on peats and mineral soils and with an abundance of purple moor-grass.

### M16 *Erica tetralix* – *Sphagnum compactum* wet heath

Cross-leaved heath and sphagnum moss wet heath

Largely confined to lowlands on acid and oligotrophic mineral soils that are seasonally waterlogged. Dominated by mixtures of heather, cross-leaved heath, purple moor-grass and sphagnum bog-moss. Also supports a diverse group of rare species including Dorset heath, white beak-sedge, marsh gentians and sundew.

## Other associated habitats

Other plant communities present at different scales but in intimate association with the heathland vegetation types described, make up the heathland habitat of the Forestry Commission estate.

### U1 *Festuca ovina* – *Agrostis capillaris* – *Rumex acetosella* grassland

Sheep's fescue, common bent grass and common sheep sorrel

Occurs on acid soils in dryer areas such as south-eastern England. Frequently in a mosaic with other communities dominated by heathland and bracken. Sheep's fescue, common bent and common sheep sorrel are the constant species, accompanied typically by herbs such as heath bedstraw and tormentil.

### U2 *Deschampsia flexuosa* grassland

Wavy hair-grass grassland

Frequently occurs in association with heathland on wet free draining base poor soils. The most common grassland community amongst heathland, usually where there is no grazing. Herbs are few with buckshorn plantain, common sheep sorrel, heath bedstraw and tormentil being the most common.

### U3 *Agrostis curtisii* grassland

Bristle bent grassland

Occurs throughout central southern and south west England frequently in a mosaic with dwarf gorse and bristle bent heath (H3) and western gorse and bristle bent heath (H4) wet heathland.

### W16 *Quercus* spp. – *Betula* spp. – *Deschampsia flexuosa* woodland

Oak species – birch species – wavy hair-grass woodland

Oak and birch are the canopy dominants, with rowan and holly frequently forming an understorey. The field layer comprises heathland species including wavy hair-grass, bracken, bilberry and heather. It is confined to acidic free draining, sandy or gravelly soils.

### W3 *Salix cinerea* – *Betula pubescens* woodland

Grey willow – downy birch – reed woodland

Willow and birch carr on peaty soils, with a distinctive ground flora of fen species such as reeds, meadowsweet, hemp agrimony and, on richer sites, nettles. This woodland type is typical of the sumps and basins found alongside streams in flood plains where the conditions are very wet and where nutrients and sediments collect.

### W4 *Betula pubescens* – *Molinia caerulea* woodland

Downy birch – purple moor-grass woodland

Downy birch is the only woody constant. The field layer is characterised by large tussocks of purple moor-grass and an abundance of sphagnum species. It is found on moist moderately acidic peaty soils, typical of the wetter areas and seeps in heathland landscapes, and grades into W16 oak/birch woodland as the soils dry out.



## Survey method

# Section 3

## Survey method

### 3.1 Methodology

Lowland heathland habitats throughout the Forestry Commission estate have been recorded on the Sub-Compartment Database (SCDB). The SCDB is the Forestry Commission England's Geographic Information System database. Each wooded and open sub-compartment across the landholding is mapped on this system.

Although the SCDB was originally designed to hold information relating to tree planting and timber production, it has now been upgraded to allow it to be used to record priority and broad habitat types. Each sub-compartment has been allocated with a habitat type from the National Biodiversity Network (NBN) list of habitats. The details of lowland heathland extent and location provided within this report have been taken from the April 2005 reporting round.

The SCDB is a very useful database on which to record habitat type:

- The SCDB is familiar to many throughout the Forestry Commission, however only certain members of staff within each Forest District have editing rights allowing them to update and edit habitat information.
- The SCDB is a "live" database designed to represent the current situation on the ground. It is constantly edited and updated to reflect changes in woodland composition after forest operations have been carried out within the Forest District. Production forecasts are based on the information held within this database and therefore the accuracy of this information is of paramount importance and is frequently audited.
- Habitat types may only be recorded against specific land-uses. For example, the lowland heathland habitat may only be recorded against open land-use components within the SCDB thus reducing the chance of inaccurate habitat data being entered into the database.
- The SCDB is accurately mapped and updated from aerial photographs and field survey allowing areas of habitat to be calculated accurately to provide figures for reporting.

