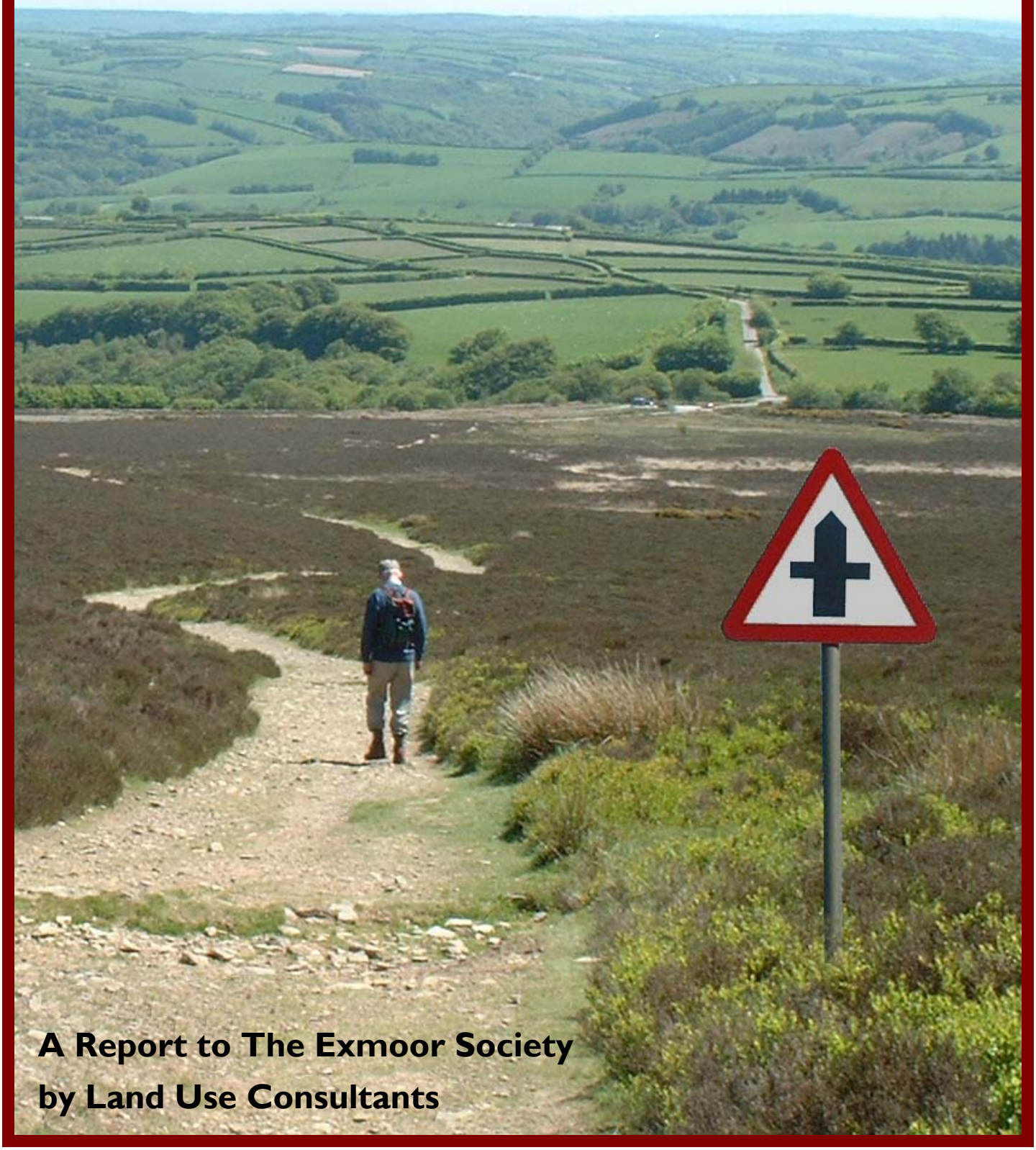
Moorlands at a Crossroads

The State of the Moorlands of Exmoor, 2004



A Report to The Exmoor Society
by Land Use Consultants

CONTENTS

FOREWORD

Land Use Consultants' independent and authoritative report is welcomed because it provides a new integrating approach in assessing the importance and condition of the moorlands that is more suitable for the twenty first century. It contains several key messages that need to be highlighted and comprehended if the appropriate action is to be taken.

The report reveals that the moorlands are of much greater value to society than was previously understood. They provide a wide range of public and private benefits in terms of their landscape, historic and cultural environment, wildlife and natural resources, recreational use and farming practices. There is a remarkable consensus by different groups over their special qualities, for example, on the importance of the aesthetic qualities of wildness, openness, tranquillity and grandeur, and a recognition that many visitors are attracted to the area because they enjoy the heather and grass moors, the wide views, red deer herds or the Lorna Doone legend. The moorlands have significance at an international and national level.

The second message is that after fifty years of designation, thirty years of moorland debate and ten years of ESA management there should be wider recognition of the moorland's special qualities and, crucially, more favourable management of them. There is a lack of agreement on the objectives and on the best way of achieving them. The concept of condition or "fit for purpose" is not understood and the evidence for assessing it is not readily available. Only English Nature provides a detailed analysis of condition of SSSIs, and then only in relation to biological quality.

The third message underlines the better known fact that public policies do not always pull in the same direction and can be in conflict which each other. A narrow focus on one aspect such as SSSI condition can lead to negative impacts on other interests such as archaeology. Policy measures decided at a national level by different agencies can become dysfunctional on the ground because they are not fine tuned or integrated. The different moorland areas need more subtle management approaches as the Condition Audit in the report shows.
The fourth message is related: there has been little debate either nationally or locally on the bigger picture and little attempt to look at all the conservation interests so that there is little "joined up thinking" or integration of policies and management. Exmoor is desperate for such an approach. There are difficult challenges here for DEFRA's new integrated agency and its relationship with the Exmoor National Park Authority.

It is over agricultural management that there is most disagreement. On the one hand the biological monitoring of SSSIs has led to a controlled regime of grazing and burning, and on the other farmers are saying that these regimes are not practical or effective in the long term. The report suggests that it should be possible to come to some understanding and agreement on this issue. The skills and knowledge of moorland farmers honed through generations of managing the land are crucial to the future of the moorlands.

The sixth message recognises that Exmoor, like many rural areas, is moving into uncharted waters with changes to CAP. There is a real danger of economic disconnection of the moorlands from farming systems under free market conditions. Public policy will need to address this through the important economic and social role of LFA support. The transition from the ESA model to the higher level environmental stewardship scheme provides the opportunity to address new trends, such as withdrawal of grazing and scrub encroachment, and to include other desirable conservation outcomes such as landscape enhancement as well.

The seventh aspect identified is surprise over the neglect of the changing nature and condition of the landscape. There have been significant advances in national thinking and methodology on landscape characterisation, capacity and quality that Exmoor needs to adopt. The wider collective use of the term "landscape" that integrates an understanding of the natural and human qualities is something that this report could usefully achieve.

Overall LUC's powerful report shows that although much is being done that is laudable it is piecemeal and haphazard, and there needs to be a change in both pace and direction if the moorlands are not to remain at risk. Exmoor may be once again at the cutting edge of the national debate about the moorlands and their significance to National Park purposes. The challenge to all of us is to ensure that their contribution to sustainable development is fully realised.

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1. INTRODUCTION

1.1. It is fifty years since Exmoor National Park was designated in recognition of the outstanding beauty, wildness and tranquillity of the moorlands which dominate its landscape. Throughout this period the condition and future of Exmoor's moorlands have been the subject of heated debate. On several occasions this debate has spilled over onto the national stage – most notably during the late 1970s when concern over the level of agricultural improvement of the moorlands led MAFF to commission Lord Porchester to report on the extent of these changes and the options open to the public authorities to address them. His recommendations on the use of voluntary management agreements have since formed the basis for agri-environment policy across the UK.

1.2. The Exmoor Society, which was founded in response to a threat to the moorlands in the 1950s, has taken an influential role in supporting the purposes of the National Park designation. Perhaps most significantly, and controversially at the time, it drew attention to the declining moorland area in 1966 with the publication of Geoffrey Sinclair's "*Can Exmoor Survive?*"[1].

1.3. However, it is now nearly forty years since Sinclair's report and over twenty years since Lord Porchester's. Public understanding and expectations of the moorlands, Government policies, and the commercial factors driving management by farmers are now very different and are changing fast. Perhaps the single most important change facing the moorlands is the recently agreed reform of the Common Agricultural Policy which, at a stroke, is likely to reverse the pressures of agricultural management. Other current or impending changes include the mapping of open access land under the Countryside and Rights of Way Act and the replacement of the Environmentally Sensitive Area Scheme with a new Higher Level Scheme.

1.4. Many people have commented during this study that Exmoor, like many other rural areas in the UK, is entering uncharted waters. While there is not universal consensus on how the new threats should be addressed, there is strong agreement that many of the practical solutions developed during the last fifty years will not be suitable for the next fifty. This study is therefore timely.

1.5. This study was commissioned to provide an independent and authoritative evaluation of the current state of the moorlands and the pressures facing them in coming years. It does so in relation to the statutory purposes of National Parks. These bear repeating at the start of this report because they underpin much of the analysis and conclusions. These purposes, which were revised and updated in the Environment Act 1995 and apply to all public authorities exercising their powers in the Park, are:

- "*To conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks; and*
- *To promote opportunities for the understanding and enjoyment of the special qualities of the Parks by the public*"

In pursuing the two purposes Exmoor National Park Authority has a duty to "*seek to foster the social and economic needs of their local communities*"

[1] Sinclair G, 1966. *Can Exmoor Survive?* The Exmoor Society, Dulverton

PURPOSE OF THE STUDY

1.6. The purpose of this study which was stimulated by the National Park Authority's wish to review the moorlands during the Park's 50th year, can be summarised as to:

- undertake an independent evaluation of the state of Exmoor's moorlands; and
- guide the Society's work in promoting the conservation and enjoyment of Exmoor

BACKGROUND

1.7. Exmoor's moorlands cover around 18,300 ha which is just over a quarter of the area of the National Park. They occupy a central position, both in terms of their geographical position and their dominant position in the landscape from where they overlook the whole of West Somerset and North Devon. The moorlands have a long history of human involvement and management, as shown by the number of Neolithic standing stones and barrows and Iron Age hill forts. The last 200 years have seen a major reduction of the moorland area, as the heaths and bogs were converted to more agriculturally productive grassland and forestry.

1.8. The remaining areas of moorland are highly valued for their biodiversity and cultural value and are appreciated by local residents and visitors alike for their natural beauty, wildness and tranquillity. The moorlands also make an important economic contribution to the area through livestock grazing, field sports, tourism and the storage of natural resources (water and carbon). The majority of the moorlands are owned by a handful of owners that include the National Park Authority and National Trust. A quarter of the moorlands are registered commons.


Great Hangman from the west

1.9. The Exmoor Society was founded in 1959, triggered by opposition to the proposed afforestation of The Chains, the remote moorland area north west of Simonsbath, to support the statutory purposes of the National Park. These purposes are to conserve the natural beauty, wildlife and cultural heritage and to promote public understanding and enjoyment of the Park, while also fostering the economic and social well-being of local communities. The Society has been closely involved in the debate over the loss of moorland through agricultural intensification, publishing the influential pamphlet "*Can Exmoor Survive?"* in 1966 and contributing to Lord Porchester's report in 1977[2] that heralded the introduction of management agreements. As a small charity with a clear focus, the Society is in a strong position to have an influence greater than its modest size would suggest.

1.10. While there is continuing concern over the state of Exmoor's moorlands, the Society recognises that the pressures from farming, public recreation, wildlife and climate change have changed significantly in the last 30 years. The Society has commissioned this study to provide a benchmark against which future change can be measured; to

[2] Porchester, 1977. *A study of Exmoor*. Report to DoE and MAFF

independently assess how current management fulfils the range of public and private objectives for the moorlands; to identify future threats and opportunities; and to recommend courses of action to secure the conservation, enjoyment and viable use of the moorlands.

METHODOLOGY

1.11. The aims of this study have been achieved through four sequential stages between January and July 2004. These stages have addressed the recent history of the moorlands and examined the available evidence on how different groups of people value the moorlands. They have assessed how the state of the moorlands matches up to these expectations, identified the factors that will influence their future state, and finally, it recommends, in this report, the actions that will need to be taken to safeguard their future. More detailed descriptions of these stages are as follows:

1. The value and significance of the moorlands. This task has described how the different areas of moorland are valued under the headings of:

- their environmental contribution through natural beauty, biodiversity, cultural heritage and natural resources;
- their social contribution through public recreation and enjoyment; and
- their economic contribution through tourism, farming, field sports and other resource use

2. The current condition of the moorlands. This has assessed the current state of the moorlands and how well they match up to the different expectations placed upon them. The audit has been based on quantitative evidence where this is available, as well as on the views of different people with an interest in the moorlands. This task has sought to establish where consensus exists on the areas that are currently in a good state and those that are in a poor state. For the areas where there is fundamental disagreement, the study has identified the underlying reasons for this.

3. Issues and trends for the future. This part of the study has examined the key processes that are currently influencing the state of the moorlands and those that are likely to dictate future management. The following factors have been considered:

- the changes to agricultural subsidies and agri-environment incentives;
- new legislation and regulatory controls that will affect the management and enjoyment of the moorlands;
- Government targets for protecting and conserving the moorlands; and
- the wider economic and social changes taking place in the area

4. A blueprint for the future. The final part of the study has identified options for the management of the moorlands for the 21st century that makes the most of new opportunities and anticipates and seeks to resolve problems. It suggests a timetable and programme of action for the Society, the National Park Authority and their partners.

ACKNOWLEDGEMENTS

1.12. The study team are extremely grateful to the steering group chaired by Rachel Thomas and including Professor Mark Blacksell, Alan Collins, Tim Davey, Michael Hankin, Mark Robins and Dr Graham Wills.

1.13. Many other people, too numerous to mention, have given invaluable assistance to the study, particularly the moorland farmers and landowners who contributed their own knowledge and experience and the many members of the Exmoor Society who completed and returned a questionnaire on their views of the moorlands. Special mention should be made of the National Park Authority, English Nature, the National Trust, Rural Development Service and RSPB, as organisations, for making their specialist information available to the study.

1.14. Nevertheless, we should point out that this study was commissioned as an independent evaluation and any factual errors or misrepresentations remain the responsibility of the authors, Land Use Consultants.

2. CURRENT EXTENT OF THE MOORLANDS

2.1. This Chapter introduces the moorlands, describing the various definitions that have been used to identify them and the sub-divisions that have been used to distinguish areas of different character. It gives an overview of their ownership and the areas of common land, and it summarises the different statutory designations placed on them. Finally it describes the recent history of the moorlands and reviews the evidence on the loss of moorland area in the last 60 years.

DEFINITIONS OF MOORLAND

2.2. Exmoor's moorlands are the heart of what the National Park is all about. However, there is no single definition of what constitutes moorland in the UK or on Exmoor. Ecological definitions focus on habitats, while recreational definitions focus on 'open countryside', although as will be shown, this is usually defined on the basis of vegetation, particularly the presence of key groups such as dwarf shrubs or grassland.

2.3. It is clear that Exmoor's moorlands vary significantly in topography, size, vegetation cover and management. The open country survey undertaken by Somerset County Council in 1962 was perhaps the first detailed assessment to distinguish between the areas of heather and grass moorland on Exmoor. The land use survey undertaken for the Exmoor Society by Geoffrey Sinclair in 1965 and 1966, using the methodology of the Second Land Utilisation Survey of Great Britain, was the first scientifically rigorous and objective attempt to map the vegetation of the National Park – and particularly the moorlands. Concern raised by this survey about the rate of loss of moorland (covered in the following chapter) prompted the Park Authorities to prepare a Policy Map which showed the areas of moor and rough land which they regarded as being of important amenity value, known subsequently as the "Critical Amenity Map".

The Porchester Maps

2.4. In his report, Lord Porchester expressed concern about the accuracy of the Critical Amenity Map and recommended that a new survey of the moorlands should be undertaken to identify "*all areas of the National Park which appear to the Authority to be predominantly moor or heath*", and secondly to distinguish within this area "*those particular tracts of land whose traditional appearance the Authority would want to see conserved, as far as possible, for all time*" where there should be "*the strongest possible presumption against agricultural conversion*". These areas should be known as Map 1 and Map 2, respectively. He recommended that the principal factor in defining Map 1 land should be vegetation, but that "*the Authority should look at the area as an informed layman would and identify those tracts of land which would commonly be regarded as moorland or heath".*

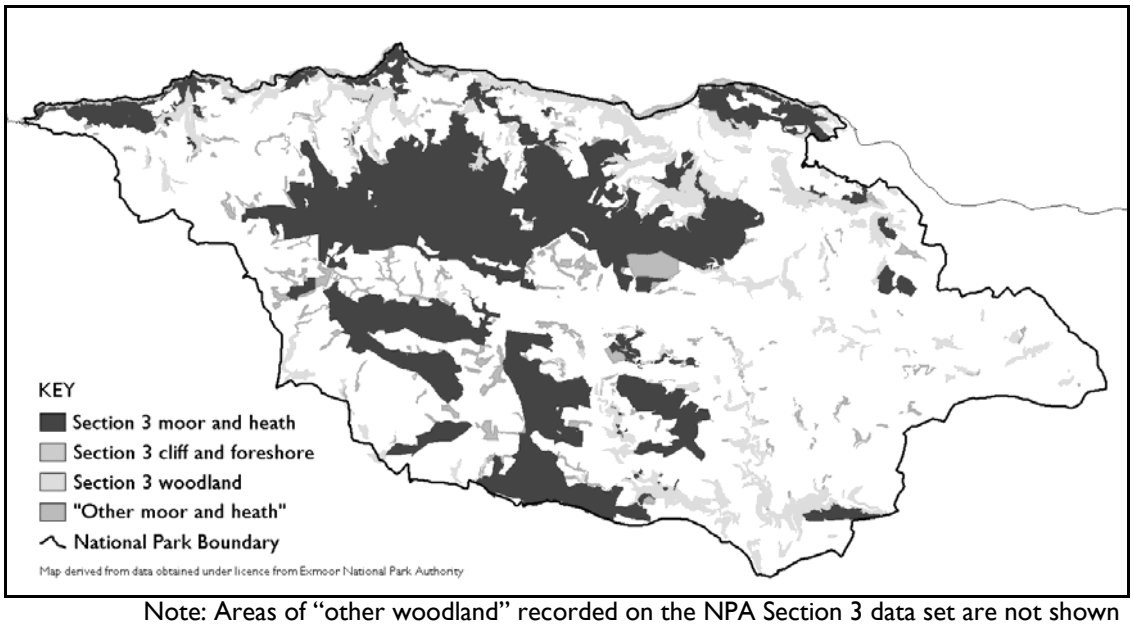
2.5. This recommendation was adopted by the National Park Committee and a fresh field survey and mapping exercise was undertaken and consulted on between 1979 and 1980. Critically, the criteria used to define the highest value areas (Map 2), concerned the landscape qualities of the moorlands, rather than their vegetation

cover which had been the basis for the more extensive Map 1 areas. These criteria are considered in more detail in Chapter 3.

The NPA's Section 3 Conservation Map

2.6. Section 43 of the 1981 Wildlife and Countryside Act required National Park Authorities to prepare maps showing areas of moor and heath that they considered to be particularly important to conserve. Section 3 of the Wildlife and Countryside (Amendment) Act 1985 extended the provisions of section 43 of the 1981 Act by requiring the NPAs to prepare maps of their parks showing areas of mountain, moor, heath, woodland, down, cliff and foreshore whose natural beauty it is, in the opinion of the National Park Authority, particularly important to conserve. These maps have come to be known as "Section 3 Conservation Maps". The area of moor and heath covered by Exmoor's Section 3 map, which was based very closely on the Porchester Map 2, was published in 1990 and included 73 separate units of land with a total area of 16,624 ha. In addition, the map covers a further 2,145 ha of 'other moor and heath' considered of lower conservation importance (most of it lying in small blocks in enclosed fields off the main moorland massif), 8,296 ha of woodland and 781 ha of cliff and foreshore. The 16,624 ha of Section 3 moor and heath are one of the two key sources of information on the current moorland area used in this study. The locations of the different areas recorded on the Section 3 map are shown in **Figure 2.1**.

Figure 2.1. Areas shown on the National Park Authority's Section 3 map



Note: Areas of "other woodland" recorded on the NPA Section 3 data set are not shown

Defra's Moorland Line

2.7. In 1992, MAFF commissioned ADAS to survey all the Less Favoured Areas (LFA) in England and Wales in order to generate a 'moorland line' enclosing land defined as "predominantly semi-natural upland vegetation, or predominantly of rock outcrops and semi-natural vegetation, used primarily for rough grazing". This work used a combination of aerial photographic interpretation, ground checking and surveys. The moorland line encloses some 798,896 hectares of land in England, which is 42% of

LFA land. The line was first used to define land eligible for the Moorland Scheme (a scheme launched in 1995 and later integrated into the Countryside Stewardship Scheme), and is currently used in the Hill Farm Allowance Scheme (introduced in 2001) to define one of the four land classifications upon which payments are made to farmers. From January 2005, land within the moorland line will form one of the three regional areas in England on which the regionally averaged element of the Single Payment to farmers will be paid.

2.8. On Exmoor, the moorland line encloses an area of 17,234 ha. The moorland line is the second source of information on the extent of the moorlands used for this study. During August and September 2004, farmers had the opportunity to appeal to Defra over the location of the moorland line on the basis of the current vegetation of the land.

Combining the Section 3 map and the moorland line

2.9. Across the large majority of their areas, the boundaries of the Section 3 and moorland line areas coincide. However, there are many areas on the edge of the large blocks where the two areas are not co-terminous (such as the southern side of Exe Cleave which is on the Section 3 map but not within the moorland line or Westwater Allotments near Withypool, where the opposite is the case). The Section 3 map also contains a number of isolated areas of moorland that are not within the moorland line, such as at Black Cleave, Heale Down and Shortacombe Common on the North Devon coast.

2.10. There are a few much larger blocks of moorland which are present on one but not both of the datasets. Codsend Moors and substantial areas west of Simonsbath (Wallover Down, South Regis Common, Henthitchen and Roosthitchen) are all within the moorland line and are recorded as 'other moor and heath' on the Section 3 map. Conversely, Wootton and Alcombe Commons, Gallox Hill, Bat's Castle and Withycombe and Rodhuish Commons are not within the moorland line (because they lie outside the Less Favoured Area) but are recorded on the Section 3 map.

2.11. This study has taken an inclusive approach in its definition of moorland areas and has combined the two datasets. It should be emphasised that doing so infers no judgement on any future reclassification of either the Section 3 map by the NPA or the moorland line by Defra. It should also be noted that both the Section 3 map and moorland line represent historic assessments of moorland area, both dating back to the mid 1980s and early 1990s respectively. While it is not thought that there has been any significant loss of moorland area since that period[3], this assumption should be checked through a new ground survey of the state of the moorland vegetation.

Open access land

2.12. The Countryside and Rights of Way (CRoW) Act 2000 requires the Countryside Agency to draw up maps showing 'open country' and registered common land on which the public will have a right of open access for recreation. The provisional map

[3] Rowan (1999) estimated a reduction of 14 ha between 1988 and 1995 based on analysis of aerial photographs – see paragraph 2.32.

for the South West was published on 4 March 2004 and the final map is expected to be published early in 2005 in advance of the implementation of the Act in the South West in August 2005.

2.13. 'Open country' is defined in the CRoW Act as mountain, moor, heath and down. Exmoor's open country falls almost entirely within the definition of moor and heath, which are defined on the basis of their open character and semi-natural vegetation. In defining open character, the Countryside Agency's guidelines make clear that "*whilst individual land parcels might comprise enclosures of varying size, they will in combination form a landscape that provides open vistas (though sometimes these are interrupted by woodland, incised valleys or other local features)*". Furthermore, land should be 'wholly or predominantly' of open character, mapped to the nearest hard boundary (such as a fence line, stream or road). This definition is significantly different from the definition used in the drawing up of the Section 3 map, where land had to be entirely of moorland character, but where boundaries did not have to follow hard features. The result of these differences is that there is notable variation between the provisional open access map and the Section 3 'moor and heath' map.

2.14. Digital information on the provisional open access land was not available to this study. However, information provided by the NPA reveals that a total of 18,358 ha are scheduled for open access. Analysis of the provisional map that can be viewed on the Countryside Agency's website shows that the large majority (well over 90%) of this land coincides with land that is either within the moorland line or is classed as Section 3 moor and heath land. The relatively small areas of proposed open access land that are not covered by these two categories are as follows:

- areas of cliff north of Countisbury Common, Bossington Hill and North Hill (these account for over half of the remaining area);
- a number of small blocks adjoining moorland that is classified as 'other moor and heath' on the NPA database. These include land at Higher Holworthy (SS 686,439), land south of Pennycombe Water (SS 835,376) and land on Withycombe Hill (ST 000,412); and
- a number of small blocks, also adjoining moorland, but on land not classified as 'other moor and heath' on the NPA database. These include land south of the A39 around Ammony (SS 758,492), the south west side of Dure Down (SS 752,410) and land west of Sherdon Water (SS 798,357)

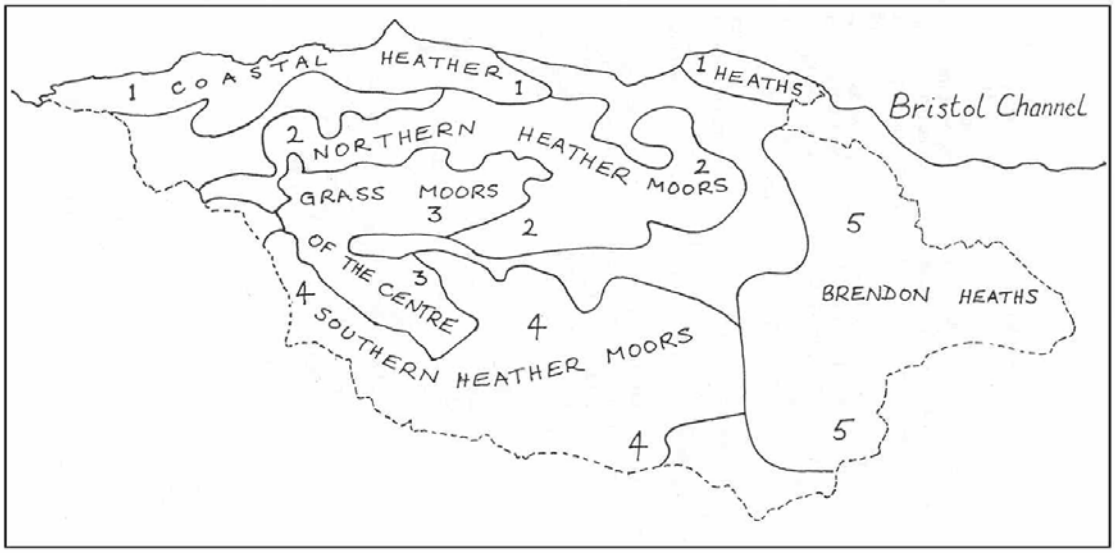
2.15. The provisional map of open access land has not been included within the definition of moorland for this study. This is because digital data was not available from the Countryside Agency and because the area may be subject to change following appeals.

SUB-DIVISION OF THE MOORLANDS

2.16. Geoffrey Sinclair's Land Use Survey of Exmoor (referred to above), created the first rigorous classification of different areas of moorland. He placed all the moorlands in the National Park into five different areas based on the dominant vegetation type. The location of these areas, as illustrated in Geoffrey Sinclair's pamphlet for the Exmoor Society "*Can Exmoor Survive – A Technical Assessment*", is shown at **Figure**

2.2. This categorisation has been used on many occasions since then (such as by Lord Porchester) and is still considered relevant today.

Figure 2.2. The five areas of moorland identified by Geoffrey Sinclair



2.17. This study has maintained these broad divisions, but has sub-divided them into 22 smaller units to enable more fine-grained descriptions of condition and management needs. These units are listed below in **Table 2.1**.

2.18. The units were based around areas with known geographical identities suggested by the NPA, and the boundaries between them follow physical features such as roads or watercourses or, where these are absent, changes in management control (ownership or common land). The location of the units is shown in **Figure 2.3**.

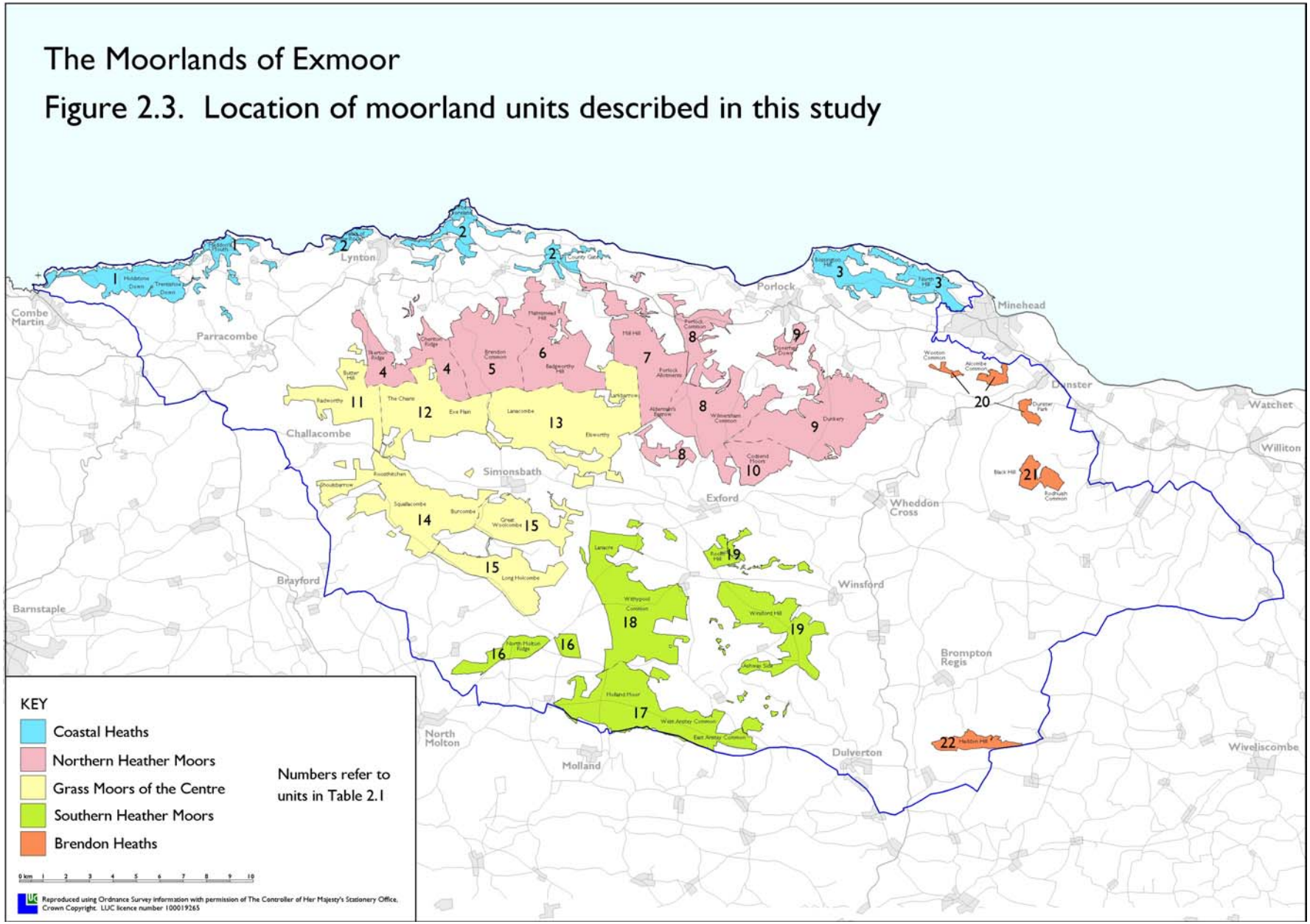
Table 2.1. The individual moorland units identified in this study

No.	Description	Area (ha)
Coastal Heaths		
1	Girt, Holdstone and Trentishoe Downs, and Heddons Mouth	664
2	Valley of Rocks, The Foreland and County Gate	483
3	Bossington and North Hill	618
Northern Heather Moors		
4	Ilkerton and Cheriton Ridges	689
5	Brendon Common	907
6	Malmsmead and Badgworthy Hill	937
7	Mill Hill and Porlock Allotment	916
8	Porlock and Wilmersham Commons	1,452
9	Dunkery and Doverhay Down	1,339
10	Codsend Moors	339
Grass Moors of the Centre		
11	Radworthy and Chapman Burrows	608
12	The Chains and Exe Plain	944
13	Lanacombe, Warren and Larkbarrow	1,776
14	Cornham and Burcombe	1,205
15	Moorlands south of Simonsbath	1,181
Southern Heather Moors		
16	North Molton Ridge	319
17	Molland Moor and West and East Anstey Commons	1,251
18	Withypool Common, Lanacre and Halscombe Allotment	1,301
19	Winsford Hill, Draydon Knap, Ashway Side, Room Hill and Bye Common	958
Brendon Heaths		
20	Wootton, Alcombe, Hopcott and Gallox Hill	137
21	Black Hill and Rodhuish Common	145
22	Haddon Hill	163

2.19. It should be noted that English Nature maintains separate subdivision of the SSSIs for monitoring their ecological condition. This has led them to recognise 124 separate management units ranging in size from 3 ha to 738 ha.

The Moorlands of Exmoor

Figure 2.3. Location of moorland units described in this study



OWNERSHIP AND COMMON RIGHTS

2.20. The majority of the moorland is owned by a relatively small number of owners. The NPA own 4,000 ha, concentrated in the former Royal Forest, the National Trust own most of the coastal heaths and all of Dunkery and the Badgworthy Land Company[4] own around 2,800 ha on Exmoor, some of it not moorland. Day to day management of the land is in the hands of a larger number of smaller landowners, tenants and commoners.

2.21. There are 19 registered commons on the moorlands, covering a total of 4,811 ha (a little over a quarter of the total moorland area). The largest commons are Brendon Common (which, with the adjoining commons of Cheriton Ridge and Malmshead Hill occupies 1,384 ha), Withypool Common (787 ha), Dunkery Hill (644 ha in three units) and Winsford Hill (586 ha). There are around 123 separate registered commoners all of whom have rights to graze (with a formula establishing the ration of sheep, cattle and horses applying on many commons) and most of whom have rights of turbary and estovers. About 75 commoners have rights on more than one common. The number of commoners actively exercising their rights is much smaller.

2.22. There are many other areas of moorland that are sometimes referred to as commons, such as Challacombe, Molland, Porlock, Rodhuish and Wilmersham Commons, but they are not registered as commons. The location of registered commons and the areas owned by major landowners is shown in **Figure 2.4**.

DESIGNATIONS

2.23. The moorlands are covered by a range of national and international designations that recognise their public importance. These designations are summarised in **Table 2.2** and their location is shown in **Figure 2.5**.

Table 2.2. Summary of key statutory designations on the moorlands

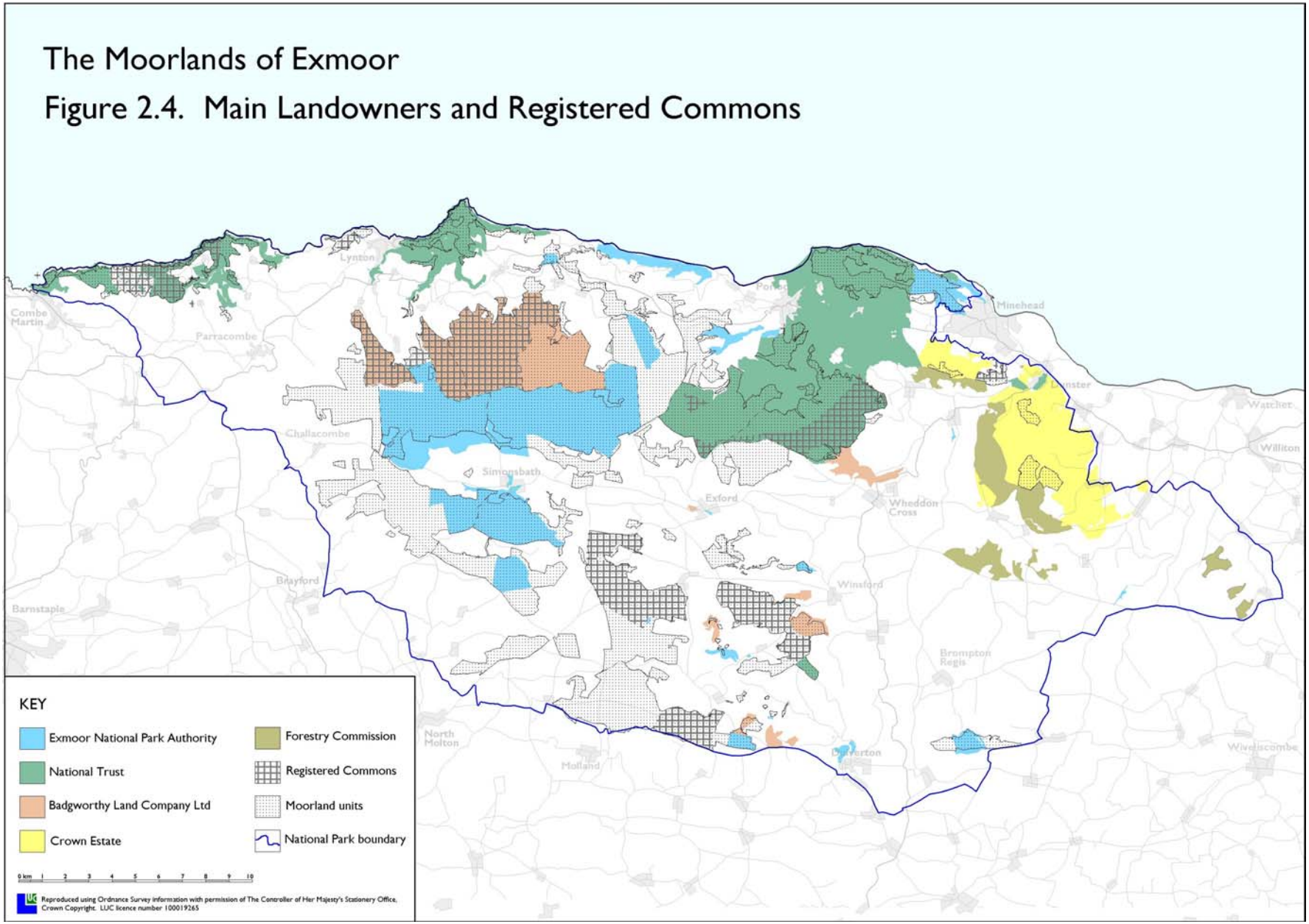
Designation	Total area / no.	Responsible body
Exmoor National Park	69,280 ha	ENPA
Moorland line (all within the Severely Disadvantaged Area)	17,234 ha	Defra
Section 3 moor and heath	16,624 ha	ENPA
Sites of Special Scientific Interest	16,638 ha	English Nature
Exmoor Heaths candidate Special Area of Conservation	10,705 ha	English Nature
Scheduled Ancient Monuments	132 sites	English Heritage
Exmoor Environmentally Sensitive Area	80,615 ha	Defra
Exmoor Heritage Coast	64.14 km	ENPA

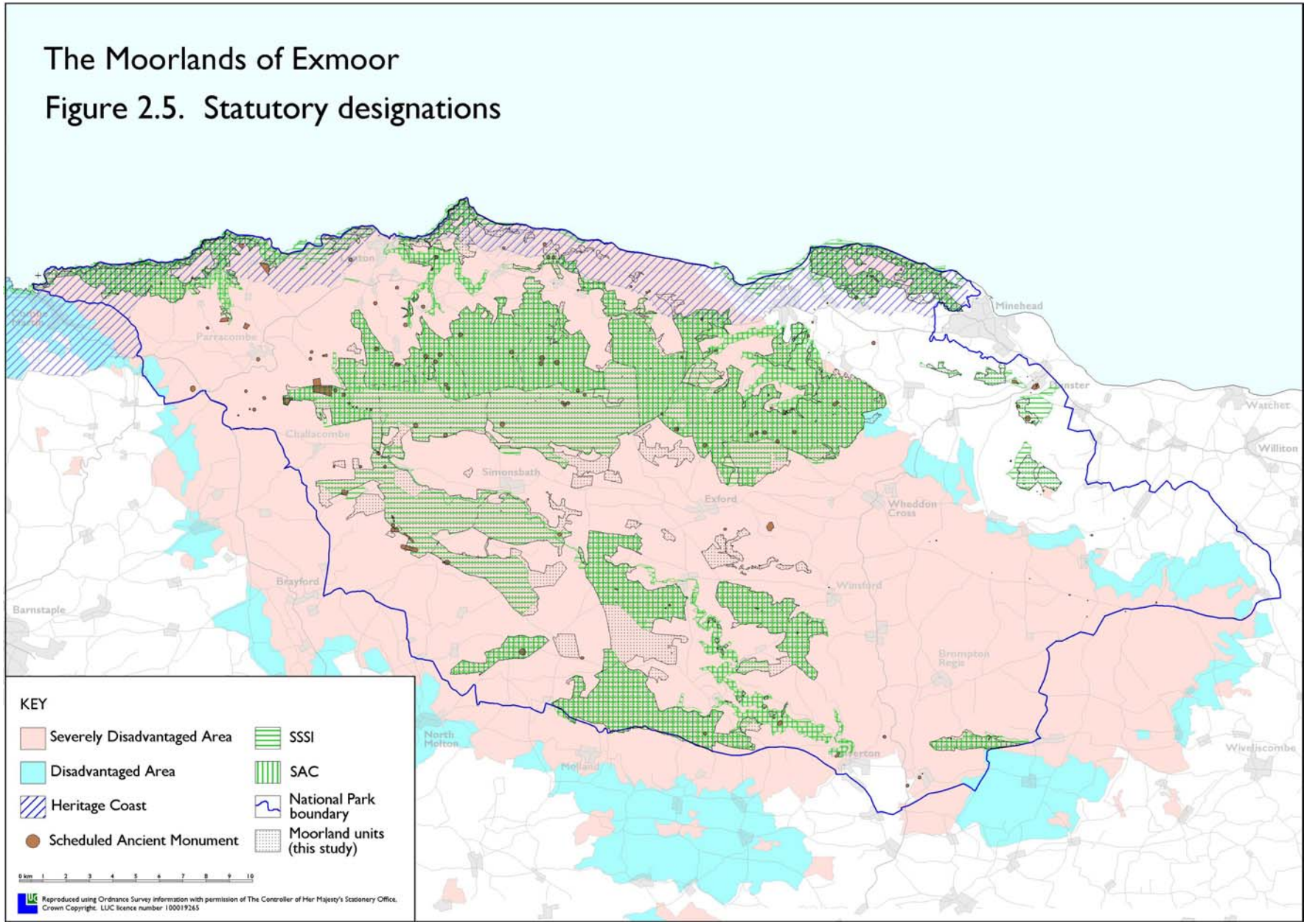
2.24. Most of these designations apply management restrictions (and confer protection) but also provide access to funding for the provision of public benefit. The role of these designations in highlighting the significance of the moorlands is described in the next Chapter.

[4] The Badgworthy Land Company is a private limited company, the shares of which are owned by a charitable trust, The Badgworthy Trust for the Preservation of Exmoor which promotes protection of land of ecological and scientific importance and assists in the provision of open space for recreation within the Park.

The Moorlands of Exmoor

Figure 2.4. Main Landowners and Registered Commons




The Moorlands of Exmoor
Figure 2.5. Statutory designations
Minehead
Parracombe
Challacombe
Simonsbath
Exford
Wheddon Cross
Brayford
Barnstaple
Winsford
Brompton Regis
North Molton
Molland
Watchet
Williton
Wiveliscombe
KEY
Severely Disadvantaged Area
Disadvantaged Area
Heritage Coast
Scheduled Ancient Monument
SSSI
SAC
National Park boundary
Moorland units (this study)
0 km 1 2 3 4 5 6 7 8 9 10
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RECENT HISTORY

2.25. The recent history of the moorlands, since the Second World War, can be summarised as involving three different trends, with many people suggesting that a fourth trend is now starting.

2.26. The period until the mid 1960s saw the moorlands subject to increasingly intensive agricultural management and reclamation and in certain areas, such as the Brendon Heaths, to afforestation. This continued a trend (though not a constant one) that had been taking place since at least the beginning of the nineteenth century, with landowners and their tenants responding to Government encouragement and taking advantage of technological developments to increase the productivity and profitability of moorland land. It is worth pointing out that the reclamation of the moorlands had not been a steady process – indeed during the late nineteenth century, and again in the 1920s, agricultural depressions saw some land that had been improved revert to rough grazing.

2.27. The second trend, which started to emerge with the identification of Exmoor as a suitable National Park after the Second World War, involved the recognition of the national amenity and environmental value of the moorlands. Despite the designation of both the National Park and North Exmoor SSSI in 1954, concern by conservationists about the impact that moorland reclamation and improvement was having on the landscape of the National Park grew during the 1960s. The Exmoor Society and its members were influential in raising public attention to the escalating rate of moorland reclamation which came to a head in 1976 with two high profile cases at Yenworthy and Stowey Allotment. These concerns culminated in the Porchester enquiry.

2.28. The third trend involved active steps to protect and secure favourable management of the moorlands. The acquisition of land by bodies whose main objectives were the protection of the landscape and amenity value of the moorlands had started between the Wars with the formation of the Badgworthy Land Company in 1926, followed by the gifting of the Holnicote Estate to the National Trust in 1944. The NPA and its predecessor authorities were influential in purchasing large areas of moorland, starting with the purchase of North Hill in 1963 and continuing thereafter. The far-reaching recommendations of Lord Porchester's report involved the active protection of moorland through management agreements between the NPA and landowners. The designation of the ESA in 1993 saw a dramatic increase in the area of moorland under management agreements, and the large majority of the moorlands are now covered by ESA agreements. While these measures may have slowed and eventually halted the outright loss of moorland, there is strong evidence, reviewed in detail in Chapter 4, that they failed to deliver more sustainable agricultural management over large areas of the moorlands.

2.29. Many people are now suggesting that a fourth trend in moorland change is taking place in which agricultural management is declining and stocking levels falling to levels where scrub and bracken encroachment is starting to change the character of the moorlands and where knowledge about moorland management is being lost. This change is more subtle than that which has occurred in the last 60 years and involves a

gradual change of character rather than outright destruction of moorland vegetation. The evidence for this change, and the wider implications it has for the public uses and special qualities of the moorlands, are considered in Chapters 4 and 5.