*The SCDB is accurately mapped and updated from aerial photographs and field survey*





*Some plantations may have been established on former marled or agriculturally improved soils and are unlikely ever again to support heathland vegetation*



### 3.2 Heathland on the database

The lowland heathland presently recorded on the SCDB is comprised of two categories of heathland:

- Those areas of traditional priority lowland heath that has never been afforested.
- Those areas of priority lowland heathland habitat that has been re-created from former conifer plantations since 1990.

For former areas of plantation to qualify as the latter a sufficient period of time will have had to elapse since tree clearance took place to allow for the recovery of lowland heathland communities. The site will be under active heathland management and characteristic lowland heathland species will be sufficiently in evidence to enable it to be confidently classified as priority habitat lowland heathland on the SCDB.

### 3.3 Heathland underway

Areas of lowland heathland that are partway through the process of being re-created through the clearfelling of conifer have not been recorded on the SCDB because they do not yet qualify as lowland heathland priority habitat. These areas will have been permanently deforested for lowland heathland re-creation, but will not as yet have developed significant levels of heathland vegetation to allow them to be recorded in the SCDB as lowland heathland.

Not *all* areas recently felled for restoration back to heathland habitat will necessarily emerge as lowland heathland. Some plantations may have been established on former marled or agriculturally improved soils and are unlikely ever again to support heathland vegetation. On other soils the increased levels of humus and soil nutrients from the trees themselves may delay the development of heathland plant communities for several years or may lead to the formation of other important semi-natural open habitats such as lowland dry acid grassland.

In an effort to prevent premature recording of lowland heathland as priority habitat, areas under current clearfelling are being recorded on the GIS "Forest Design Plan" layer and will only be recorded on the current SCDB as and when they develop as anticipated into lowland heathland habitat.



### 3.4 Heathland planned for the future

Conifer plantations that are *destined* for permanent removal for lowland heathland re-creation in agreed Forest Design Plans are also recorded in the GIS "Forest design Plan" layer. This enables Forestry Commission England to report on planned and intended areas of heathland re-creation from plantation.

In some areas amendments, improvements and changes to the Forest Design Plans may change the outcome of the plans, retaining some areas as pine stands or allowing others to develop into native woodland to address landscape, recreational or even wildlife conservation objectives not anticipated in the original plans. Conversely, modifications may result in additional areas being brought forward for heathland re-creation. The plans provide a guide to the incidence of planned potential heathland and are a close estimate of the heathland area planned as components of the future forest landscape.



## Survey results

# Section 4

## Survey results

The results of the survey of the Forestry Commission estate are presented on the tables below.

**Table 1 – Heathland and the Forestry Commission Estate in England**

Table 1 shows the extent of the Forestry Commission England heathland and its context with respect to the extent of forest and woodland and other heathland across England.

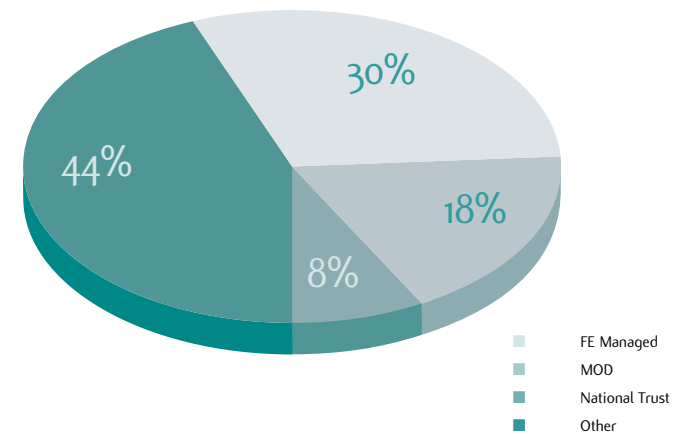
Table 1	Total Woodland (ha)	Ancient Woodland (ha)	Lowland Heathland (ha)
England	939,197	341,127 ***	55,000*
FC England Region	219,143	53,128***	16,566**
FC as % total	23.3%	15.6%	30.1%

\* Open heathland from most recent assessment (RSPB).

\*\* Forestry Commission England data, April 2005.

\*\*\* From Spencer, 2002

**Pie chart – heathland in England**



**Table 2 – Heathland Area by Forest District in England**

Table 2 shows the extent of heathland and its context within Forestry Commission Forest Districts across the country.