Tracking changes in the moorland area

2.30. There has been a tendency to portray the history of the moorlands as one of inexorable change and one-way loss. However, the reality would appear to be more complex. Not only is there good archaeological evidence for extensive cultivation during the mediaeval period (such as on Winsford Hill and Codsend Moors) and the nineteenth century (such as on Tom's Hill), but several consultees reported on the cultivation and cropping of areas such as Winsford Hill during the Second World War. All these areas have since reverted to moorland vegetation and management. This suggests a more subtle ebb and flow of agriculture up and down the hill. Nevertheless, as will be shown below, over the span of recent history, loss of moorland (principally to agriculture and, to a much smaller extent, to forestry) has exceeded reversion of improved farmland to moorland.

2.31. Since the 1960s several estimates have been made of the area of the moorlands and the rates of change. These are summarised in **Table 2.3**. Making direct comparisons between them is not easy because of the different definitions of moorland used. The areas recorded by the Critical Amenity Map (16,735 ha in 1968), Porchester Map 2 (16,036 ha in 1981) and Section 3 map of moor and heath (16,624 ha in 1985) have not been included in this table since they clearly relate to a smaller core of moorland considered of the highest conservation importance.

Table 2.3. Estimates of Exmoor's moorland area since 1947

Year	Source of estimate	Reported in	Moorland area (ha)
1947	Aerial photographs	Porchester (1977)	24,082
1957	Ordnance Survey maps (estimate)	Sinclair (1966)	23,978
1965	Land Use Survey	Sinclair (1966)	20,680
1965	Adjusted Land Use Survey	Sinclair (1966)	20,267
1976	Aerial photographs	Porchester (1977)	19,184
1979	Porchester Map 1	Curtis and Walker (1981)	19,555
2004	Section 3 map and moorland line combined	This study	18,332

2.32. Research undertaken by Elizabeth Rowan in 1999[5] used analysis of maps and aerial photographs to estimate and map moorland loss. The moorland area was estimated on the basis of vegetation cover from maps dated 1954, 1966, 1977, 1988 and 1995. The rate of loss estimated from these sources fell from 1,086 ha between 1954 and 1966, to 483 ha between 1966 and 1977, 224 ha between 1977 and 1988 and 14 ha between 1988 and 1995. These areas are mapped in **Figure 2.6**.

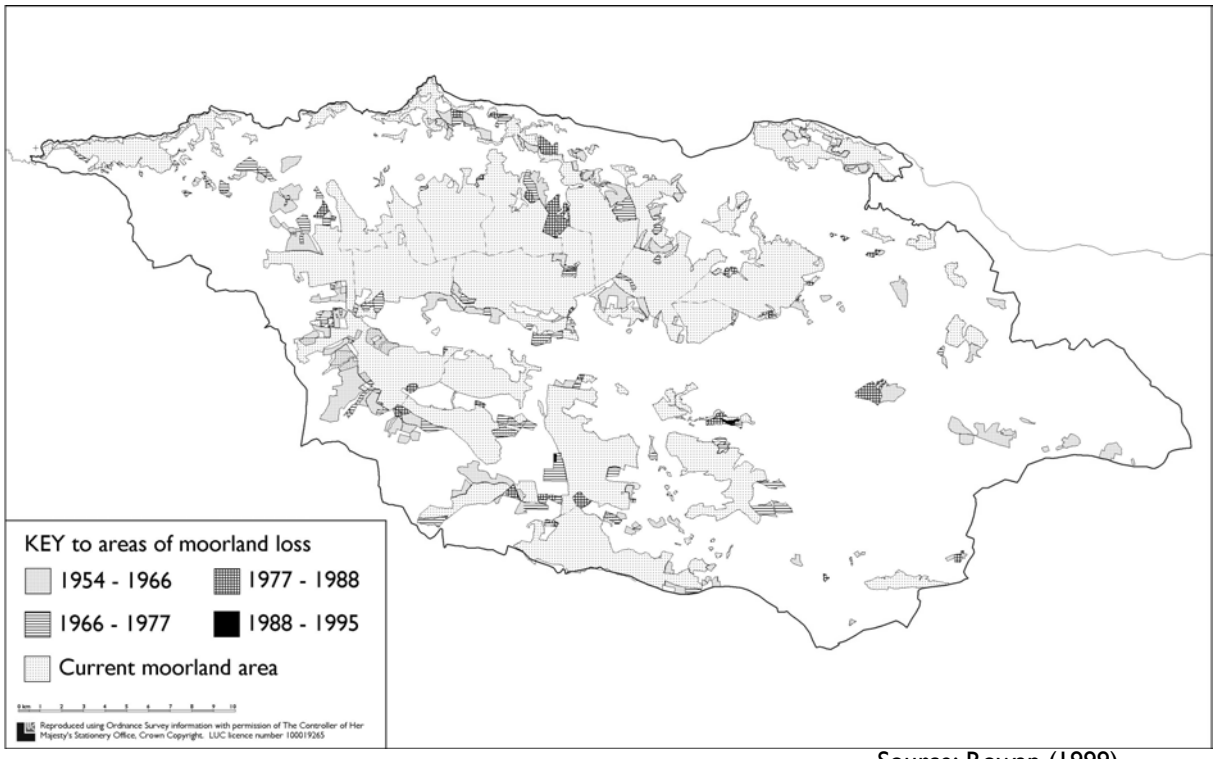
2.33. These sources make clear that the main reasons for the loss of moorland was reclamation to agriculture, followed by afforestation on areas such as the Brendon Heaths (with an area totally around 500 ha being planted with conifers in the early 20th century). Notwithstanding the different definitions of moorland used in these

[5] Rowan, 1999. *The Restoration of Upland Heath on areas previously reclaimed for agriculture – Exmoor National Park*. MSc Thesis, University College London

various estimates, it is clear that the rate of loss has declined significantly since the 1960s to the current situation where the moorland area has been relatively stable since the mid 1980s.

2.34. A study by the Institute of Terrestrial Ecology[6] analysed the information presented in the Porchester Report against Sinclair's five areas of moorland, and concluded that the greatest relative loss of moorland between 1947 and 1976 took place in the Brendon Heaths (38%), followed by the Coastal Heaths (21%), the Southern Heather Moors (18%), the Northern Heather Moors (14%) and finally the Grass Moors of the Centre Moors (10%). **Figure 2.6** shows that the impact of the moorland loss in the last fifty years has been to fragment and create incisions of more productive, but less wild, land into the main moorland blocks. Areas such as the North Molton Ridge and the moorland north of Pitsworthy Farm have become isolated, while Mill Hill has become a ridge of moorland fringed by improved agricultural land.

Figure 2.6. Areas of moorland lost between 1954 and 1995



Source: Rowan (1999)

2.35. A detailed study of the coastal heathland[7] mapped the areas of heathland that were present on the 1840 tithe maps in the area now covered by the Heritage Coast designation. This showed how a continuous block of heathland extending from Yenworthy Common along Culbone and Stent Hills to Porlock Hill was converted to productive agriculture or was planted with conifers during the period up to 1966.

[6] Miller GR, Miles J and Heal, OW. 1984. *Moorland Management, A study of Exmoor*. ITE

[7] Cox A, 1993. *Coastal heathlands within the Heritage Coast of Exmoor National Park: their decline and potential for reinstatement*. MSc thesis, University College London.

Conclusions on the current extent of the moorlands

- With the principal exception of the Porchester Map 2, which used the criteria of landscape quality, all the published definitions of the moorlands have been based primarily on their vegetation cover, particularly the presence of key plant groups such as dwarf shrubs and grass.
- This study has used a combination of the NPA's Section 3 map of moor and heath and Defra's moorland line as the definition for moorland, giving a total area of 18,332 ha. There is a strong coincidence between these areas and also between these areas and the provisional open access map produced by the Countryside Agency.
- The categorisation of the moorlands into five different areas by Geoffrey Sinclair in 1966 is still relevant today. This study has further subdivided the moorland into 22 units based on their vegetation cover, ownership and management.
- A large proportion of the moorlands are owned by a few major landowners: the National Park Authority, National Trust and Badgworthy Land Company. A quarter of the moorlands are registered commons.
- There are many different statutory designations covering the moorlands conferring levels of protection (management restrictions) and access to funding. These are covered in more detail in the following chapter.
- The history of the moorlands has been a complex one of reclamation for agriculture and, to a lesser extent, forestry, with some areas reverting to moorland vegetation and management. During the 1960s and 1970s public concern about the overall loss of moorland resulted in the Porchester Enquiry, which in turn led to the introduction of management agreements between public bodies and landowners / managers. These agreements have stemmed the outright loss of moorland.
- There is growing evidence of a new phase in the history of the moorlands in which agricultural management is declining to the extent that the character of the moorlands is changing again. The evidence for this ongoing change is reviewed in more detail in subsequent chapters.

3. THE VALUE AND SIGNIFICANCE OF THE MOORLANDS

3.1. There can be no doubt that Exmoor's moorlands have many special qualities. For millennia, people have looked up to them from the surrounding landscape and have carried on their livelihoods, sought solitude and inspiration, and taken exhilarating exercise on them. The Hobhouse Report[8], which recommended that Exmoor should be amongst the first ten National Parks in England and Wales, recognised "*the exceptionally beautiful coast*" and "*fine heather, bracken and grass moorland*". It commented that "*there are antiquities in great profusion on Exmoor*" and "*the area is notable for its wild life*" (particularly identifying the red deer), and stated that "*Exmoor is in fact first rate country for motoring and for walking and riding*".

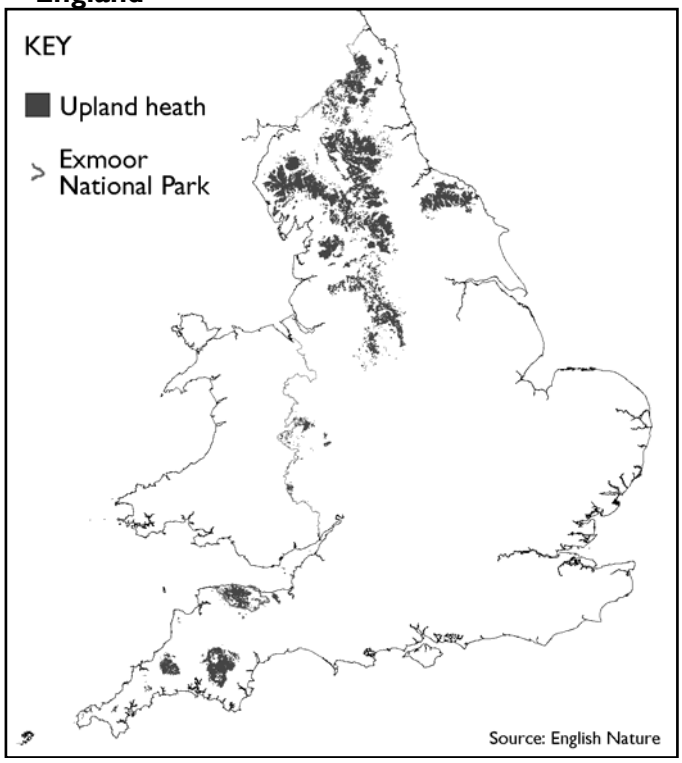
3.2. The purpose of this chapter is to assess the value of the moorlands across the wide range of public benefits and private needs, and to place these values into a larger context in terms of the significance of the moorlands at international, national, regional and local scales.

3.3. The chapter is split into separate headings covering natural resources, the landscape, the historic environment, biodiversity, recreation and farming. The chapter concludes with an overall summary of the significance of the moorlands.

INITIAL OVERVIEW

3.4. The moorlands' location and scale in an England context is summarised in **Figure 3.1,** which maps the distribution of the upland heath habitat in England. This shows that Exmoor's moorlands are relatively small in comparison to the larger areas of the Cheviots Hills, Lake District, Yorkshire Dales, North York Moors or Dartmoor.

Figure 3.1. Distribution of Upland Heath in England



3.5. However, Exmoor's importance is not in its size (it occupies about 2% of the moorland area of England) but in its position on the South West peninsular overlooking the Bristol Channel, in the great variety of habitats and landscapes and in its unique and rich cultural environment.

[8] HMSO, 1947. *Report of the National Parks Committee England and Wales*, Cmd 7121.

NATURAL RESOURCES

3.6. The natural resources of geology and geomorphology, soils, climate and water form the basis upon which the landforms, land cover and other special qualities are based. For this reason, these natural resources are considered first in this Chapter.

Geology and geomorphology

3.7. In terms of its underlying geology and geological history, Exmoor is unusual in two respects. Firstly it is the only one of the West Country upland massifs to consist of sedimentary rocks, the others being composed of granite which is igneous (volcanic) in origin. This means that the rocks underlying Exmoor have regular layers which were laid down in a sequence, commencing with the mid-Devonian period (408 to 360 million years ago) and running on into the beginning of the Carboniferous period (360 to 290 million years ago). Generally the strata are younger to the south. This uninterrupted sequence on Exmoor makes it of special interest to geologists.

3.8. The rocks are variously classified as grits, sandstones, siltstones and mudstones depending on the size of the particles in the rocks, which in turn reflects the conditions under which the rocks were laid down (such as marine seas, rivers, lakes and deserts). The frequent transitions between the marine and non-marine environments in which the sediments where laid down is a source of geological interest.

3.9. Exmoor has been subject to a complex series of earth movements resulting in fractures, folds and faults in the rocks. This means that fossils are generally not well preserved because of the crushing and movement of the rocks after they were formed. However, the coast provides geologists with a good place to see these structures. The movements in the rock have also concentrated minerals in certain places and allowed introduction of new minerals from volcanic intrusions, although rarely in sufficient concentrations to make commercial mining worthwhile (the silver and lead deposits at Combe Martin being an exception).

3.10. The second distinguishing feature of Exmoor, which it shares in common with Dartmoor and Bodmin Moor, is that it was not subject to erosion by glaciers during the more recent glaciations. This means that the moorland plateau is a remarkably old landform in comparison with the rest of the UK and much of continental Europe. However, Exmoor was close to the edge of the ice sheets during the glacial periods and had a 'periglacial' climate in which the repeated freezing and thawing of the ground led to weathering and erosion of rocks and soil. This has created the characteristic smooth and convexly rounded shape of the moorlands and the 'hog's back' coastal cliffs.

3.11. Finally, the more recent geological (Quaternary) period has seen peat develop on the high moorland, particularly in the west area between Simonsbath and Challacombe where rainfall is highest. The significance of the peat soils is considered more fully below under the heading of 'soils'.

3.12. **Designated sites**: There are ten Geological Conservation Review sites[9] in the National Park but only three of these are within the moorlands. Two sites exist in the Valley of Rocks which are listed because they display classic landforms, notably a dry valley and a range of periglacial features which have played a focal role in the development of ideas concerning coastal evolution. The third site is on the Chains, listed because of the deposits of peat, which are covered below. All three are within Sites of Special Scientific Interest.

Soils

3.13. The soils of the moorlands can be divided, most simply, between mineral soils derived from the underlying sedimentary rocks (ranging from poorly-draining gleys to the free-draining and generally fertile brown earths) and peat, derived from accumulated sphagnum moss. In the context of this report, it is the peat that is most significant. This is because of the blanket bog habitat that it can support, because of the information about past environments that can be preserved in it (such as pollen grains) and because of its ability to act as a sponge, retaining rainfall and releasing it slowly, thus modifying river flows.

3.14. The most detailed soil survey conducted on Exmoor was undertaken by Len Curtis in 1971[10], covering only the Exmoor Forest . This shows that deep peat (the Chains series) is concentrated on the plateau of the Chains and Exe Plain, with smaller areas to the south on Great Woolcombe, in total occupying around 250 ha of the Forest. The distribution of blanket bog elsewhere on Exmoor suggests that small areas of deep peat are also found on the ridge to the west and east of the Chains, which receives the highest rainfall, as well as on the Rowbarrow ridge south west of Dunkery.

3.15. Shallower peat (the Pinkworthy and Lanacombe series) is shown on Curtis' soil map of the Forest on much more extensive areas covering Winaway, Lanacombe, Trout Hill, Burcombe, Squallacombe and Comerslade and it is likely that these series extend across large areas of Brendon Common and towards Radworthy.

3.16. An analysis of the soil map of England and Wales reported in a study conducted in 1984[11], shows that Exmoor has a much greater proportion of ground with well-drained mineral soils (85%), and correspondingly less peat, than any other upland area of England and Wales.

3.17. Concern about rising levels of carbon dioxide in the global atmosphere has prompted interest in the capacity of peat to store carbon in stable organic compounds (known as 'carbon sequestration'). Research undertaken at the University of Leeds has calculated that more organic carbon is stored in British peat bogs than in the forests of Britain and France combined. However, the relatively small area of peat on Exmoor, compared to the much larger areas on Dartmoor and the northern

[9] The Geological Conservation Review was a systematic site selection exercise carried out throughout Great Britain between 1977 and 1990 to identify the key geological sites representing the range and diversity of British geology. It has formed the basis for designating earth science SSSIs.
[10] Curtis LF, 1971. Soils of Exmoor Forest. (Special survey no 5). Soil Survey of England and Wales. Harpenden.
[11] Miller GR, Miles J and Heal OW, 1984.

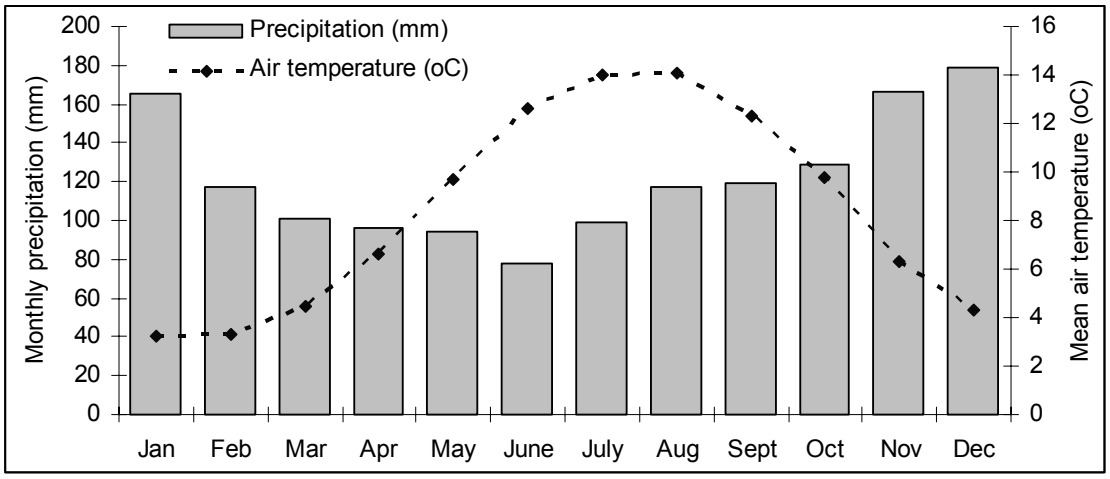
moorlands, suggests that it does not have a significant national impact on storage of atmospheric carbon. Nevertheless, at a local level it is likely that the moorland peat is Exmoor's main contribution towards carbon sequestration and the amelioration of climate change.

Climate

3.18. Relative to the rest of England, and the main upland areas in the North, Exmoor has a relatively mild and wet climate. **Figure 3.2** shows the annual pattern of precipitation and air temperatures at Liscombe (altitude 305 m), which has a mean annual temperature of 8.4°C and total annual precipitation of 1,460 mm. Rainfall is strongly influenced by ground relief and by the rain-bearing westerly winds, with a peak of nearly 2,000 mm at Chains Barrow, 1,700 mm at Dunkery Beacon and 1,200 mm on the Brendon Hills.

3.19. The average length of the growing season at Liscombe is 244 days and around 180 days on Exmoor's highest point on Dunkery Beacon. This is nearly 50 days longer than the season at similar altitudes in northern England[12].

Figure 3.2. Weather data from Liscombe 1958-78



Source: Graphed from MAFF data quoted in Miller GR, Miles J and Heal OW (1984)

Water resources

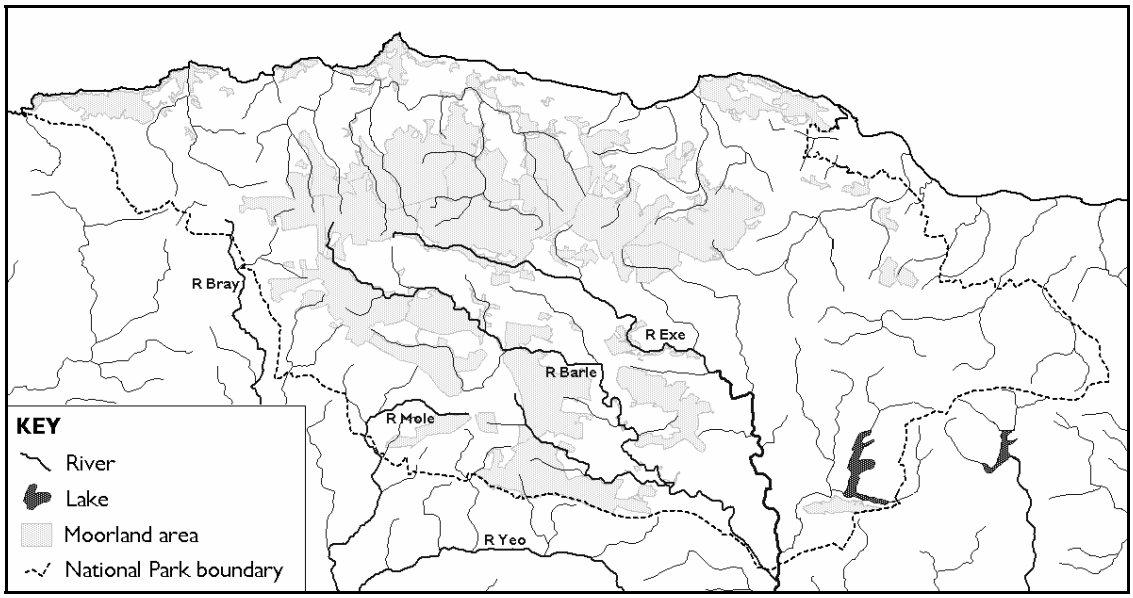
3.20. As the highest ground in North Devon and West Somerset, and with a high annual rainfall, the moorlands supply the headwaters of rivers flowing south into the Exe, west into the Taw and north along the East and West Lyn the short distance to the coast (see **Figure 3.3**). The Exe and its large tributary the Barle both rise on the Chains, the rivers Bray and Mole, tributaries of the Taw, rise on Radworthy and the North Molton Ridge, respectively and the East Lyn rises on Lanacombe.

3.21. Relative to Dartmoor, which supplies the headwaters of major rivers such as the Taw, Torridge, Dart, Plym and Tavy, Exmoor is perhaps less significant in regional terms. Nevertheless, the Wimbleball Lake which lies at the northern foot of Haddon Hill is an important reservoir supplying West Somerset with water. The Lynmouth

[12] Data quoted in quoted in Miller GR, Miles J and Heal OW (1984).

disaster of 1952 when heavy rainfall on the Northern Heather Moors caused massive flooding and damage in the lower Lyn Valley also shows the power that the rivers have to disrupt human activity. Evidence on the water quality of the moorland rivers is reviewed in the following chapter (paragraph 4.7 *et sequ*.).

Figure 3.3. The Rivers of Exmoor



Conclusions on the value of the moorlands' Natural Resources

- **Geologically, Exmoor is unusual amongst UK uplands in not having been eroded by glaciers during recent glaciations, leaving the plateau as an old landform. In addition, it is the only one of the three South West uplands to be composed of sedimentary rocks (from the Devonian to early Carboniferous period).**
- The most significant soil on the moorlands is peat (supporting blanket bog habitat, acting as a sponge to hold back rainfall and providing evidence of past environments) which is found predominantly on the Exmoor Forest, with deep peat limited to the Chains and Rowbarrow ridge. But Exmoor has less peat (and more well-drained mineral soils) than any other upland area in England.
- Coupled with Exmoor's relatively mild climate, this means that the moorlands are capable of greater agricultural productivity than probably any other moorland area in the UK.
- The relatively small area of peat also means that the moorlands are unlikely to make a large impact into national targets for carbon sequestration to combat rising global levels of atmospheric carbon dioxide.
- Water supplied from Exmoor's moorlands is of sub-regional importance, supplying headwaters of the Rivers Exe and Taw catchments.

LANDSCAPE CHARACTER

3.22. Landscape, like natural beauty, is often used as a collective term that encompasses the scenery, wildlife and cultural elements of an area. While this integrating understanding of natural and human qualities is something that this report hopes to achieve, it is within the narrower definition of the physical landform and land cover, coupled with their scenic and visual qualities, that the moorland's landscape is described in this section. An important distinction is made between objective assessments of landscape character and the more personal appreciation that people have of the aesthetic qualities of the landscape. This section firstly considers how the landscape of the moorlands has been described through objective assessments, and then considers how the moorlands are viewed by the people who live in and visit Exmoor.

Landscape character and the Porchester Map 2

3.23. As described earlier (paragraph 2.5), Lord Porchester recommended that landscape character should be used as the basis for identifying areas of moorland of exceptional quality that would be protected for all time (known as Map 2). In his report, he suggested that the principal landscape qualities of the moorlands were their wildness, remoteness and openness, large scale and open views. He suggested that these qualities were most evident in the "*heartland*" from Dunkery to Chapman Barrows and on the coastal heaths and southern heather moors. He also suggested that another important aspect of their landscape character was the contrast with the valley scenery.

3.24. Based on the qualities recognised by Lord Porchester and the earlier experience of surveying the Critical Amenity Area map, the NPA drew up a list of six landscape criteria. These were:

A. Visual considerations of vegetation and relief covering pattern, colour and texture
B. Enclosure and openness
C. Extent - real and apparent including considerations of remoteness and wildness
D. Views and edges
E. Public access, rights of way and road access
F. Landmarks and landscape features

3.25. A detailed description of each of these criteria is given in an NPA report[13] and there is not room to cover them here. It would appear that Map 2 (which is virtually identical in extent to the Section 3 map of moor and heath) did not distinguish between moorland areas of different character. However, the NPA report draws attention to:

- the bold rounded landforms;
- the role of vegetation cover in emphasising landform;
- the diverse and changing colour and textures which often reflect past management;
- the role of trees and shrubs in reducing open views of the moorlands;

[13] Curtis L and Walker AJ, 1981. *Moorland Conservation on Exmoor. The Porchester Maps: Their construction and policies*. ENPA, Dulverton.

- the influence of man, rather than topography, in determining the edges of the moorland; and
- the role of static landmarks, such as the Punchbowl on Winsford Hill and memorial stones, and of wildlife as focal points of interest.

Landscape characterisation of the National Park

3.26. During this study it became clear that since the detailed work undertaken by the NPA in the early 1980s, referred to above, there has been little description or analysis of the landscape of the Park, despite significant advances in national thinking and methodology[14]. There was a need for an objective assessment of the landscape character of the National Park which would allow the relationship between the different areas of moorland and their wider setting in the landscape to be determined. During the study, the NPA agreed to commission a rapid assessment of the Landscape Character Areas, following the national methodology described in the *Landscape Character Assessment Guidance for England and Scotland (2002).* A desk-based study of existing material followed by a field survey took place during July and August 2004[15].

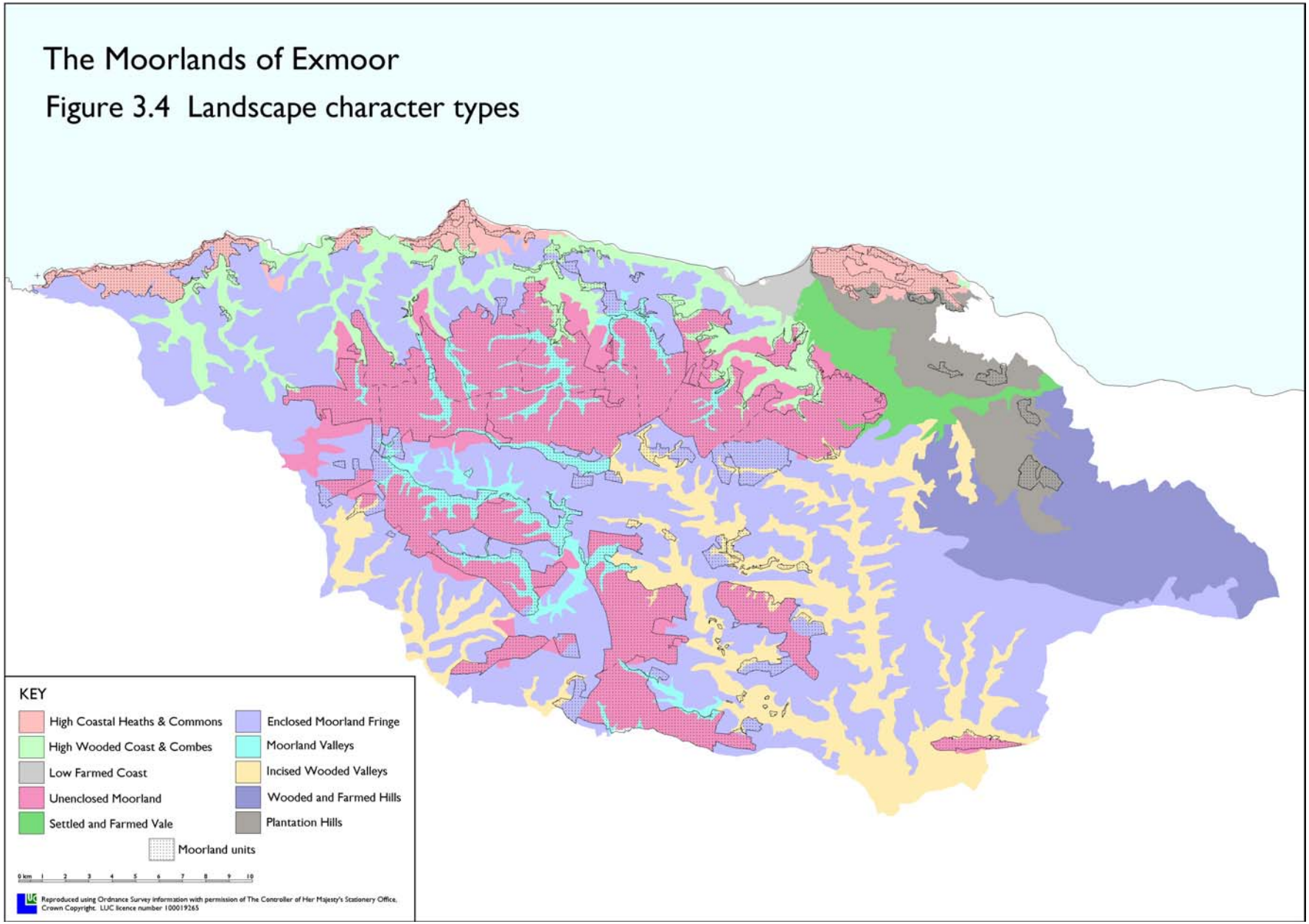
3.27. The characterisation defined and mapped ten character types, the locations of which are shown on **Figure 3.4** in relation to the moorland units defined by this study. This figure shows that there is a strong correlation between the main moorland blocks and three of the character types. The coastal heaths lie within the landscape type *High Coastal Heaths and Commons*. The majority of the remaining moorland areas lie within the type defined as *Unenclosed Moorland* which occupies the broad, rounded ridges and hills above 250m. This type is incised by the third moorland landscape type of the *Moorland Valleys* that drain the high moorland. The scale and high elevation of these three moorland landscape types (*High Coastal Heaths and Commons, Unenclosed Moorland* and *Moorland Valleys*) ensure that these landscape types exert a strong visual presence over all of the National Park, with the exception of the eastern area which is closer to Quantock Hills.

[14] Five broad scale assessments undertaken during the 1990s were the NPA's Trees and Woodlands Guide (1997), MAFF's Landscape Assessment for the ESA (1993), the county-wide characterisations undertaken by Somerset and Devon County Councils and the district-wide characterisation undertaken by North Devon District Council. None of these examined the National Park at a fine scale.

[15] Land Use Consultants, 2004. Landscape Character Assessment of Exmoor National Park.

The Moorlands of Exmoor

Figure 3.4 Landscape character types



3.28. However, there are notable exceptions to the matching of these moorland landscape types with the moorland areas defined by this study. The relatively small areas of the northern Brendon Heaths (Wootton, Alcombe, Hopcott, Withycombe and Rodhuish) are not distinguished within the largely coniferised *Plantation Hills* landscape type. Substantial areas of lower lying moorland or moorland lying along narrower ridges are included in the *Enclosed Moorland Fringe* landscape type. These areas include the area between Cosgate Hill and North Hill and Codsend Moors, the area between Pinkworthy and Roosthichen, and the off-lying parts of Winsford Hill (Ashway Side and Winsford Allotments), as well as the smaller isolated areas of moorland such as Room Hill, Bye Common and Whiterocks Down.

3.29. Conversely, there are substantial areas of the three moorland landscape types that lie outside the area defined as moorland for this study. These include Countisbury Common, the large area south of Oare and Oreford (encompassing the Stowey, Withycombe and Cloud allotments), the ridge west of Doverday Down and finally North Regis Common, extending to the high ground west of Challacombe.

3.30. The landscape characterisation helps to define the overall setting in which the moorlands lie. The open and dramatic expanse of the Bristol Channel is a defining element of the character of the high coastal heaths. Elsewhere, the landscape type *Enclosed Moorland Fringe* surrounds much of the moorlands. This irregularly enclosed farmland is predominantly given over to pasture (both improved permanent grassland and rough grazing), with the beech topped hedge banks that divide many of the fields being a defining feature.

3.31. More detailed descriptions of the landscape types *High Coastal Heaths and Commons, Unenclosed Moorland, Moorland Valleys* and *Enclosed Moorland Fringe* are provided in the technical annex.

3.32. In conclusion, this analysis shows that the moorlands do not belong to one landscape type, but to three principle types, with significant areas having a more enclosed moorland fringe character. Finally, the northern Brendon Heaths lie within a largely coniferised landscape.

The tranquillity of Exmoor as a whole

3.33. Tranquillity is increasingly being seen as a key quality in many National Parks, contrasting the lack of visual and audible intrusion in the Parks with the increasingly 'busy' landscapes surrounding them. One measure of tranquillity is the visible light emission from buildings, street lighting and vehicles which has been mapped from satellites. **Figure 3.5** shows how Exmoor is a 'sea of visual tranquillity' in the South West.

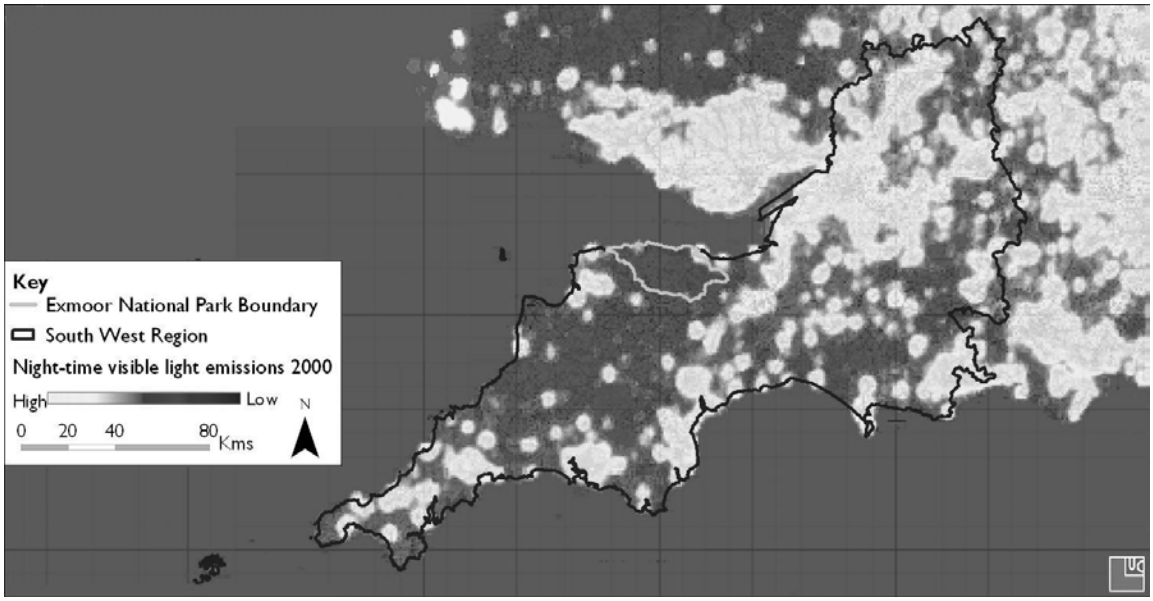
Landscape Designations

3.34. The National Park designation is essentially one that recognises Exmoor's outstanding natural beauty, together with its opportunities for open air recreation. In international terms, all the UK's National Parks are classified by the International Union for Nature Conservation (IUCN) under their protected area categories as 'protected landscapes' "*where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high*

biological diversity". This definition emphasises the role of people in shaping the land cover and cultural identity of the area, in contrast with national parks in North America and other parts of Europe which are much closer to being pristine natural ecosystems.

3.35. The Heritage Coast designation is similar to the National Park designation in recognising the high quality of the coastal landscape and its relationship with nature conservation, recreation and tourism, giving the coastal strip and its moorlands national significance.

Figure 3.5. Night time visible light emissions across the South West of England in 2000



PERCEPTIONS OF THE LANDSCAPE

3.36. Just as important as the objective 'professional' assessments of landscape character described above, are the feelings that people, whether they be residents or visitors, have about the moorland landscape.

NPA surveys of the people's views of the Park

3.37. In preparation for the National Park Management Plan 2001 - 2006, the NPA undertook a brief survey of the views of residents and visitors towards the special qualities of the park. The survey was included in an edition of the NPA's newspaper, Park Life, in 1998. Readers were asked to answer the question "*What do you think are the special qualities of Exmoor as a whole which make it distinctive?*" with their own answers (i.e. they were not prompted to choose from a list of options). A total of 300 responses were analysed by NPA staff, consisting of 150 residents and 150 visitors. It is not known if the analysis sought to ensure that these samples were representative of residents and visitors as a whole.

3.38. The results, which are summarised in **Figures 3.6 and 3.7** show that, with the exception of the red deer which were the single most important 'special quality' identified by residents, it is the aesthetic qualities of the Park, such as the variety and contrasts of scenery, the beauty and peacefulness, which are most important to both residents and visitors. More 'utilitarian' qualities such as access for recreation or wildlife appear to be less important.

3.39. The responses tended not to identify individual areas of the landscape as particularly important (partly as a result of the phrasing of the question) but the importance given to the variety and contrasts of scenery suggest that it is the whole assemblage of the landscape, rather than any particular elements that is most valued.

Figure 3.6. Responses from Residents to NPA Survey, 1998

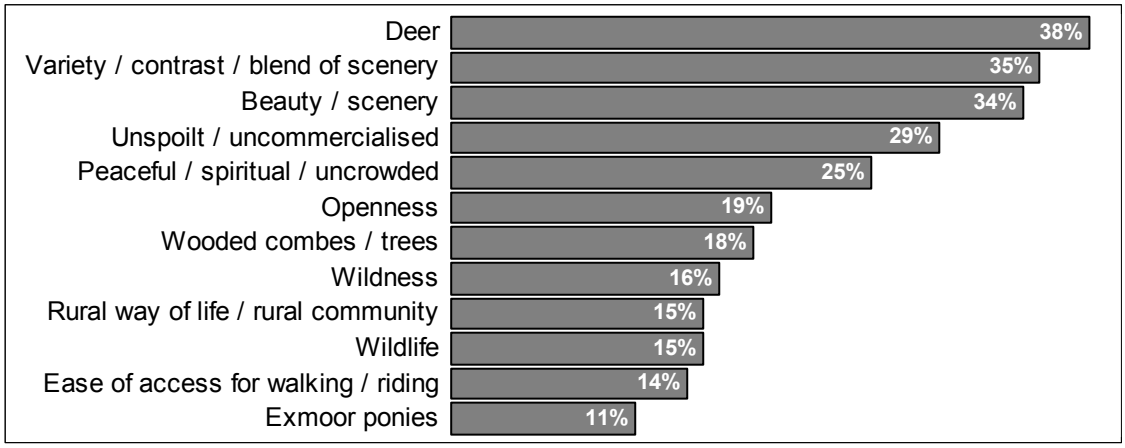
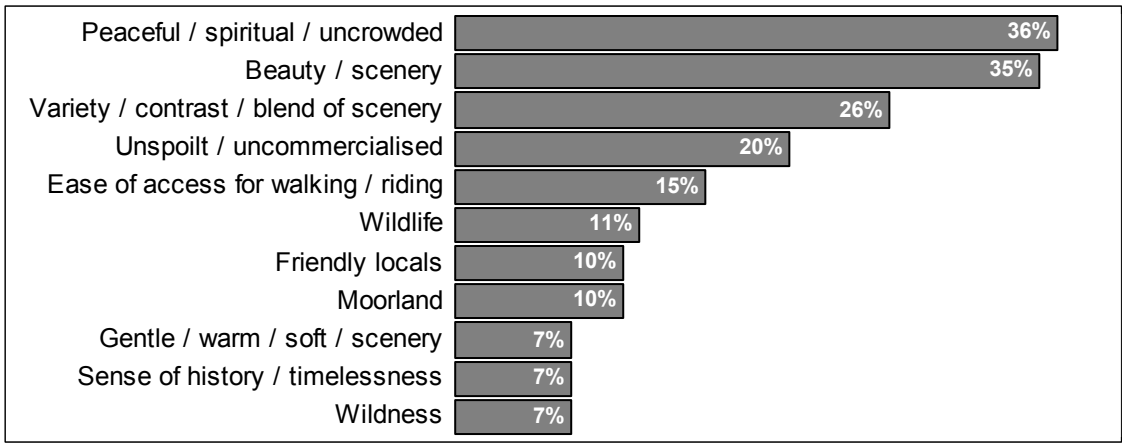


Figure 3.7. Responses from Visitors to NPA Survey, 1998



3.40. The NPA also have information on the reasons people gave for visiting the Park, collected as part of the All Parks Visitor Survey undertaken in 1994[16]. Although somewhat dated, the results, which are summarised in **Table 3.1** show that the scenery and landscape of the Park was by far the most important reason for people's visit, well ahead of other reasons such as peace and quiet, taking part in outdoor activities, or visiting specific events or attractions.

Table 3.1. Reasons for people visiting Exmoor from the All Park Visitor Survey, 1994

Reason	Proportion of all reasons given by respondents	Proportion of respondents giving this as the most important reason
Scenery/landscape	66%	42%
Enjoyed the previous visit	36%	16%
Peace and quiet	36%	6%
Never been before	22%	8%
Take part in outdoor activity	16%	5%
Specific place/attraction/event	15%	8%
Come every year	14%	1%
Easy to get to	12%	3%
Because it is the National Park	11%	2%
Recommended by a friend/relative	8%	3%
Friends/family live here	5%	1%
Own caravan/accommodation here	5%	1%
Other	6%	4%

The views of Exmoor Society members

3.41. During this study, it became apparent that, aside from the NPA's surveys described above which focussed on the National Park as a whole, there was little empirical evidence on how people value the moorlands. As a result, it was decided to undertake a postal survey of members of the Exmoor Society who were considered likely to have a reasonable knowledge of the moorlands. A simple questionnaire was

[16] This survey was conducted using the same methodology in each of the ten National Parks in England and Wales, the Broads and the New Forest. It is due to be repeated in 2005.

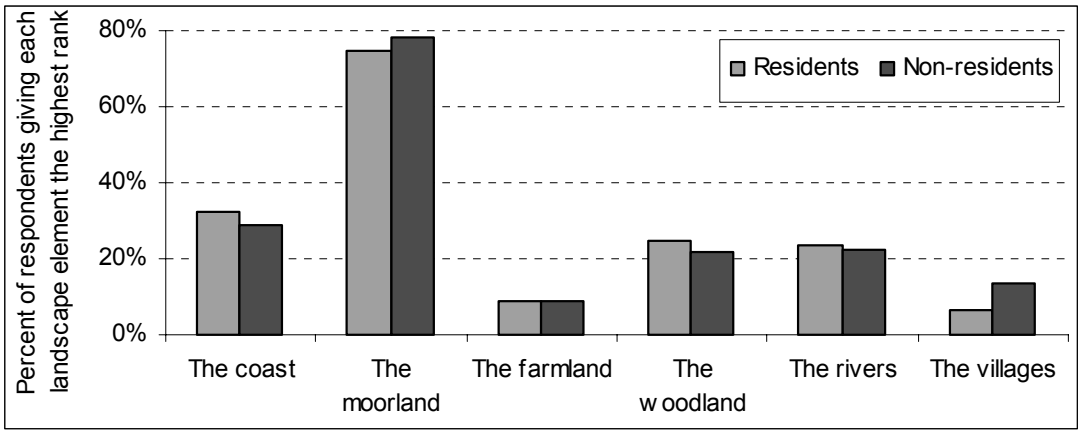
sent with the regular newsletter to all 2,500 members of the Society in April 2004. The questionnaire was headed "Your views on the special qualities of Exmoor" and asked nine questions, seven of which prompted the respondent with a selection of answers. A copy of the questionnaire and a full analysis of the responses are provided in the technical annex to this report. It is important to stress that no claims about the representative nature of the sample of respondents are made by this study, nor has any attempt been made to determine whether the people who responded are typical of the Society's membership as a whole. However, despite these caveats, the responses received are useful and make a significant contribution to this study. The sample of 569 responses analysed is substantial, allowing robust statistical analysis. The main findings of the survey are as follows:

3.42. Just under half of respondents currently live, or used to live, in the National Park (classed as 'residents' in the following findings, with people who have not lived in the Park classed as 'non-residents'). Very few people (seven non-residents or 1% of all respondents) said they were not familiar with the Park. Over half of respondents were over 65 years of age and a further third were over 50. Slightly more men than women answered the survey.

3.43. When asked to rank (i.e. number in order of priority) which landscape elements were most special to their appreciation of Exmoor, many respondents gave equal first ranking to several elements and additional comments such as "You *can only take Exmoor as a whole!*" and "*Exmoor is a unity and would be diminished without any of the above*" were typical of many.