Forest District	Forest District total area (ha)		Total Priority lowland heath April 2005 (ha)	Heathland (never afforested) (ha)	Heathland re-created from former forestry (ha)
New Forest – Open Forest	34,910	18,244	13,875*	13,875*	0
– Dorset & Ringwood		8,128	853	366	487
– Inclosures		8,538	295	38	257
East Anglia	25,020		956	337	619
Sherwood & Lincs	13,104		222	13	209
South East England	22,128		130	48	82
Peninsula	15,979		94	2	92
West Midlands	12,629		66	0	66
Forest of Dean	16,115		38	9	29
North York Moors	21,414		37	0	37
<b>Total</b>	<b>161,299</b>		<b>16,566</b>	<b>14,688</b>	<b>1878</b>

\* From English Nature SSSI data and includes all 'open, heathy' condition assessment units under Forestry Commission management boundary.

**Table 3 – Conservation Status and Condition of Forestry Commission Heathland in England**

Table 3 shows the distribution of heathland, both recently restored and long established, within areas designated as SSSI, SAC and SPA. Note that all SACs and SPAs are by definition also notified as SSSI. The area of undesignated heathland is given here for comparison. The area of heathland SSSI in favourable/unfavourable recovering condition is derived from the English Nature ENSIS database as of April 2005.

Forest District	Priority lowland heathland April 2005 (ha)	Heathland SSSI* (ha)	Heathland SPA ** (ha)	Heathland SAC *** (ha)	Priority lowland heathland undesignated	% heathland SSSI favourable condition
New Forest – Open Forest	13,875	13,875	13,875	13,875	0	71%
– Dorset & Ringwood	853	583	548	565	270	54%
– Inclosures	295	295	295	295	0	68%
East Anglia	956	926	680(+)	6	30	100%
Sherwood & Lincs	222	20	0	0	202	40%
South East England	130	108	100(+)	0	22	14%
Peninsula	94	48	0	0	46	47%
West Midlands	66	21	0	13	45	61%
Forest of Dean	38	0	0	0	38	N/A
North York Moors	37	7	0	0	30	100%
<b>Total</b>	<b>16,566</b>	<b>15,883</b>	<b>15,498</b>	<b>14,754</b>	<b>683</b>	<b>-</b>

\* Site of Special Scientific Interest. Wildlife & Countryside Act 1981 and CROW Act 2000.

\*\* Special Protection Area. Natura 2000. EU Birds Directive (1979).

\*\*\* Special Area of Conservation. Natura 2000. EU Habitats Directive (1992).

(+) Approximately 780 ha of heathland within East Anglia and South East England Forest Districts have been designated as Potential SPA (pSPA).

## Conclusions and Future Work

# Section 5

## Conclusions and future work



The extensive changes that have occurred through the re-creation of lowland heathland across England are literally changing the face of the Forestry Commission estate. With these changes has come the need to develop systems to accurately map, record and report the extent and location of this important habitat.

*The next step will be to develop a revised strategy for Forestry Commission heathland in England*

The data now held within the Forestry Commission GIS system provide the basis for this review of Forestry Commission England's lowland heathland resource. This report details:

- The extent of lowland heathland currently being managed across the England Forestry Commission estate as well as the amount that has been re-created from former forestry plantation.
- The context of heathland extent and restoration with respect to the forest estate as a whole.
- The amount of lowland heathland re-creation currently in progress as well as the amount of lowland heathland re-creation planned for the future.
- The extent and condition of lowland heathland now designated as SSSI, SAC or SPA on the Forestry Commission England Estate.

The information from this project has achieved all its key objectives and is already in use for:

- Informing the revision of UK Habitat Action Plan targets and determining the contribution the Forestry Commission can make towards achieving them.
- Providing the basis and rationale for Forestry Commission restoration strategies which will satisfy the needs of UKWAS.
- Assembling site-based ecological information for Forest Design Plans at the level of individual forests and forest blocks.
- As a basis and baseline for future monitoring and evaluation of progress against key programme targets.
- Informing the development of policy and strategy for restoration of heathland and other open habitats.

The next step will be to develop a revised strategy for Forestry Commission heathland in England taking into account the results of this survey. It will build on emerging policy and the forthcoming national Heathland Habitat Action Plan for the period 2005 to 2015. This revised plan, currently under discussion, will continue to extend and to consolidate the Forestry Commission's contribution to heathland management and conservation across the country.