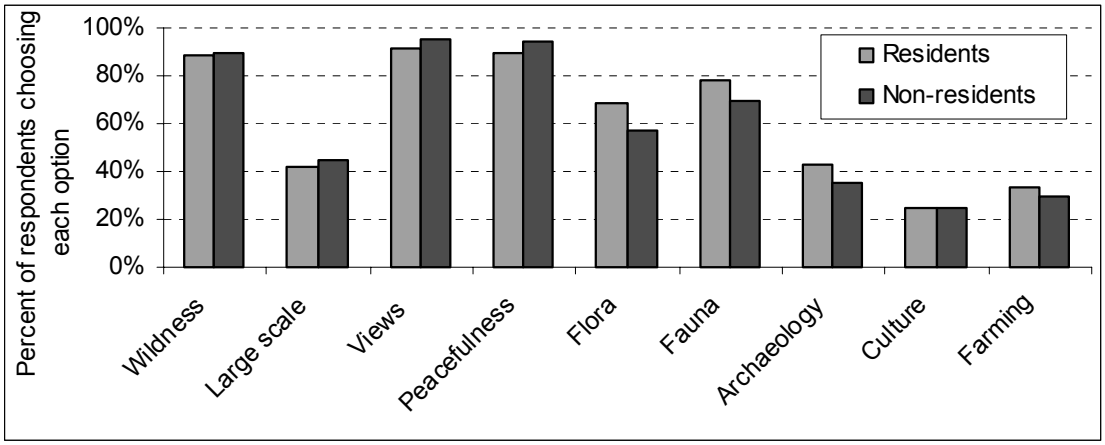
3.44. However, on the basis of the rankings given by respondents, the moorlands were considered by far the most important element (being ranked first by 77% of respondents) followed by the coast (30%), woodland and rivers (23% each), villages (10%) and farmland (9%). Differences between residents and non-residents are shown in **Figure 3.8**. While it is possible that the focus on moorlands in the later questions influenced responses, these results suggest that the moorlands are central, amongst the assemblage of landscape elements, to people's appreciation of the National Park, at least amongst Society members.

Figure 3.8. The most important landscape elements chosen by Society members



3.45. When asked to identify the qualities of the moorlands that make them special to their appreciation of Exmoor, the three qualities of "*views and openness*", "*peacefulness*" and "*wildness and remoteness*" were the most popular (chosen by 94%, 92% and 89% of respondents respectively). These results reinforce the findings of the NPA survey, suggesting that it is the aesthetic and perceptual qualities that are most important to people. The fauna of the moorlands were chosen by 73% of respondents (78% of residents and 69% of non-residents), with many respondents indicating that it is the red deer that they value, again reinforcing the findings of the NPA survey. These results are illustrated in **Figure 3.9**.

Figure 3.9. The special qualities of the moorlands chosen by Society members



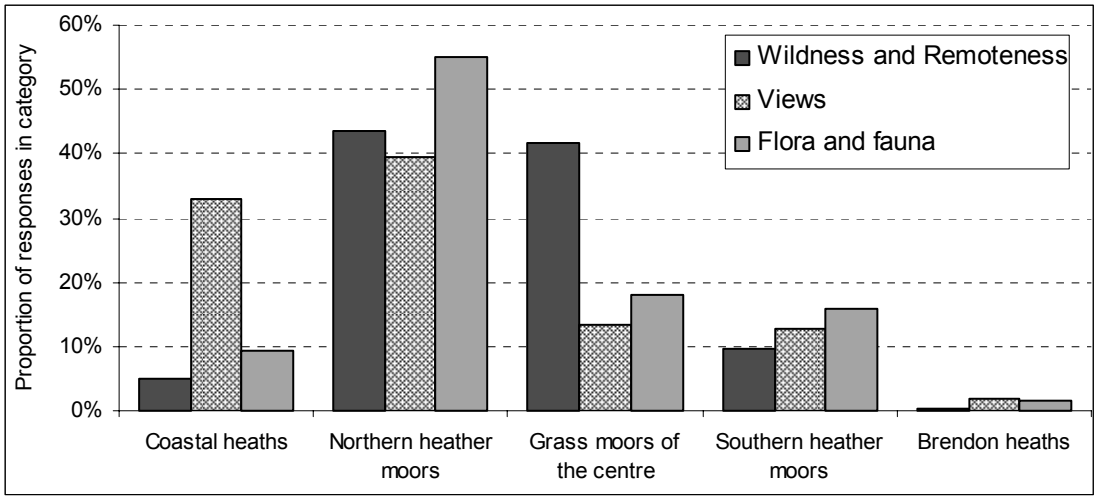
3.46. The final question asked respondents to identify which areas of moorland most possess the special qualities that were important to them. The results suggest that respondents do differentiate between different areas. If the maps annotated by respondents are analysed on the basis of the five areas of moorland put forward by Geoffrey Sinclair (see **Figure 3.10**), the Northern Heather Moors are clearly the best known area of the moorlands (and within this area, Dunkery was identified most frequently as possessing special qualities).

3.47. However, it is significant that the Grass Moors of the Centre scored highly in relation to the qualities of wildness and remoteness (The Chains and Exe Plain, and Lanacombe, Warren and Larkbarrow being the two moorland units on Exmoor most identified with this quality).

3.48. The Coastal Heaths on the other hand were valued most for their views, the stretch of coast from Valley of Rocks to North Hill being second only to Dunkery out of all moorland blocks.

3.49. While fewer people identified areas important for their flora and fauna, Winsford Hill was considered particularly important in this regard, as were Porlock and Wilmersham Commons and Dunkery.

Figure 3.10. The different qualities possessed by each of the five moorland areas reported by Society members



The views of other consultees to this study

3.50. The topic of the aesthetic qualities and personal perceptions of the moorlands was raised with many of the groups and individuals consulted during the study. There were strong similarities between these views and those given in the quantitative surveys described above – indeed there was little disagreement between different groups (farmers, recreational interests and conservationists) in the aesthetic qualities of the moorlands.

3.51. A strong and repeating theme from the survey was the relationship between the moorlands and their surrounding farmland and woodland and the diversity within the moorlands – "*There is a marvellous contrast between the open moorland and the well-farmed pastoral landscape*". The quietness and solitude that can often be found on the moorlands, especially outside the main tourism season, was important to many people – "*You often can't see another living person up there*" and "*the number of visitors we get is rarely over-powering*". Those who worked on the moor (farmers and tourism businesses) spoke of the impact on them of the big horizons gained from the moorlands, particularly along the Bristol Channel, and of the sense of timelessness – "*You wouldn't know what century you're in*". Someone who has born on the edge of Exmoor and now lives elsewhere in the South West stated "*For us, the moor is one of the very rare places left to us in Britain of relative wildness which gives an enormous benison of peace and quiet refreshment*"

3.52. This study did not explore the differences in people's perceptions of Exmoor's landscape compared to other moorland areas in any detail (or indeed the extent to which Exmoor is known to the wider public who do not live or visit it). However, comments made by a number of groups and consultees suggest that Exmoor's moorlands are recognised to have a softer and less rugged quality, but also a more fragile and perhaps 'untouched' aspect, which combine to give them no less grandeur and make them no less inspirational than areas such as Dartmoor, the Peak District or the Lake District. The comment "*Dartmoor is male whereas Exmoor is female*" summed this up.

3.53. People rarely distinguished between the heather and grass moorlands but when they did it was often to emphasise the positive qualities of the grass moors on the Exmoor Forest. The wavy texture, silvery colour and uniformity of the purple moor-grass, especially in winter, were seen as an attractive aesthetic quality which accentuated the large scale of this area.

3.54. For many people, the presence of red deer was something that defined their appreciation of the moorland landscape and marked it out from other moorland areas.

Conclusions on the Landscape Value of the moorlands

- **The National Park was designated in 1954, largely on the basis of the visual natural beauty (wildness, tranquillity and scale) of the moorlands. As with all National Parks, international importance is added by the recognition of Exmoor as a 'protected landscape' by the IUCN.**
- The large scale, high elevation and central position of the moorlands mean that they dominate the visual landscape of much of North Devon, West Somerset and the Bristol Channel.
- The moorlands have a diverse landscape character. Most lie in 3 landscape types: High coastal heaths and commons; Unenclosed moorland and Moorland valleys. But substantial areas such as Porlock Common and the Codsend Moors lie in other landscape types (mostly in Enclosed Moorland Fringe). Also, the three principal moorland landscape types (above) extend outside the moorlands as defined by this study.
- There is a strong consensus between different groups (e.g. residents, visitors, farmers and conservationists) over the main perceptual and aesthetic qualities of the moorlands. While the moorlands are the single most appreciated element of Exmoor's landscape, they are seen as part of the wider assemblage which includes the coast, woodland, farmland and villages.
- The qualities of openness (views), peacefulness, wildness and remoteness are considered most important by most people. But different areas of the moorlands are valued most highly for different qualities. The Grass Moors of the Centre for their wildness and remoteness, the Coastal Heaths for their views and the Northern Heather Moors for their wildlife (red deer).
- Compared to other moorland areas of England and Wales, there is evidence that Exmoor's moorlands are regarded as having a softer and less rugged, but equally grand and inspirational quality.

THE HISTORIC AND CULTURAL ENVIRONMENT

3.55. Moorland is sometimes thought of as a pristine environment where natural habitats and land surfaces are preserved with little influence from mankind. As will be shown in the later section on farming, this is far from the case. However, it is true that the relatively low levels of soil disturbance on moorlands compared to enclosed farmland have left us with a remarkable record of previous human activity over many thousands of years. The historic environment evident on parts of Exmoor's moorlands is amongst the best preserved in the UK.

3.56. Our knowledge of what lies preserved within the moorlands' soils and hidden by its vegetation is far from complete. The archaeological value of Exmoor's Neolithic standing stones and barrows has been known for over two hundred years. There has also been much written about the experience of moorland reclamation for agriculture undertaken on the Exmoor Forest by John Knight and his son in the 19th century. However, the overall significance of the archaeological resource on Exmoor is only recently being appreciated and, particularly on areas dominated by dense purple moor grass such as Trout Hill, there may be important discoveries in the future.

3.57. As part of its activities to mark the 50th anniversary of the designation of the National the NPA, with the help of English Heritage, prepared a paper[17] that summarises the historical development of Exmoor's moorlands, sets out the principal archaeological components of the moorland landscape and their significance and sets out management recommendations. The following section is drawn from this paper.

3.58. **Overall significance**: The over-arching feature of the archaeology on the moorlands is the extremely high quality of preservation. This makes the resource as a whole of national importance, and it is as such that it should be regarded. Its chronological and functional complexity means that the entire area of the moorlands is of historic importance.

3.59. Within this overall context, different areas can be distinguished as having different levels of significance, with some areas being of local historical interest, and others representing internationally significance archaeological assemblages.

3.60. **Statutory designations**: There are at least 132 separate Scheduled Ancient Monuments on, or partly on, the moorlands, out of a total around 250 in the Park as a whole, showing a concentration on the moorlands. However, the NPA believe that the current level of scheduling is inadequate and does not reflect the high quality of what survives on the ground.

Areas of Exceptional Historic and Archaeological Importance

3.61. Because of the amount of new information that has recently come to light, particularly as a result of the Royal Commission on the Historical Monuments of England's Exmoor Project[18] and the unrepresentative nature of the scheduled sites, the NPA and English Heritage prepared a map, to coincide with this study showing

[17] Wilson-North R and Riley H (2004). Exmoor Moorlands – The Historic Environment. ENPA
[18] Riley H and Wilson-North R, 2001. *The Field Archaeology of Exmoor*. English Heritage publications.

areas on the moorlands that were considered to have 'exceptional historic and archaeological importance'. This new categorisation confers no statutory protection or recognition and should be seen in conjunction with the sites and monuments record data held at County level and, critically, alongside the list of Scheduled Ancient Monuments. The 48 areas have been chosen to reflect the best examples and diversity of the historic environment on the moorlands, when set against our current level of understanding. The criteria for selection were:

- the number and concentration of monuments;
- spatial or temporal associations with other groups of monuments;
- completeness and state of preservation of features;
- complexity, particularly of features spanning different time periods;
- specialness or uniqueness to Exmoor; and
- contributions to landscape character

3.62. The 48 areas, which encompass a total area of 3,415 ha, are shown in **Figure 3.11**. These areas can be divided into a four separate historical periods.

Principal components of the historic landscape

3.63. Whilst the entire historic fabric of the moorland landscape contributes to its overall character, there are specific principal human achievements that have shaped the landscape. These are:

i. Relict prehistoric landscapes

3.64. The absence, or relatively low levels, of ploughing over large areas of the moorlands since the prehistoric period has resulted in the survival of archaeological monuments from the earliest periods. These form a rare and nationally significant resource. The subtle and elusive nature of many of the remains, combined with a lack of previous archaeological research means that these sites are poorly understood and inadequately protected. They include:

- standing stones: stone settings, stone circles, stone rows and isolated standing; stones (eg Lanacombe; Almsworthy Common etc). Stone settings occur nowhere else in England, and are therefore a unique resource;
- Bronze Age settlements (hut circles and enclosures) and field systems (eg Great Hill; Ilkerton; Pinford; Honeycombe Hill);
- barrow groups (eg Dunkery; Chapman Barrows; Five Barrows); and
- Iron Age hillforts and enclosures (eg Cow Castle, Bat's Castle, Wind Hill)

3.65. These relict prehistoric landscapes are nationally and probably internationally significant. They form a rare and very extensive survival of entire past landscapes across the range of human endeavour: living, farming, religion and burial. These types of landscape are practically non-existent in southern England and are rare across the country as a whole. The survival of these prehistoric landscapes as upstanding remains makes them accessible to the ordinary visitor in a way that many lowland landscapes with flattened sites on private land are not.

3.66. The prehistoric remains often survive in association with significant palaeo-environmental deposits which contain a wealth of information about past environments, and form an integral part of the 'evidence'. In addition to the quality

of preservation of these sites and the remarkable concentration of monuments, categories such as stone settings (which are probably late Neolithic/early Bronze Age) are unique to Exmoor and occur nowhere else in Britain.

ii. Medieval farming systems

3.67. The medieval farming landscape has played a major part in shaping the extent and form of the moorlands. Within the area of Section 3 moorland are many well preserved archaeological sites which both illuminate medieval farming practice and which also reflect the economy and structure of the hinterland at that time. Components of this 'layer' of the historic environment include:

- field systems and ridge & furrow (eg Winsford Hill, Anstey Commons, Molland Moor, Withypool Hill);
- the relict medieval landscape at Badgworthy;
- peat cutting; the commons; and the Royal Forest

3.68. The combined evidence for medieval farming across the moorlands probably gives these components regional significance. The extent and preservation of the remains on Winsford Hill, Withypool Common and Molland Moor is exceptional, although they may represent a relatively peripheral and short-lived activity. Much more needs to be learnt about these phenomena before their relative importance can be ascertained. The deserted medieval settlements form a nationally important resource and are particularly important where they survive with associated field systems.

iii. Parliamentary Inclosure and the Reclamation of The Royal Forest

3.69. The process of reclamation (or agricultural improvement) led to the loss of moorland on Exmoor. However, in some cases the moorlands contain evidence of the farming systems for which the moors were being reclaimed. As such, these areas contain a record of how these areas were improved and to what purposes they were put – in fact they give us an insight into Victorian farming methods. These elements include:

- sheepfolds; drainage systems; and gutter systems;
- Hoar Oak gate post factory; and industrial workings on the former Royal Forest;
- Larkbarrow and Tom's Hill;
- Simonsbath-Porlock railway; and Pinkery Pond

3.70. The evidence for reclamation – particularly within the former Royal Forest – is locally very significant, and may even be regarded as nationally significant in terms of economic history. Areas such as Larkbarrow and Tom's Hill owe their landscape character and their very special qualities to these activities during the 19th century.

3.71. The nineteenth century patterns of land tenure, with the majority of Exmoor being owned by a few large estates (such as the Acland, Fortescue, Knight and Luttrell estates), meant that the landscape as a whole was managed at a larger scale and often less intensively, with more consistent management decisions (such as the planting of beech hedges across large swathes of the Brendon Hills) than would have been the case had the area been farmed in smaller owner occupied units. This has left a lasting legacy on the landscape in terms of particular styles of fencing, gates and walling, exotic tree planting, picturesque buildings and carriage drives.

iv. Military training landscapes

3.72. During WWII the remoter parts of Exmoor were requisitioned for military training. The archaeological remains in these areas form an important survival because elsewhere in England many such sites have been destroyed or have continued to evolve as modern military training grounds with the loss of earlier phases of use. The two areas where this military history is most apparent are:

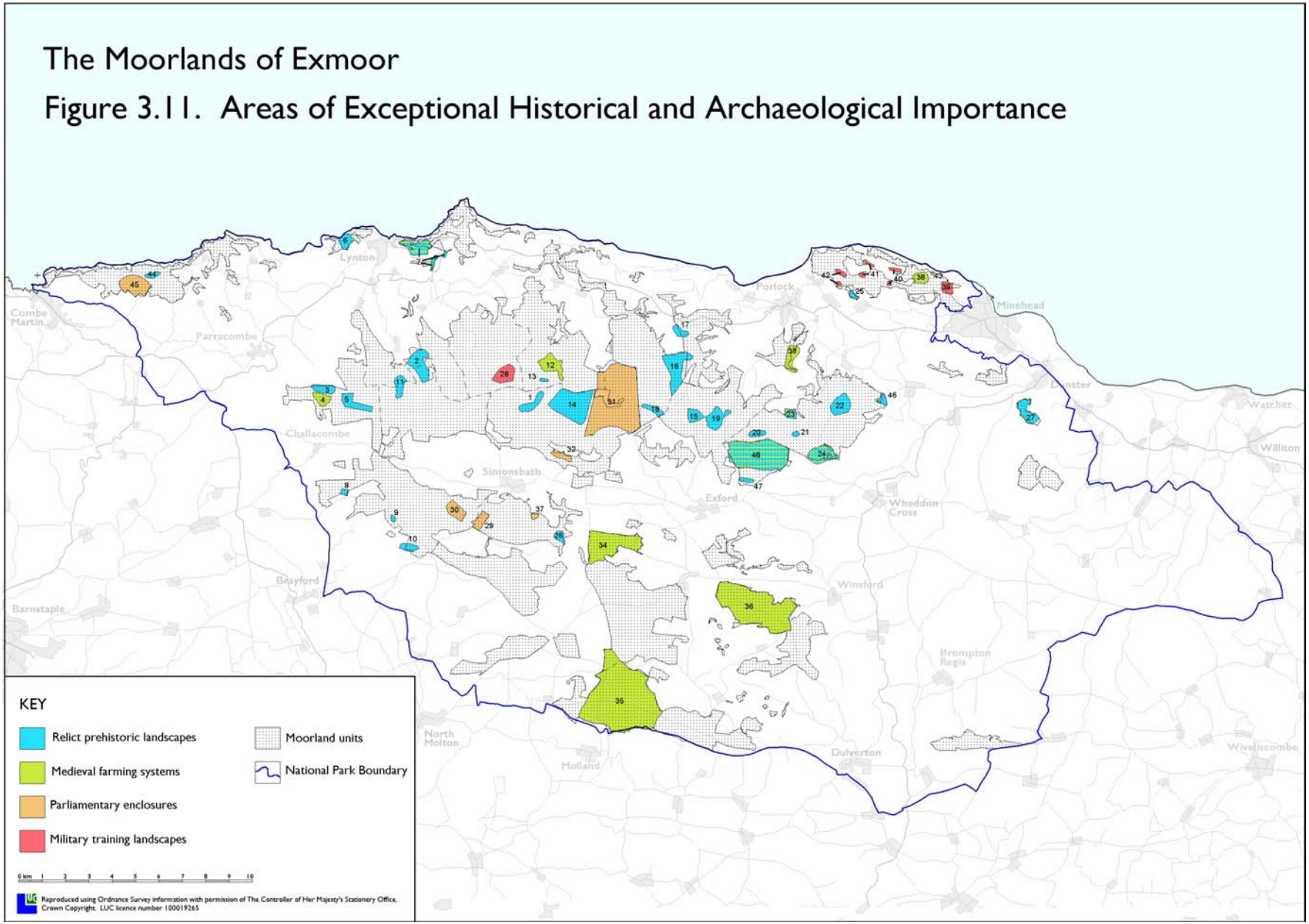
- Brendon Common (weapons training range; MacLaren memorial); and
- North Hill (tank training grounds)

3.73. In terms of the number of separate areas identified, 60% of the 48 areas are relict prehistoric landscapes, 25% are examples of medieval farming systems, 15% represent C19th parliamentary enclosures and reclamation and 10% are C20th military training landscapes (four areas fall in more than one category).

3.74. In terms of the areas occupied, equivalent figures are 36% for prehistoric landscapes, 54% for medieval farming systems, 19% for C19th parliamentary enclosures and 3% for the 20th century military training areas. It should be emphasised that the areas occupied by each area are not a good measure of their importance, they show that the areas selected as medieval farming systems and 19th century parliamentary enclosures tend to be larger than those in the other two categories.

The Moorlands of Exmoor

Figure 3.11. Areas of Exceptional Historical and Archaeological Importance



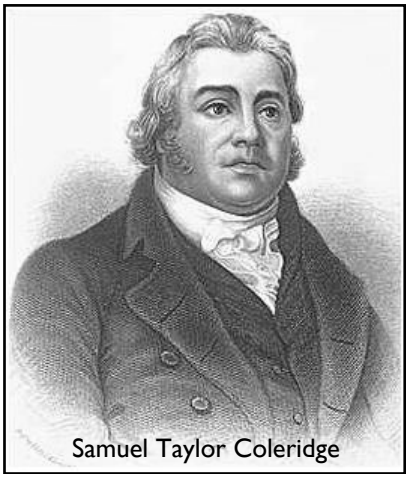
CULTURE AND TRADITION

3.75. The Environment Act 1995 gave National Parks the new purpose of 'conserving and enhancing the cultural heritage'. The Government's Circular 12/96 stated that the character of National Parks is "*reflected in local traditions which have influenced farming and other land management practices . . . . and in the words, music, customs, crafts and art which mark the individual characteristics of each Park.*"

Literary and artistic Exmoor

3.76. Exmoor's moorlands have been used as the backdrop for many novels, the best known of these being RD Blackmoor's *Lorna Doone* and Henry Williamson's *Tarka the Otter.* These novels have introduced the wild character of Exmoor's moorlands to an international audience and attract many visitors to areas such as the Doone Valley.

3.77. Exmoor, and particularly its coastal heathland, was a inspiration to the romantic poets Samuel Taylor Coleridge, who wrote his epic poem Kubla Kahn at Porlock, Robert Southey, William Wordsworth, both of whom lived at Nether Stowey for a period, and Percy Bysshe Shelley, who spent a period at Lynmouth.


Samuel Taylor Coleridge

3.78. There are a number of local artists and photographers who gain inspiration from the different moods of the moorlands. A print, poster or postcard of a moorland scene, often including red deer or grazing livestock is a popular souvenir that many visitors take away with them. The moorlands are also the location for many local legends and myths.

3.79. These literary and artistic representations have influenced the way millions of people perceive and appreciate the moorlands, including those who have never visited them. This cultural interpretation and celebration of moorland landscapes is far from unique to Exmoor (for instance the Lake District, North York Moors, Dartmoor and Snowdonia all have their own literature and art). But it is undeniable that the way Exmoor has been described and portrayed is different from other moorland areas (see paragraph 3.52). The Annual Exmoor Review, the Exmoor Society's journal since 1959, provides a useful record of many aspects of this cultural heritage.

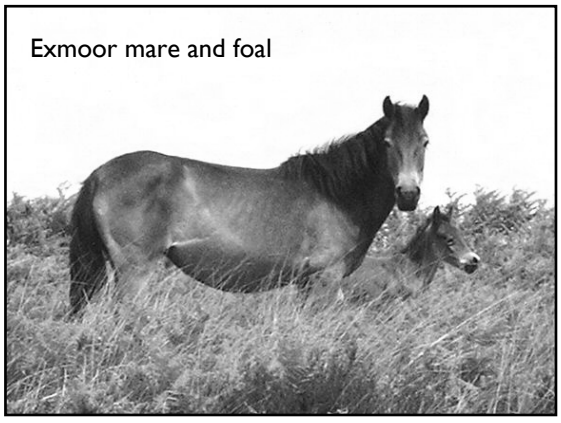
Native breeds

3.80. Exmoor has two indigenous breeds, the Exmoor pony and the Exmoor Horn sheep, and a large free-living herd of red deer. The Devon closewool sheep and North Devon ('ruby red') cattle are traditional breeds associated with the wider area around Exmoor.

3.81. Studies into the Exmoor Pony's colouring and bone structure suggests that it is the closest living survival of the wild North Atlantic pony anywhere in the world, along with the Przewalski's Horse. Exmoor's remoteness, as well as the history of

ownership and management of the Royal Forest, are thought to be the reasons why the breed has remained pure bred. The Acland family were the first to establish a herd book during their wardenship of the Royal Forest and their Anchor Herd which still roams Winsford Hill is regarded by many as the 'truest' of Exmoor ponies. The breed survived an unsuccessful attempt by the Knights to introduce Arabian blood during the 19th century (this line died out) but nearly became extinct during the Second World War due to poaching for meat. The current herd of around 150 to 200 free living pure-bred ponies on Exmoor is concentrated on Withypool Common, Winsford Hill, Codsend and Dunkery, North Hill, Brendon Common (including Cheriton and Ilkerton Ridge), Warren, Porlock Common, Molland Moor, the Anstey Commons and Haddon Hill. There are 12 registered herds and unregistered ponies are kept on Molland Moor and Brendon Common. The majority of herds are owned by a handful of moorland farmers as well as the NPA (who keep herds on North Hill, Warren and Haddon Hill). The sight of ponies being gathered up on the moorlands in October is one of the distinctive features of the Exmoor year.

3.82. Although Exmoor Ponies are kept all over the world, they and their ancient origins are not particularly well known compared to other native breeds of pony such as the New Forest, Dartmoor or Shetland. The children's book "*Moorland Mousie - the story of the life of an Exmoor Pony*" helped popularise the breed (and Exmoor's moorlands) during the middle of the 20th century but is now little known. The Exmoor Pony is one of three equine breeds on the Rare Breeds Survival Trust's (RBST) Endangered List.


Exmoor mare and foal

3.83. Like the ponies, the Exmoor Horn sheep, and Exmoor's population of wild red deer are thought to be descended from ancient populations that roamed over the area. The Exmoor Horn is not considered to be a rare breed by the RBST and there are a significant number of flocks kept on Exmoor. The significance of red deer is considered in the following section on biodiversity.

Hunting

3.84. Hunting with hounds has been a core part of the culture of Exmoor since the eighteenth century and is ingrained in the landscape through the purchase and management of moorland for this purpose, the planting of copses for cover and the erection of hunting gates. Hunting has provided an inspiration for much of Exmoor's literature, song, painting, customs and events.

3.85. The packs which hunt across the moorlands are the Devon and Somerset Staghounds, Exmoor Foxhounds (principally on the Forest), Minehead Harriers (on Dunkery), the Dulverton West Foxhounds (on Molland Moor and Withypool Common), the Dulverton Farmers (on the Anstey Commons and Winsford Hill) and the West Somerset Foxhounds and Quantock Staghounds (by invitation). Stag

hunting attracts supporters from a wide area beyond Exmoor. About 900 people subscribe to the Devon and Somerset Staghounds which hunt on Exmoor, and many more follow the hunts, particularly on the Boxing Day meets.

The longevity of moorland farming families

3.86. A study of the farming on Exmoor, undertaken for the NPA by the Centre for Rural Research at the University of Exeter, compared the longevity of occupation of moorland farmers on Exmoor with those that have no moorland[19]. Based on farmers' responses to a postal questionnaire, the study found that over a third of moorland farmers can trace their family's occupation on the farm back to before the 20th century, which is twice the proportion of non-moorland farmers with this family history. The study comments "*The extended length of both current management and family occupancy of the moorland farms suggests that present moorland farmers hold a significant store of land management knowledge and skills and that they and their family's attachment to the land is an important facet of Exmoor's upland farming cultural history*".

[19] Lobley M, Wakefield D, Butler A and Turner M. 2004. The State of Farming on Exmoor 2004. University of Exeter. Described in more detail later in this Chapter.

Conclusions on the moorlands' Historical and Cultural values

- **The high state of preservation and chronological and functional complexity of the archaeological resource gives national importance to the entire moorland area. This importance is only just starting to be understood.**
- New analysis by the NPA and English Heritage has identified 48 separate 'Areas of Exceptional Historical and Archaeological Importance' covering 3,415 ha of the moorlands.
- There are 132 Scheduled Ancient Monuments on, or partly on, the moorlands, representing a large majority of the scheduled sites in the National Park. However, many of the areas of highest archaeological value are not scheduled.
- The relict prehistoric landscapes (especially the stone settings), that are found particularly across the Northern Heather Moors and Grass Moors of the Centre, are probably internationally significant.
- Evidence of moorland reclamation and enclosure, especially on the Exmoor Forest, may be nationally important in terms of economic history. The remains of medieval farming systems are of regional significance and the 20th century military training landscapes are of local significance.
- The legacy of the large landed estates that dominated Exmoor in the 19th century is still evident in layout of the landscape.
- **Exmoor's literature, art and culture, especially the novels Lorna Doone and Tarka the Otter, the works of the romantic poets Samuel Taylor Coleridge, William Wordsworth and Robert Southey are closely associated with the moorlands and have an international following.**
- **The two indigenous livestock breeds (Exmoor pony and Exmoor horn sheep) are of national significance (the former probably international, although its importance is not widely known).**
- The sporting tradition on Exmoor, with red deer the main quarry on the moorlands, has been part of the local culture and attracts many people to the moorlands.
- Moorland farming families have a longer connection to their farms than non-moorland farmers and are a reservoir of local knowledge and customs.
- The scenic landscape and living culture of the moorlands are inextricably linked.
- The Exmoor Society's Annual Review provides a valuable record of life on Exmoor.

BIODIVERSITY

3.87. The wildlife of the moorlands is an integral part of the natural beauty of the moorlands and is an inspiration for much of the literature and art of Exmoor. More than that, the communities of wild plants and animals (the biodiversity) are of scientific interest both in their own right, and as indicators of the biological health and changing climate of Exmoor.

3.88. There is a large amount of information available, both from written reports and the knowledge and experience of many individuals, on the value and significance of biodiversity on the moorlands. This summary draws chiefly on the citations of the three moorland SSSIs, English Nature and the NPA's Natural Area Profile for Exmoor and the Quantocks, the Exmoor Biodiversity Action Plan produced by NPA and partners and from summaries of the recent breeding bird survey. This section is divided between an assessment of the vegetation communities, the birds, invertebrates and mammals. The nature conservation designations (SSSIs and SACs) are described at the end of the section.

Vegetation

3.89. Exmoor's moorlands are botanically extremely diverse. Over a quarter of the 82 National Vegetation Classification types of moor and heath are represented on Exmoor, two of which (H4 and H8, containing western gorse) are internationally important. The following broad habitat types can be identified.

3.90. **Upland heath** (or heather moorland) is the habitat that Exmoor is probably best known for. Upland heath is the dominant habitat across the Northern Heather Moors and the Southern Heather Moors and is particularly evident on Dunkery and the ridge running west to Wilmersham Common and on Brendon Common. The UK supports a significant proportion of the global resource of upland heath and the habitat is included in the EC Habitats Directive as deserving of special attention. It is also one of the 14 key habitats for which costed Action Plans have been prepared by the UK Biodiversity Action Plan Steering Group. Although Exmoor's share of the UK resource is small (less than 1%), together with Dartmoor, it is of international importance as a southern outlier of an essentially northern habitat type. **Figure 3.1** shows the location throughout England of this habitat.

3.91. Heather is normally the dominant plant, but whortleberry, bell heather, cross-leaved heath and western gorse are also prominent. Rare species which are at their southernmost outpost in the South West include lesser twayblade, fir clubmoss and stag's-horn clubmoss.

3.92. **Lowland (coastal) heath** is found along the coast and at lower altitudes, such as the lower slopes of Dunkery Hill and the Brendon Heaths, and is characterised by the presence of western gorse, a species which is limited in the UK to the South West. On some south facing slopes, a dry heath dominated by heather and bell heather and including western gorse occurs which is relatively rare in the UK outside Scotland. The area where the upland and lowland heath habitats meet and merge (technically called the 'ecotone') is of great ecological interest. There are relatively

few other areas in the UK where this merging of upland and lowland heath can be found.

3.93. **Blanket bog** occurs only on the wettest, level plateau tops where rainfall is highest on peat that is usually more than 0.5 m deep. On slopes or where the peat is thinner, or where burning has changed the vegetation, it is replaced by upland wet heath or grass moorland. Blanket peat has not been comprehensively mapped on Exmoor but English Nature estimates that it probably occupies some 1,400 ha, with around 480 ha of good quality blanket bog remaining in the main moorland area of the National Park. Large areas have been converted to grass moorland by agricultural management (principally burning and grazing, especially on the Royal Forest) over the last 500 years.

3.94. Like upland heath, blanket bog is an internationally scarce habitat. It is estimated that the UK has 10-15% of the global resource and again, although the Exmoor has a small proportion of the national resource, it is internationally important because it lies near the southern edge of its British range. Blanket bog is composed of a mixture of sphagnum moss, cotton grasses, purple moor grass, deer sedge, heather and cross-leaved heath with the scarcer bog asphodel and round-leaved sundew also present. Species which are at or near their southern British limits include crowberry and cranberry, all of which are widespread on moorland in northern Britain and have a major southern English outpost on Exmoor.

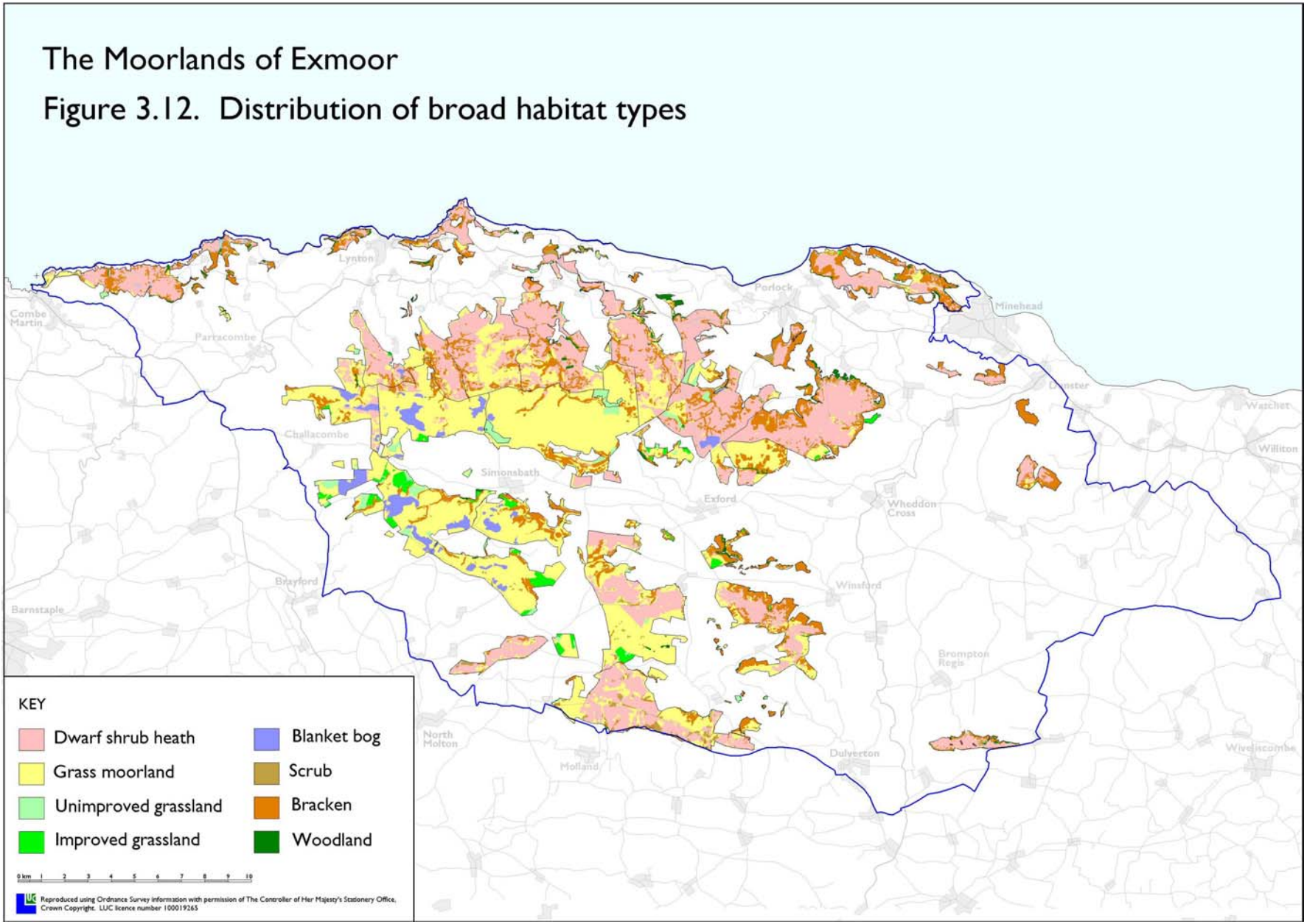
3.95. In contrast, the **grass moorland**, which consists predominantly of purple moor-grass and has come to dominate much of the Grass Moors of the Centre, has little botanical interest.

3.96. **Valley mires** are scattered throughout the moorlands, at the headwaters of the combes, along watercourses and spring lines. In a few areas such as the Codsend Moors valley mire occupies more extensive areas. They are wet boggy areas, usually occurring as linear strips along streams and spring lines. Although occupying a relatively small area, they have significant ecological interest. The valley mires on Exmoor are particularly noteworthy because of their neutral pH (neither acid nor base-rich) supporting mesotrophic plant communities. Soft rush, sharp-flowered rush and purple moor-grass tend to dominate, but nationally scarce species such as Cornish moneywort (confined in Britain to the South West), ivy-leaved bellflower and pale butterwort are found. Fir clubmoss is a northern plant that is near the edge of its range on Exmoor, where populations persist on wet rocks in valley mires.

3.97. **Figure 3.12** maps the distribution of broad habitat types on the moorlands. This is derived from a vegetation survey of the ESA undertaken by the Farming and Rural Conservation Agency (FRCA) in 1992, combined with a map of the areas of blanket bog drawn up by the NPA. This necessarily takes a 'broad brush' approach and is certainly a simplification of what is a much more complex picture. Valley mires, which are present along many of the streams are not shown. Upland heath and lowland / coastal heath are shown together as 'dwarf shrub heath'. English Nature have commented that the map under-estimates the area of blanket bog, particularly on Brendon Common, around Pinkworthy Pond, on the North Molton Ridge, Porlock Allotment and at Warren. The areas of bracken and scrub are likely to have changed since these areas were mapped in 1992.

The Moorlands of Exmoor

Figure 3.12. Distribution of broad habitat types



Birds

3.98. Moorland bird surveys were conducted on Exmoor in 1978, 1992/3, 1997/2000 and 2002, and the Exmoor Natural History Society has undertaken some single species surveys. The RSPB's 2002 breeding bird survey provides the most recent assessment of bird numbers and forms the basis for this analysis which has itself been provided by the RSPB.

3.99. Vulnerable bird species are highlighted in the UK Birds of Conservation Concern (BoCC)[20] which contains a red and an amber list. The red list contains species whose populations have declined nationally by 50% or more in the last 25 years, while those on the amber list have declined by 25 to 50% in the same period.

3.100. Exmoor's moorland 'red listed' birds include skylark, ring ouzel, linnet, grasshopper warbler and reed bunting. Of these, populations of the last three have at least doubled in the last 10 years, probably due to mild winters and increased scrub and tall vegetation arising from lower stocking densities. Skylarks have declined in the last 10 years, which is to be expected following reduced grazing pressure, as they occupy shorter, grass dominated moors. However, skylarks remain widespread and the second most common moorland bird on Exmoor. Merlins are on the very southern limit of their range (they do not breed on Dartmoor or Bodmin Moor) and are particularly vulnerable, with two or three breeding pairs out of a UK total of around 600 pairs.

3.101. Of the amber listed species, Exmoor is internationally important for stonechat, which has increased by 85% over the past decade. Stonechats are widespread across the moor, especially in the combes and coastal heaths. Dartford warblers, which occupy similar habitat to stonechat, have colonised Exmoor in the last decade, the coastal heaths supporting the majority of birds. Stonechats and Dartford warblers are both likely to have benefited from management under the ESA, as well as the recent series of mild winters.

3.102. The most widespread species on the moor is meadow pipit, which has increased to over 2,500 pairs. Conversely, snipe and curlew breed on Exmoor in very low numbers, while evidence suggests lapwing no longer breed. The same is likely for red grouse, a true heather moorland species, close to extinction on Exmoor.

3.103. The area of moorland with the lowest diversity of birds is the plateau grass moorland, with skylarks and meadow pipits often the only breeding species present.

Invertebrates


Heath fritillary

3.104. Exmoor is the national stronghold for the heath fritillary butterfly, which is found in few other places in the UK, and occurs in the transition zone between the heath and woodland. The related high brown fritillary is also nationally rare and one of the faster declining butterflies in Britain and occurs in bracken and scrub.

[20] Gregory RD et al., 2002. *The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002 – 2007*. British Birds 95: 410 – 448.

3.105. The valley mires support a wide diversity of dragonflies and damselflies such as the golden-ringed dragonfly, black darter and common red damselfly. The much rarer keeled skimmer, a south-western species, has some strong populations on Exmoor.

Mammals

3.106. Arguably the most familiar and best-loved animal of the moorland is the native red deer which thrives throughout Exmoor. The public recognition of red deer as an emblematic species of the National Park has already been remarked on (paragraphs 3.1, 3.38 and 3.45). The annual count of deer conducted by the Exmoor and District Deer Management Society in 2003 produced a total of 3,082 red deer (this is the population seen on the day of the count, used for comparison with previous years – the total population is likely to be at least 4,000 head). This compares with an estimated 1,500 red deer in the rest of North Devon, North Cornwall and West Somerset.

3.107. Red deer are most frequently to be seen on the moorlands in the summer, particularly in areas close to woodland such as at Webbers Post on Dunkery and in the remoter central areas of moorland such as Wilmersham Common. During inhospitable winter weather and when giving birth they tend to retire to woodland.

Designations

3.108. The large majority (90%) of the moorland is designated as Sites of Special Scientific Interest (SSSI), and most of the upland heath is a candidate Special Area of Conservation (SAC) under the European Habitats Directive.

3.109. There are five SSSIs that include moorland habitats. The North Exmoor SSSI, is by far the largest SSSI on Exmoor at 11,432 ha of moorland and was first notified in 1954. It lies in two main blocks; the larger one running from Parracombe Common in the west to Dunkery Hill in the east, with the second block lying on the moorlands south of Simonsbath. The South Exmoor SSSI, notified in 1992, occupies 3,082 ha of moorland in five main blocks of the Anstey Commons and Molland Moor, Withypool Common, Winsford Hill, North Molton Ridge and Barcombe Down, and Haddon Hill. The Exmoor Coastal Heath SSSI, notified in 1994, covers 1,642 ha of moorland in four separate blocks between Combe Martin and Minehead, centred on Trentishoe, Cosgate Hill, Countisbury and North Hill. The Dunster Park and Heathlands SSSI contains 587 ha of moorland habitats. Finally, the West Exmoor Coast and Woods SSSI contains 239 ha of moorland habitats. The Watersmeet SSSI and Barle Valley SSSI also include small areas of heathland but these can not be considered as moorland areas.

3.110. The Dunkery and Horner Wood National Nature Reserve, which covers 1,603 ha (both upland heath and woodland) is owned and managed by the National Trust.

3.111. Although not a formal designation, it is significant that the Nature Map, produced by the South West Regional Biodiversity Partnership, identifies the moorlands (together with Exmoor's woodlands and rivers) as a major concentration of existing biodiversity value, around which there is a potential for the extension and restoration of these habitats.

Conclusions on the value and significance of Biodiversity

- **Most areas of the moorlands have a richness and abundance of wildlife which are a vital part of their overall natural beauty.**
- **The moorlands support a diverse range of habitats. The heather moorland and blanket bog are of national significance, representing the SW extremity of a sub-alpine ecotype of which the UK has a high proportion of the global resource. Of particular significance, is the transition between the upland heath and the coastal / lowland heath, and between these and the woodland.**
- Red deer are the emblem of Exmoor and, evidence from this study would suggest, are the most valued moorland species by residents and visitors to Exmoor.
- The moorlands support few nationally rare species (the heath fritillary butterfly, Dartford warbler and merlin being notable exceptions) and have a relatively small proportion of the UK extent of upland habitats.
- The SAC designation gives almost all of the Coastal Heaths and Northern Heather Moors, and most of the Southern Heather Moors, significance at an EU level.
- The Grass Moors of the Centre have national significance as SSSIs as a result of the areas of blanket bog. Apart from these areas, the Grass Moors of the Centre have relatively little value for biodiversity. The Brendon Heaths have national significance as SSSIs designated for their lowland heath habitat.

RECREATIONAL USE

3.112. The opportunities for active enjoyment on Exmoor were identified as one of the main justifications for the designation of the National Park in the Hobhouse report (paragraph 3.1). Before that, local people and visitors had known the joys of walking and riding across the moorlands, often pitting themselves against the wildness and physical demands of the environment, for hundreds of years. An active appreciation of the moorlands continues to be one of the main reasons that people visit North Devon and West Somerset and the moorlands provide an important area for local people to enjoy.

3.113. The value of the moorlands in terms of recreation use can be assessed in a number of ways. This section considers the opportunities for access and recreation, the amount of use by different groups of people and the recreational benefits they derive from the moorland.

Opportunities for access to Exmoor's moorland

3.114. The public's right of access to the moorlands can be categorised into the following six types:

- ***Visual access from surrounding countryside***. The role of this passive form of access should not be under-estimated. As discussed in the earlier section on landscape, the moorlands are a dominating presence over most of the Park and surrounding area. People driving or walking through enclosed countryside will be aware of moorland, and it will enhance their enjoyment of the area, without them necessarily having to travel across it.

- ***Public highways***. The main A39 coast road crosses moorland on Porlock Hill, Cosgate Hill (County Gate), Barna Barrow and on the road from Wind Hill down to Lynmouth, bringing people who may just be travelling through the Park into direct contact with moorland. Minor roads that cross moorland include the B3223 across Brendon Common from Hillsford Bridge to Simonsbath and across Winsford Hill from Exford to Dulverton, the Withypool to North Molton road across Withypool Common and the North Molton Ridge, the Molland – Anstey ridge road and the Horner to Wheddon Cross road across Dunkery Hill. There are relatively few areas of moorland that are more than a mile from a public road (Badgworthy Hill, Great Toms Hill and Hoaroak Hill being amongst the few areas that are). Access to the moorlands by public transport is described in the following chapter (paragraph 4.44).