## 5.1 Moving forward

This report has set out to record both the extent of heathland that can be found on the Forestry Commission estate in England and the extent of the heathland created from stands of plantation since the work of heathland conservation and restoration was begun in earnest in 1990. However, the work does not end here. Alongside the 1878 hectares of new heathland already brought into existence, a great deal of additional heathland awaits in plan form, ready to come into being as these plans unfold. Table 4 shows the extent of work underway, where the initial actions have taken place but the heathland has yet to express itself fully enough to be captured on the forest Sub-Compartment Database. It also shows the area within existing endorsed Forest Design Plans that will come into being over the next ten years. In all, these two areas amount to an additional 2543 hectares of heathland across the country.

**Table 4 – Lowland Heathland Restoration in Progress and Planned Lowland Heathland Re-creation Underway and Within Agreed Plans, April 2005.**

Table 4 shows the extent of heathland creation in progress or planned within agreed Forest Design Plans across the country.

Forest District	Heathland re-creation underway (ha)	Heathland planned for the future (ha)	Total (ha)
New Forest – Open Forest	N/A	N/A	N/A
– Dorset & Ringwood	284	927	1211
– Inclosures	44	579	623
East Anglia	0	90	90
Sherwood & Lincs	73	144	217
South East England	8	40	48
Peninsula	0	76	76
West Midlands	14	85	99
Forest of Dean	17	127	144
North York Moors	15	20	35
<b>Total</b>	<b>455</b>	<b>2088</b>	<b>2543</b>

The Forestry Commission Heathland Survey is an important step towards the delivery of heathland conservation on the ground. Both the results of the survey and the heathland planned for delivery in the existing Forest Design Plans will be integrated into the forthcoming Forestry Commission Heathland Habitat Action Plan, 2005 to 2015. The plan will closely follow and support the next national Heathland Habitat Action Plan, which will be published in 2005.

*The new plan will aim to continue to address many key heathland conservation issues on the estate. A key component will be securing favourable conservation status on SSSI and non-SSSI heathland alike and establishing a robust reporting system in the first five years to report on changes in condition. Securing favourable condition for all SSSI heaths by 2010 will clearly be an integral target for the proposed plan.*



The Forestry Commission will also remain committed to the on-going re-creation of lowland heathland from forestry plantations across the Forestry Commission England estate, as demonstrated by the large area already marked for heathland re-creation in existing Forest Design Plans. Ideally we would see such action as part of much larger scale projects aimed at creating more extensive semi-natural landscapes, where heathland would be an important component in a mosaic of other semi-natural habitats including heathy woodlands, plantations, wetlands and grasslands. Ambitions to increase the patch size of heathland will need to encompass this range of habitats to support a wide range of Habitat Action Plans ambitions and to accommodate the growing need for recreational and access land in the modern landscape.

Conservation action over the past 15 years has also progressed at very different rates in very different localities where heathland is important. The next heathland plan should reflect this variation in regional delivery to date and build upon it accordingly. Consolidation and condition may play a greater role in some areas than others, where restoration and recovery are more critical. The overall targets for action will emerge from the sum of all such appropriate local action.

We also anticipate a closer focus on ecological process and will aim to include targets for establishing the means of sustaining heathland in favourable condition, alongside targets for its restoration or re-creation. This might include an overt linking between the establishment of wood fuel heating systems and the conservation of heathland for example, or for the use of other products of heathland management. Other initiatives to drive forward the markets that might sustain heathland management will also be explored in the next plan.

Lastly, the Forestry Commission will strongly support the promotion of enjoyment and understanding of heathland and its wildlife, and will incorporate targets that promote both in the forthcoming plan. A major programme of events and other activities will provide an opportunity to both celebrate the achievements of the last plan and promote the contents of the new plan that is emerging.

As one of the largest players in heathland conservation we remain fully committed to developing, supporting and delivering heathland conservation, building on both our past achievements and our past experience over the next decade.

## Acknowledgements



## Acknowledgements

Rebecca Haworth and Peter Burnett of Forestry Commission England HQ were largely responsible for creating the mechanisms through which information on heathland and other habitats across the Forestry Commission estate were captured. The compiling and collation of the information on heathland sites and their condition was a much wider task spread amongst many Forestry Commission staff in many Forest Districts who gave cheerful and unstinted support throughout. Particular thanks go to Simon Smith and Mike Abraham of Forestry Commission New Forest District, Nick Gibbons of Forestry Commission East Anglia Forest District and Isabel Alonso of English Nature. Thanks are also due to Rod Leslie for his constant support and encouragement, Simon Pryor for the valuable contribution he made to the final draft and Katrina Jeffreys and Victoria Sale for their support and skill in designing and producing this report.