- ***Public rights of way***. The two long distance footpaths, the South West Coast Path and the Two Moors Way, cross the moorlands. There are a significant number of bridleways such as the one from Hawkridge to Molland across West Anstey Common and Molland Moor and south west from Winsford across Winsford Hill. Roads used as public paths (RUPPs) include the track from Withypool to Upper Willingford Bridge across Withypool Common (where it becomes a public footpath). All of these ensure that there is linear access across most of the large blocks of moorland.

- ***Existing open access land***. Land owned by the National Park Authority and the National Trust (see Figure 2.4) has existing rights of open access for walkers. In addition, Ilkerton Ridge, Furzehill Common, Alcombe Common and the Valley of Rocks all have open access for walkers (as a result of being registered commons in the urban districts of Lynton and Minehead) and open access on foot and horseback across Brendon Commons was dedicated by the Badgworthy Land Company under the Law of Property Act 1925. The NPA has calculated that this formal open access applies to 9,006 ha (about half) of the moorlands.

- ***Land on which there is* de facto *access***. It is difficult to be precise about the areas of land where access for quiet recreation has been tolerated or accepted as local 'custom and practice' without being formally recognised. The NPA estimate that there are at least 2,000 ha of moorland where this is the case and this is almost certainly an under-estimate. Indeed there are few areas where open access is actively discouraged.

- ***Land on which open access will be provided under the CRoW Act***. The Provisional Map of open access land published by the Countryside Agency in March 2004 has already been described (paragraph 2.12). The NPA calculate that if all the land on the Provisional Map is confirmed (and it should be noted that several landowners on Exmoor have submitted appeals), an additional 9,352 ha of moorland will gain formal open access (most of this already having *de facto* access) in August 2005.

3.115. In summary, linear access by public highway or public right of way is already available to most of the moorland blocks, and open access is available to about half of the moorland area, with informal *de facto* access applying to most of the rest. Areas of moorland which consultees reported as receiving less public access (either because it is not used or, in a few areas, is discouraged) include the Codsend Moors, Molland Moor and Squallacombe.

Data on visitors and recreational use

3.116. Reliable and up-to-date information on the number of visitors to Exmoor and their use or appreciation of the moorlands is hard to come by. The All Parks Visitor Survey conducted in 1994 estimated that 1.4 million 'visitor days'[21] were spent in the Park in 1994, with around 23% of these being day visits into the Park from home, 45% being holiday visits staying outside the Park and 31% being holiday visits staying in the Park. A more recent survey of tourism accommodation by Devon Tourism calculated that about 1.2 million bed nights are spent on Exmoor which is a million more than the 1994 survey. The 1994 survey showed that Exmoor had the smallest number of visitors of any of the National Parks in England and Wales, and the second lowest proportion of day visitors.

3.117. The 1994 survey did not investigate visitor's views or activities on the moorlands. However, it did analyse the areas of the Park visited by day trip visitors and longer

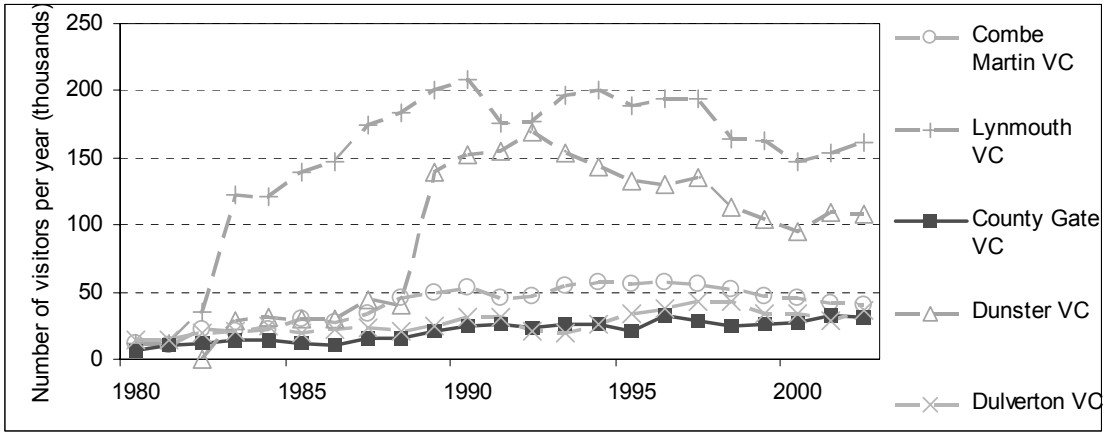
[21] A 'visitor day' is defined as a day visit to the Park from home, or a holiday day spent in the Park by someone staying inside or outside the Park.

stay holidaying visitors, dividing the Park into 12 areas. Day trip visitors spent most time in the Dunster, Dulverton and Brendon Hills areas, with the Lynton/Lynmouth and Dunkery areas also being popular. Lynton and Lynmouth were most popular with the longer staying holiday visitors, with Dunster, the Dunkery area and Malmsmead area (probably the Doone Valley) also being popular. Less popular for both groups of visitors, but still with significant numbers was the coastal area between Lynmouth and Minehead and the Exmoor Forest. Least popular for both groups was the southern moorland (the area lying between the East Anstey and Challacombe) and the Brompton Regis area (which includes Haddon Hill).

3.118. In 1995 a visitor survey was undertaken of the Coast Path. This estimated that 16,399 people walked the path each year east of Combe Martin, 5,373 on Countisbury Common and 11,487 west of Minehead. These numbers were low compared to other sections of the South West Coast Path of similar remoteness[22].

3.119. The NPA records the number of people going through their five Visitor Centres. Data since 1980 is shown in **Figure 3.13**. It is the County Gate Visitor Centre which the NPA regard as their 'moorland centre'. Overall, these figures show that numbers for all Visitor Centres have been relatively static during the last ten years, but rose substantially during the previous ten years (particularly the case for the two 'flagship' centres at Lynmouth and Dunster which were refurbished during this period, but also the case for the other Visitor Centres). Although the County Gate Visitor Centre has the smallest throughput, its trends in numbers have followed those for all centres. The NPA believe that total numbers of visitors to the Park has risen slightly during the last ten years, but that the Visitor Centres are less important to some visitors who have been before or have access to other information about the Park through the internet or through the accommodation they are using in the Park.

Figure 3.13. Number of people visiting NPA Visitor Centres 1980 to 2003



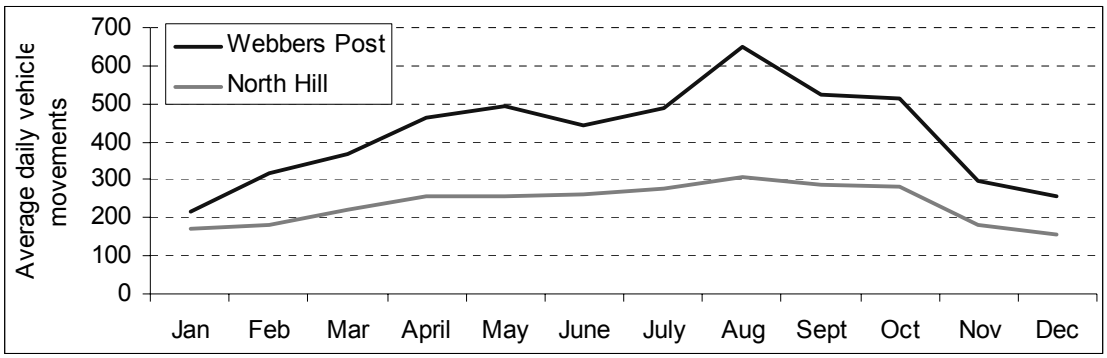
3.120. The final piece of 'hard' data on visitors use comes from traffic counts undertaken by the National Trust at three locations on their Holnicote Estate. Using sensors placed under the road surface, the Trust has recorded the number of vehicles using three

[22] Information from the South West Coast Path Initiative, quoted in ENPA briefing note: *The impact of the tourism on Exmoor* (undated).

stretches of road since 2000. These locations are on the road to the North Hill car park (SS 960468), on the road to the Webber's Post car park, which also takes traffic on the minor road to Cloutsham, Stoke Pero and Wilmersham (SS 903440) and finally in Horner village. The annual trend in the average number of daily vehicle movements at the North Hill and Webber's Post sites are shown in **Figure 3.14**. Data from the Horner site was not analysed since it is less connected with moorland access.

3.121. It is not known how typical of other moorland access roads these two sites are. However, there are notable differences between them. The Webber's Post car park is one of the main parking areas for people walking to Dunkery Beacon, probably the most popular open moorland walk on Exmoor. Dunkery Beacon is signposted from the A39 with a brown tourist sign and, as the highest point on Exmoor, is highlighted in many visitors books. The vehicle data for Webber's Post shows much higher numbers of vehicle movements between April and September, with a sharp peak in August, suggesting use of the car park and road is associated by visitors during the main tourist season.

Figure 3.14. Monthly trends in vehicle movements at North Hill and Webber's Post during 2003



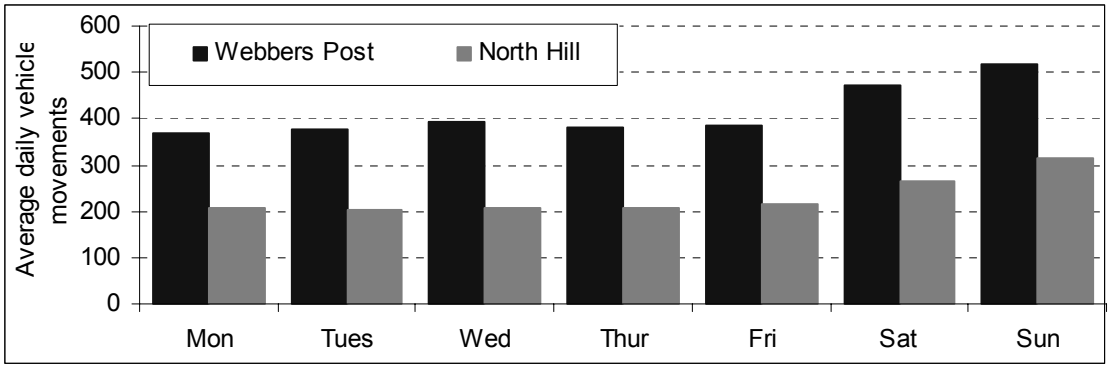
3.122. In comparison, the North Hill site is probably less well known by visitors but is extremely popular with local residents, particularly those from Minehead. The annual profile is much flatter with less of a peak in August suggesting more even year round use (although less use overall than the Webber's Post site).

3.123. Across the week, as expected, use is greatest at both sites during the weekend, with the most popular day being Sunday, as shown in **Figure 3.15**. Between the two sites, weekend use is slightly more important, relative to use on weekdays, at North Hill (weekends being 25% more popular than across the week at North Hill, compared to 20% more popular at Webber's Post), again suggesting a greater relative use by local people than visitors.

3.124. A comparison between the data for 2003 and that for 2000 suggests that between June and October (data outside this period was not available in 2000), there has been an 18% increase in vehicle traffic at Webber's Post and an 11% increase at North Hill. These apparent substantial increases are difficult to interpret. They may reflect initial teething troubles with the recording equipment when it was first used in 2000 (probably not that significant) or the fact that the National Trust and NPA have

consolidated car parking spaces at both Dunkery and North Hill, leading to a concentration at the recorded sites. Nevertheless, consultees have reported their impressions that numbers of people visiting both North Hill and Dunkery have increased over this period (excepting the lack of use in 2001 during the Foot and Mouth Disease epidemic).

Figure 3.15. Daily trends in vehicle movements at North Hill and Webber's Post during 2003



3.125. In the absence of any other empirical data on recreational use of the moorlands by visitors and residents, this study has relied on the experience and knowledge of consultees, particularly of the NPA and National Trust staff.

Motivations for visiting the moorlands

3.126. Discussion with consultees suggests that there are at least six separate motivations lying behind peoples' recreational use of the moorlands. These are to:

- find peace and quiet away from other people;
- experience wildness and nature;
- undertake physically challenging exercise;
- increase personal knowledge of geography, history or wildlife; and
- socialise in the company of friends

3.127. There are tensions implicit between these motivations. For instance people seeking physically challenging exercise or socialising may conflict with those seeking peace, quiet, wildness and nature. The environmental needs of people wanting to find wildness or to experience exhilarating physical activity may be quite different from those wanting to socialise or find peace and quiet. For some people, the risk of encountering hostile weather or the remoteness of the moorland may be an unacceptable threat, whereas others may positively seek out an element of controlled risk, enjoying the thrill of a walk along vertiginous coastal cliffs or in deep snow. This suggests that there is no one kind of moorland that will meet the expectations of people with these different motivations.

Types of recreational users on the moorlands

3.128. People consulted during the study suggested that these different motivations are reflected in different groups of recreational users. Ten different user groups can be distinguished, each of which tend to come from a different range of locations (such as the immediate locality of Exmoor, the UK, international visitors, etc). Brief descriptions of these groups, based on discussions with consultees, are given in **Box 3.1** below.

Box 3.1. Outline descriptions of main recreational user groups on the moorlands

1. ***Car-based trippers***. These are visitors to Exmoor, mostly regional or national in origin, who may stop the car on moorland roads but rarely walk far onto the moorland itself. Easy access by road, car parking space and spectacular views are among their requirements. Numbers are probably static. Typical moorland locations are Porlock Common (Whitstone Post), County Gate and Valley of Rocks.
2. ***Casual walkers - visitors***. These are people who walk relatively short distances (for two or three hours) as one part of their holiday activities. They like circular walks from a car park or pub/café with diversity of interest (such as moorland, coast, woodland and farmland) and often use guided walk leaflets or join a guided walk group. They come from the SW Region, UK and overseas. Numbers thought to be rising. Typical moorland locations are Dunkery Beacon, Winsford Hill/Ashway Side (from Tarr Steps), Trentishoe (from Hunters Inn) and Badgworthy Hill (Doone Valley).
3. ***Casual walkers – locals***. Residents from the Park or the surrounding area who have favourite walks, often close to their homes. Includes regular dog walkers. Numbers probably rising as a result of increasing number of retired people living in the area. Typical moorland locations are: North Hill and Grabbist Hill (Minehead residents), Haddon Hill (Wiveliscombe and Tiverton residents), Anstey Commons (South Molton residents).
4. ***'Serious' ramblers***. Visitors for whom long distance walking (often along the two long distance paths on Exmoor) is the main activity of their holiday. Often seek out inhospitable terrain and are more tolerant than casual walkers of poor weather. Originate nationally and internationally. Numbers relatively small but rising. Typical moorland locations are all along the coastal heaths (the South West Coast Path), Cheriton Ridge, The Chains, Burcombe (Two Moors Way), and from Dunkery along the ridge west to Aldermans' Barrow.
5. ***Hunting, hunt followers and hunt tourists***. Stag and fox hunting takes place between August and April, with the most frequented areas being the central moors from Lanacombe to Swap Hill (unit 13 in this study) and Molland Moor and the Anstey Commons (unit 17). Those on horse back are mostly local but hunt followers, who often drive onto the moorland in 4x4 vehicles to view the hunt, come from further afield regionally, and even (for the most popular meets), nationally.
6. ***Recreational riders***. The bridleways across moorland are popular routes for riding by local people exercising hunters and ponies, and by holiday makers on accompanied rides from one of the riding stables. There are at least seven riding stables that use the moorlands, three of them based on the northern edge of the Northern Heather Moors, two on the edge of the Southern Heather Moors and two on the Grabbist Ridge on the Brendon Heaths. Numbers probably rising slightly.

Continuation of Box 3.1.

7. ***Outdoor activity groups and the Army***. There are four outdoor activity centres in the Park at Pinkery (run by the NPA), at Yenworthy (run by Oxfordshire County Council), at Lee Abbey (privately owned) and at Monksilver near Taunton (run by the Field Studies Council). There is one near the Park at Wistlandpound near Blackmoor Gate (run by the Calvert Trust). Most of these make use of the moorlands for about half of their week long courses which are most popular between May and July. Moorland locations vary but include 'educational' areas such as The Chains and Valley of Rocks. Numbers are thought to be rising. Educational use is also made of the moorlands by local schools, with the Dulverton Middle School and the NPA together developing an 'Exmoor Curriculum'.

   There are three hostels run by the Youth Hostels Association (YHA) in the National Park at Lynton, Exford and Minehead (Alcombe) with a combined bed space of 123. Use of these hostels is rising, with the YHA actively encouraging their use outside the main summer season.

   The Army is a regular user of the moorlands for navigational exercises, with groups of up to 100 soldiers from different bases across the UK visiting the moorlands during most months for a few days at a time. Often camp on rough land, including out of the main tourist season. Typical moorland locations are the more remote areas in the central block from Radworthy to Dunkery. Numbers thought to be static.

8. ***Guided groups***. The NPA rangers conduct around 140 guided walks in the Park every year, around half of which include moorland, starting from public car parks and visiting popular spots such as the Valley of Rocks and Doone Valley. The average attendance on these walks is around 12. The Exmoor Society leads around 25 walks in the Park a year and the Exmoor Natural History Society leads a similar number. Again around half of these include moorland. If attendance at walks run by other groups is included, the number of people on guided walks every year is likely to be in the region of 1,500. Numbers are thought to be static.

   Guided trips by four wheel drive vehicle to inaccessible areas of Exmoor are becoming increasingly popular and there are three companies based in the Park that offer this 'Safari' experience. One business at Barbrook also provides horse drawn tours across the western parts of the Northern Heather Moors.

9. ***Organised competitive events***. The last ten years have seen a significant increase in the number of sporting events using the moorlands and woodlands, most of which make much of the wild and rugged environment. Examples of these events include the Exmoor Challenge and Doone Run (on foot), the Exmoor Conquest (4x4 vehicles), motorcycle trials, the Somerset Stages Rally, Exmoor Explorer (mountain bikes), the Golden Horseshoe (endurance horse riding) and Ace Races (adventure racing). The NPA have an important role in liaising with these events, ensuring their impacts are contained.

10. ***Picnickers.*** There are several areas on the moorlands which are popular for picnicking, often associated with swimming in nearby streams. It is usually local people who make use of these areas which are often not known to visitors. Sherdon Hutch and Lanacre Bridge are the best examples of this kind of use. It is highly seasonal and most popular on fine summer weekend evenings.

3.129. The balance between recreation use by visitors and locals is worth considering. The 1994 survey estimated that only 13,000 'visit days' were from residents living in the Park, but this is likely to be a major under estimate (it would suggest that the 10,000 residents of the National Park spend only 1.3 days a year each on recreational activities in the Park). A more realistic figure might be 50 days a year each (i.e. a day a week on average, with some people such as dog walkers having a much higher usage) producing half a million 'visit days' by locals. As outlined above, certain areas such as North Hill and Haddon Hill are popular walking areas for local people and in these areas use by locals is likely to far exceed use by visitors, particularly outside the main tourism season. In addition, it is likely that many, if not a majority of the 'car-based trippers' live close to the National Park.

3.130. It is difficult to come to firm conclusions about the relative importance and impacts of recreation on the moorlands by visitors and locals, but it is likely that locals' use is more significant than has previously been estimated and that their use is more significant than visitors outside the main tourism season and at popular dog walking and picnicking sites.

Economic contribution of the moorlands through recreation and tourism

3.131. There is relatively little information on the impact of the moorlands, as opposed to the whole of Exmoor, on the tourism industry, either through visitor spending or employment.

3.132. Direct economic impacts from the moorlands are likely to be small and limited to the turnover of businesses providing access on horseback and on vehicle safaris, to which might be added the field centres and special events that make heavy use of the moorlands. However, the indirect impact is likely to be much greater since, as identified above, the moorlands are one of the major draws bringing people to Exmoor.

3.133. The All Park Visitor Survey in 1994 estimated that the average visitor to the Park spent £7.80 a day not including accommodation costs, with the average daily spend on accommodation being £18.90. Multiplying these figures up using the estimated number of visitor days from the survey suggests that tourists visiting Exmoor spent around £11.2 Million in 1994. A different survey in 1988 estimated that total spending by visitors in that year amounted the much higher figure of £35.5 million. Clearly, the value of visitor spending will have increased significantly in the last ten years.

3.134. Tourism employs more people on Exmoor than any other sector (agriculture comes second) although many of the tourism jobs are seasonal and are taken by people who commute into the Park. The Annual Business Inquiry survey in 2001 classified 28% of the businesses in the National Park as being tourism related, compared to 22% in agriculture.

3.135. The recent study on the State of Farming on Exmoor[23] reported on the importance of tourism incomes to farmers. A quarter of the Exmoor farmers surveyed stated that the income they derived from tourism accommodation was very or crucially important to their business. This financial income therefore goes to support the agricultural and environmental management of Exmoor, which in turn is such an important draw for visitors.

3.136. There have been a number of detailed studies in recent years looking at the economic impact of hunting on Exmoor. A study for West Somerset District Council in 1997 calculated that about 40 people were employed by the seven hunts operating in the greater Exmoor and Quantocks area and that subscribers to these hunts spent £4.5 million a year on their sport. A study in 2004[24] estimated that the direct impact of the three stag hunts in the area amounted to 420 full time equivalent (fte) jobs and £5.65 million turnover, rising to 584 fte jobs and £9.5 million turnover when indirect impacts are included. A significant proportion of these impacts relate to the moorlands on Exmoor.

3.137. Commercial shoots generate significant income on Exmoor, estimated to be £7.5 million in 2001[25]. However there is no grouse shooting on Exmoor and most of the pheasant and partridge shoots take place on farmland and woodland, with little use of moorland (an exception being the moorland north of Pitsworthy Farm, north of Exford).

[23] Lobley M, Wakefield D, Butler A and Turner M. 2004. *The State of Farming on Exmoor 2004*. University of Exeter.
[24] Promar, 2003. *Study into the impact of a ban on stag hunting in the Greater Exmoor and Quantocks area.* For West Somerset District Council, Exmoor National Park Authority and others.
[25] Quoted in ENPA, 2002. *A statement on the Economy of Exmoor*. Exmoor National Park Authority, Dulverton

Conclusions on the Recreational Value of the moorlands

- The recreational opportunities provided by the moorlands were one of the reasons for the designation of the National Park. The moorlands continue to be one of the main draws, with the coast, for visitors to Exmoor.
- Although good data on recreational use is fragmentary and much is out of date, it is clear that recreational use is varied. The study has identified 10 distinct different user groups, from day trippers who rarely leave their cars, to people attending organised 'extreme' sports events. Each group has a different profile in terms of extent, period and area of activity.
- The most significant group in terms of the amount of their use is the 'casual local walkers' group – it is likely that the moorlands, with the coast, are the main recreational area in North Devon and West Somerset. The group drawing people from furthest afield is probably the 'serious ramblers' group doing the national trails (SW Coast Path and Two Moors Way). Hunting attracts significant numbers of 'hunt tourists' to Exmoor, predominantly outside the main tourist season.
- **In comparison with other National Parks and upland areas, Exmoor's moorlands probably have less recreational pressure than almost any other area of moorland in England.**
- **The economic impact of moorlands to the local economy through tourism is significant but very difficult to quantify, the majority being indirect.**

FARMING

3.138. As the archaeology of the moorlands shows, the activities of farmers have been shaping the landscape and land cover of Exmoor for thousands of years. Although the history of farming on the moorlands over the last 50 years has been primarily one of agricultural reclamation and improvement, grazing and burning undertaken by farmers with local knowledge and experience continues to be the primary, and in most areas, the only form of management upon which the character of the moorlands is maintained.