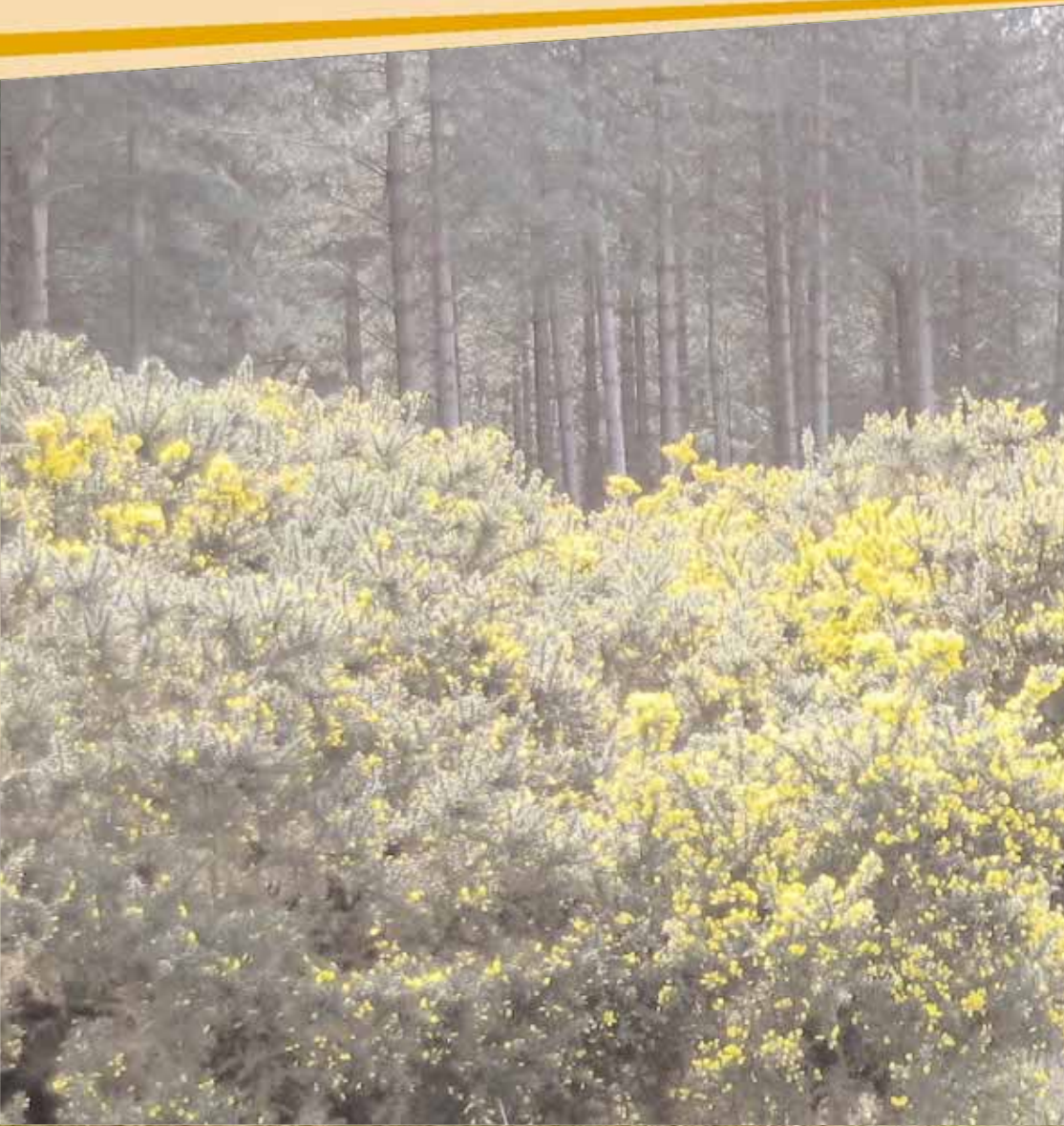
The project and production of this report was financially supported by Forestry Commission England, Bristol.

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July 2005

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