3.139. A detailed analysis of farming in the National Park as a whole has been produced for the NPA by the Centre for Rural Research at the University of Exeter[26]. The following sections draws on the numerical analysis from this study, adding the comments and views received during the series of meetings with farmers held during this study.

Agricultural potential of the moorlands

3.140. Although it is no longer appropriate in a public policy context, nor likely in economic terms, it is interesting to examine the potential agricultural 'improvability' of the moorlands. As has already been noted, the moorlands have a more benign climate and underlying soils than almost all other upland areas in the UK (paragraphs 3.15 to 3.17). MAFF undertook a survey in 1976 classifying all of the moorland into four classes of agricultural improvability[27]. Based on this map, Lord Porchester estimated that about 60% of the moorlands could be converted to seeded grassland, although this fell to about 30% in the 'Critical Amenity Area' because of the high levels of ownership by bodies like the National Trust.

3.141. Analysis by Miller et al.[28] showed that the Southern Heather Moors had the highest proportion of improvable land (59%), followed by the Northern Heather Moors (41%). In contrast, the Coastal Heaths and Brendon Heaths had only 20% of land that was improvable and the Central Grass Moors 26%. Although the economics and technical resources available to farmers for moorland reclamation have changed significantly in the last ten years, this suggests that the core moorland areas have significant potential for agricultural improvement and that this is greater than almost any other area of moorland in the UK.

Characteristics of moorland farmers and their families

3.142. There is no entirely reliable source of information on the number of farming businesses involved in managing the moorlands. Defra's Agricultural Census for June 2002 gives the number of agricultural holdings with rough land (which does not include common land) as 171. However, many of these holdings are either likely to be non-commercial "hobby" farms (on Exmoor as a whole, 40% of holdings are less

[26] Lobley M, Wakefield D, Butler A and Turner M. 2004. The State of Farming on Exmoor 2004. University of Exeter.
[27] Details of this survey are included in the Technical Annex
[28] Miller GR, Miles J and Heal OW, 1984. *Moorland Management: A study of Exmoor*. ITE.

than 5 ha in size) or will be part of a larger farming unit which includes several holdings.

3.143. As reported earlier (paragraph 2.21), although there are 123 registered commoners on the registers held by Somerset and Devon County Councils, the majority of these commoners do not actively exercise their rights. Indeed the number of active commoners is estimated at around 20, most of whom will manage other, non-common land, areas of moorland.

3.144. Perhaps the most reliable source of information is the number of Environmentally Sensitive Area (ESA) agreements involving land in one of the moorland tiers (see paragraph 3.163). Data provided by the Rural Development Service for the agreements in 2003[29] show that there were 69 separate agreements. While there is some duplication of agreements (for instance the National Trust hold several on their different parcels of land), several of the larger agreements are with landowners who use a number of farming tenants to graze the land and several of the commons agreements include a number of commoners as parties to the agreement (although many of these will also be agreement holders in their own right). Allowing for these adjustments, it seems likely that there are around 85 farm businesses actively involved in managing the moors. The University of Exeter study received 77 responses from farms that had either rough or common land, and it is likely that the majority of these were actively farming this land. This would appear to confirm the estimate of around 85 moorland managers.

3.145. With the help of members of the steering group a list of the most influential and active moorland farmers was drawn up to form an invitation list to consultation meetings in the study. This list came to 20 individual businesses showing that there is a small reservoir of businesses active over the majority of the moorlands.

3.146. The sample of 77 moorland farmers from the University of Exeter study showed that their farms were significantly larger than the average for all the farms in the sample (with an average size of 218 ha compared to 105 ha for non-moorland farms, these moorland farms accounted for 54% of the total land area covered by the survey). As might be expected, the moorland farms had less arable and temporary grassland but more woodland, and more were classed as mixed cattle and sheep farms, than the average. Many fewer of the farms were in the "other" category of farm type suggesting that *"the majority of moorland farmers in the sample are still actively engaged in some form of conventional agriculture"*.

3.147. The University of Exeter study also reveals interesting information about the type of moorland farmer and their family. Moorland farmers tend to be older than those without moorland on Exmoor (33% of moorland farmers were over 65 years old compared to 16% of non-moorland farmers). However, as stated earlier (paragraph 3.86), moorland farmers are twice as likely as non-moorland farmers to trace their family's occupancy of the farm back to before the 20th century (36% of moorland farmers compared to 17% of non-moorland farmers).

[29] Details of 2004 ESA agreements are not finalised at the time of writing.

Exmoor's moorland farming systems

3.148. The agricultural use of the moorlands by grazing, periodic burning and occasional cropping has been the key management factor shaping their vegetation cover ever since the native woodland started to be cleared by man four thousand years ago. The ebb and flow of farming has already been described (paragraph 2.30). There are many other books and reports that describe in some detail the farming systems employed to maintain and agriculturally reclaim the moorlands in the past, particularly on the Exmoor Forest[30].

3.149. While the way in which the moorlands are grazed with livestock is far from uniform or static, it is possible to characterise the typical farming years for sheep and cattle as follows.


Scottish blackface ewe

3.150. **Sheep** account for the majority of livestock on the moorlands. The local breed of the Exmoor Horn is now kept by a minority of farmers (perhaps ten moorland graziers), with the main hardy breeds being the Scottish Blackface (the majority) and Swaledale. Few now keep the Cheviots that were popular a generation ago. The main breeding flocks consist of 'mule' ewes (a pure bred hardy ewe crossed with a 'longwool' ram - usually a Blue Faced Leicester). These ewes are put to a 'downland' ram (such as a Suffolk or Texel) between the end of October and early November and kept on in-bye grassland where they lamb between the end of March and early April. While some farmers with Scottish or Swaledale mule ewes may put the ewes and lambs onto the moorland shortly after lambing for the summer, most prefer to keep them on more nutritious in-bye grassland.

3.151. Sheering and dipping take place in July (with sheep gathered in off the moorlands for these purposes) and the draft ewes and ewe lambs that will be kept for breeding the following year are selected. It is at this point that moorland farmers will tend to turn the stock they are keeping to breed from out onto moorland until the middle or end of September. The rest of the flock are kept on in-bye grassland and prepared for sale in the autumn (sales of store and ewe lambs taking place in September at Cutcombe and Blackmoor Gate). An increasing number of farmers are choosing to finish their lambs themselves, requiring high quality nutritious grassland, before selling them for slaughter during October and November.

3.152. **Cattle** are kept by most moorland farmers, but are economically less important than sheep. However, it is important to emphasise that beef cattle numbers on Exmoor as a whole are significantly higher than on many other hill areas such as the Lake District and Yorkshire Dales. The suckler cows tend to be Limousin, Hereford or Aberdeen Angus crosses[31] which are put to a continental beef bull (Charolais and

[30] See in particular Orwin CS, Sellick R and Bonham-Carter V 1997. *The Reclamation of Exmoor*. Exmoor Books, Tiverton.

[31] These cows are offspring from a dairy – usually Friesian – cow and a beef bull. Dairy cows play no direct part in the moorland farming system.

Limousin being the most popular). The traditional North Devon cow is now relatively uncommon, producing a slower maturing calf and responding less well to winter housing than the more popular crosses.

3.153. Most herds are spring calving. Cows are put to the bull in June and calve during February and March. Calves are reared on their mother on grass until ready for sale as 'busk' (a local expression for suckled) calves in October and November. Exmoor's suckled calf sales have a high reputation for producing high quality well prepared animals and beef finishers come from across England to purchase animals at Cutcombe. As soon as the calves have been taken off their mothers and sold, most moorland farmers turn the cows out onto the moorland where they stay until winter weather, or the ESA prescriptions require them to be brought in. Most farmers house their cows in sheds during the winter months.

3.154. A minority of suckler herds are summer calving (during June and July). The cows go to the bull in October and tend to remain housed until the spring when they are put out onto moorland before being brought back to in-bye ground to calve in the early summer. The calves are sold from the following May onwards. The impact on the different calving and grazing regimes of both cattle and sheep on the condition of the moorlands is discussed in Chapter 4.

3.155. **Exmoor ponies** are kept by a small proportion of moorland farmers and the NPA (paragraph 3.81). Ponies stay on the moorlands throughout the year and are rounded up in October so that the suckers (6 month old foals) can be branded and passported, with some suckers selected out and taken back to in-bye land for preparation for sale. Most sales take place by private treaty, often through the Exmoor Pony Society, with some taken to the Brendon Pony Auction. The Bampton Fair ceased in the 1980s.

3.156. **Burning and swaling**: Compared to moorland areas managed for grouse, such as parts of the Yorkshire Dales and North York Moors, burning of moorland on Exmoor has tended to be sporadic without a long term plan between moorland owners. Nevertheless, burning has been used to encourage the rejuvenation of heather and other shrubs while the extensive annual burns of the Royal Forest during most of the 20th century are thought to be largely responsible for the current dominance of purple moorgrass. Recent action by the NPA, with assistance from Somerset's Fire Service, to co-ordinate action between landowners and provide practical assistance has led to a more proactive programme of burning in recent years.

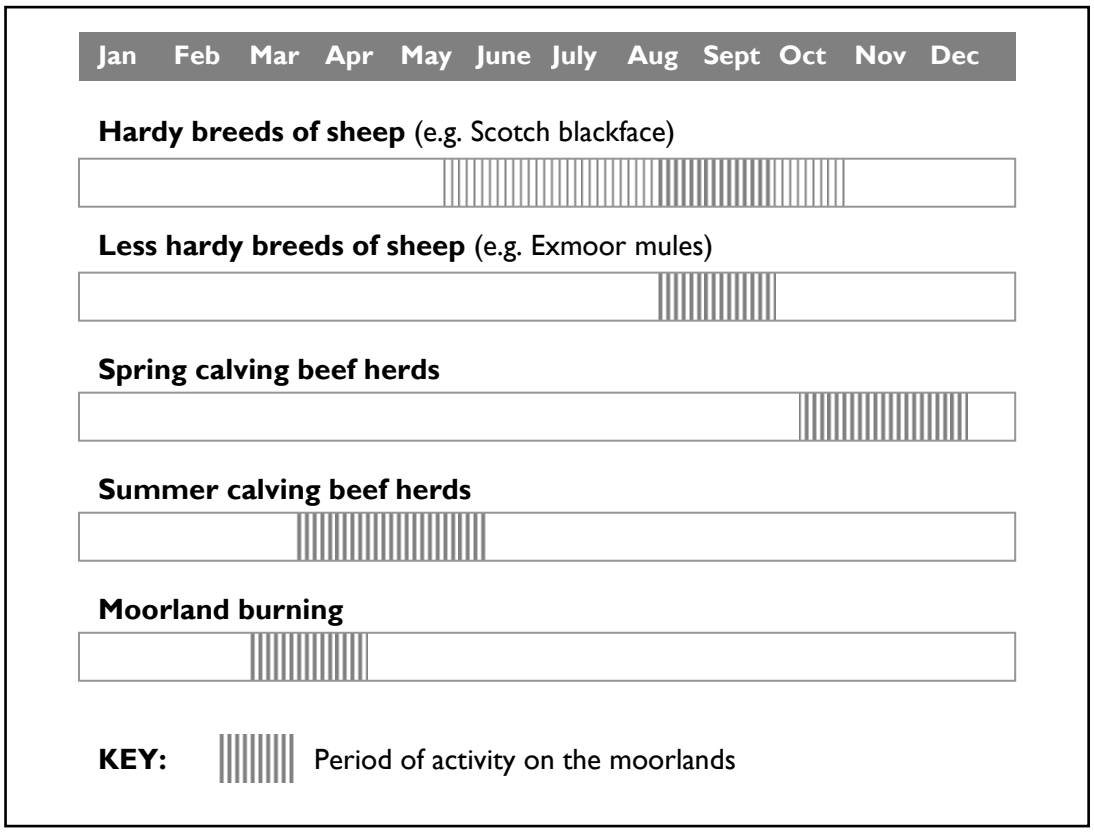
3.157. Although around 100 people have common rights of turbary and estovers on the different moorland commons (paragraph 2.21), it would appear that no-one exercises these rights to any significant extent.

3.158. **Variation across the moorlands**: While the systems outlined above hold true as generalities, there are significant variations in the extent of agricultural management between the moorland areas. Many of the coastal heaths, particularly those that are unfenced against the A39 and the smaller outlying blocks such as the Brendon Heaths Bye Common receive little if any grazing. While most of the large moorland blocks are under-active agricultural management, the density of stock on some areas, such

as the large area of Dunkery Hill, is low and declining. Stocking levels are highest (though not as high as it has been during the last two decades) on the west end of the Northern Heath Moors (Ilkerton Ridge, Cheriton Ridge and Brendon Common). The current condition of the moorlands in terms of agricultural grazing is covered in the following chapter.

3.159. **Figure 3.16** provides a summary of when the typical farming operations on the moorlands take place. It is important to stress that the moorlands play only a minor role in modern livestock farming on Exmoor, even amongst those farmers with a relatively high proportion of their farm as moorland. Instead, the moorlands provide the relatively few farmers with access to moorland with an extensive area of relatively poor quality grazing large area 'beyond the farm gate' which can be used to take the pressure off and rest the more productive and nutritious in-bye grassland. However, the financial contribution of the moorlands through the ESA scheme is more significant. This is covered below.

Figure 3.16. The typical timing of farming operations on the moorlands



The economic impact of moorland farming

3.160. Isolating the income of moorland farmers from others on Exmoor, and then identifying the proportion of their income that comes from moorland, as opposed to the more productive in-bye land, is difficult and the following assessment therefore relies heavily on uncertain estimates.

3.161. Work by the University of Exeter[32] and others has shown that farmers in the Severely Disadvantaged Areas (SDA), which include the moorlands (see Figure 2.5), are heavily dependent on subsidy income. The University's Farm Business Survey for 2002/03 show that large farms in the SDA received an average of £62,784 each in direct subsidies (42% from cattle subsidies, 22% from sheep subsidies and 36% from management agreements and agri-environment payments) but that their net farm income was only half this amount, demonstrating the extent to which these subsidies are vital to support what would otherwise be unviable businesses.

3.162. The University's study has also shown that moorland farms are more dependent on agricultural income and receive less from diversified activities than non-moorland farms on Exmoor. While 43% of moorland farmers depend on their farm for 75% or more of their income, the equivalent figure for non-moorland farms is 33%.

3.163. The value of agri-environment payments received on the moorlands can be calculated from the areas under agreement (**Table 3.2**). Figures from the Rural Development Service show that a total of 16,817 ha of moorland was under agreement at the beginning of 2004, representing almost 90% of the total moorland area. There are 69 separate agreements involving land in the moorland tiers. Total payments on the agreement land amount to £0.79 Million, equivalent to an average of nearly £11,400 per agreement. In comparison, the average payment per agreement over the ESA as a whole is a little under £3,000 (£1.97 Million on 666 agreements).

Table 3.2. Summary data for moorlands tiers of the ESA, 2004

Tier	Tier Description	Area under agreement (ha)	Payment per ha	Total income
Tier 1 part 4	Moorland	4,613	£34	£156,842
Tier 1 part 5	Heather moorland and coastal heath	10,236	£50	£511,800
Tier 2 part 1	Enhanced heather moorland and coastal heath	1,288	£60	£77,280
Tier 2 part 2	Reversion of land to heather moorland & coastal heath	50	£225	£11,250
All moorland under agreement		16,187	-	
Supplements on the tiers above	Purple moor grass grazing	818	£10	£8,180
	Early winter grazing levels	269	£5	£1,345
	Commons	3,700 (approx)	£5	£18,500
All ESA payments				£785,197

Source: Rural Development Service. Figures do not include agreements entered during 2004

[32] Lobley M, Wakefield D, Butler A and Turner M. 2004. The State of Farming on Exmoor 2004. University of Exeter.

3.164. Almost all farmers on Exmoor claim the Hill Farm Allowance (HFA) which provides an area based payment to farmers keeping cattle and sheep in the LFA. The payment rate in 2004 for land in the moorland line and for common land is £11.27/ha for the first 350 ha in a farmers HFA claim and half this rate thereafter. A 20% enhancement of this payments is available to farmers meeting two or more of six environmental criteria (or a 10% enhancement for those meeting one criteria).

3.165. While few Exmoor farmers have access to more than 350 ha of moorland, a number will farm in excess of this area in total and will therefore receive the half rate payment on their moorland. Since no information is available on the area of moorland in HFA claims or the rates of payment, an estimate must be made. If it is assumed that 75% of the moorland area receives payment this year at the higher rate, 15% receives payment at the half rate and all receive the 20% enhancement, the total value of HFA payments on moorland in 2004 amounts to around £192,000.

3.166. There is no information available on which to calculate accurately the number of cattle and sheep kept on moorland farms. However, the NPA has estimated the current value of livestock subsidy payments[33] on moorland farms in relation to their work on the impact of CAP reform. Their calculation, based upon information supplied by farmers in spring 2004, estimates that moorland farmers (those with more than 50% of their land inside Defra's moorland line) receive an average of £132 per ha over their entire farm from livestock subsidies compared to an average for all Exmoor farms of £171/ha. This study has not attempted to estimate how much of the moorland farmers livestock subsidies relate to moorland but it is likely to be of a similar order to the income received from the HFA.

3.167. Estimating the value of livestock sales that are dependent on the moorlands is also very difficult, particularly since, as outlined in the previous section, livestock tend to be prepared for sale on in-bye ground and the moorlands main impact is in allowing the overall stocking density of the farm to be higher than it would otherwise be. However, based on the comments of farmers consulted in this study and the implications of the University of Exeter's Farm Business Survey, it can be assumed that the contribution of the moorlands to market sales by farmers is unlikely to be above £200,000.

3.168. Putting these figures together, it can be estimated that livestock farming on the moorlands generates around £1.5 Million gross income to the local economy, the majority of this (about 65%) coming from ESA payments and the HFA. While this is considerably more than the amount generated directly by tourism provision on the moorlands, it is probably less than the indirect contribution that the moorlands make to the overall tourism economy of Exmoor (paragraph 3.134). Nevertheless, the majority of this farming income (the ESA and HFA payments) is related specifically to providing public benefits. Furthermore, much of the money is likely to stay within the farming economy through the employment of labour and purchase of local services such as veterinary care and haulage.

[33] These are payments from the Suckler Cow Premium, Beef Special Premium, Sheep Annual Premium, Extensification Payment and Slaughter Premium Schemes.

Employment on moorland farms

3.169. The economic impact of moorland farming through employment is associated mainly with the farming family. The University of Exeter study estimated that three quarters of farm work on Exmoor is carried out by family members and this is likely to be the case for moorland farms, despite their larger than average size. On the assumption that there are around 85 farm businesses actively involved in managing the moorlands (paragraph 3.144), and using the multipliers from the University of Exeter study, it can be estimated that there are around 237 people working on moorland farms, 100 of them full time and about 178 of them family members. Some of these people will operate as contractors on other farms The number of full-time equivalent staff on moorland farms is around 127. As a proportion of the total workforce on Exmoor, this number is small, but crucial to land management.

Conclusions on the Agricultural value of the moorlands

- The agricultural potential of Exmoor's moorlands is probably greater than any other moorland area in the UK (as a result of the long growing season and high proportion of well-drained mineral soil).
- The moorland vegetation is a product of agricultural management – grazing, burning, and, in many areas in the past, cultivation.
- The number of moorland farmers is small – estimated at 85 in total, 20 of whom manage the large majority of the area.
- After many decades in which agricultural use of the moorlands has intensified, it is now in decline over most of the moorlands, particularly on the Coastal Heaths, Brendon Heaths and eastern parts of the Northern Heather Moors.
- Moorland farming makes a relatively small contribution to the local economy (estimated at around £1.5 Million). The majority of this is received from public schemes to deliver environmental and social benefits. Much of this income is likely to stay with in the local economy through the employment of labour and purchase of local services.
- **The prime significance of farming is therefore in grazing the moorland to maintain its other special qualities.**

OVERALL CONCLUSIONS ON THE SIGNIFICANCE OF THE MOORLANDS

3.170. This chapter has compared the value of the moorlands in terms of their natural resources, landscape character and the aesthetic perceptions people have of them, their culture and traditions, biodiversity, historic environment, recreational use and farming.

3.171. The following overall conclusions compare these special qualities in terms of the scale of their importance, identifying the aspects that are of international significance, those that are important at a national and regional scale and those that are important locally within the National Park and its surrounding communities.

3.172. The whole of Exmoor has **international significance** through its National Park status, as a protected landscape of equal standing to the UK's other National Parks. At this international level, the UK's National Parks are considered important because they represent living landscapes shaped by land management traditions and communities and containing a richness of semi-natural habitats, all of which are valued in their own right. The perceptions that people have of the remoteness and wildness of the moorlands, which they value highly, are heavily influenced by their understanding of the cultural history of Exmoor. This cultural heritage is also internationally known through literature and poetry linked to the moorlands.

3.173. The moorlands also have international significance in terms of the upland and coastal heath and blanket bog habitats, and the biodiversity they support. This is recognised through the designation of the majority of the moorlands as a Special Area of Conservation under the EU Habitats Directive. While the moorlands have relatively few species that are rare at an international or national level, it is the position of the upland heath and blanket bog habitats at the south westerly edge of their European distribution, and the natural transitions between the upland heath, coastal heath and woodland, that are of greatest significance.

3.174. The moorlands contain a rich and complex record of past environments and human activity, which, as a whole, is of **national importance**. The significance of the archaeology is due to the high state of preservation of most sites and the functional complexity of the whole assemblage (with evidence of prehistoric landscapes interwoven with mediaeval farming systems, 19th century enclosures and twentieth century activity). Knowledge of the moorland's archaeology is still developing and the national, and possibly international, significance of the small prehistoric stone settings that are a particular feature of Exmoor is only now emerging.

3.175. The recreational use of Exmoor as a whole is of **national significance,** drawing people from throughout the UK over an increasingly long season, with a proportion of visitors coming from overseas. While the total number of visitors may be low compared to other National Parks (the most recent data is now over ten years old), tourism plays a vital part in the area's economy. The relatively low levels of recreational use also contribute to the feelings of remoteness and tranquillity that enhance the experience of visitors. Although the moorlands are used by many different groups of people, there is evidence that these uses are separated spatially, reducing their impacts.

3.176. The moorlands are of **sub-regional importance** as the headwaters of several large rivers. The peat soils found predominantly under the grass moorland and blanket bog of the Exmoor Forest can also be considered of sub-regional importance, both through their moderating influence on river flows, their preserved record of past environments and, potentially, their role as a sink for storing atmospheric carbon that would otherwise contribute to global climate change.

3.177. The significance of farming on the moorlands is difficult to assign to a simple geographical scale. While moorland farming is only of local importance in terms of its economic and social impacts, its significance is far greater than this would imply. The grazing and burning of the moorlands, undertaken by the relatively small number of moorland farmers, is critical to the maintenance of almost all the other special qualities. Over the last 50 years, the major threats to the special qualities have tended to come from agricultural reclamation and improvement of the moorlands. However, without continued grazing by livestock, managed by farmers who understand the moorland environment and are sensitive to its needs, it is likely that the significance of the other special qualities would decline.

Towards an integrating audit of significance

3.178. The approach taken in this study has been to view each of the special qualities on the same footing, enabling a more complete picture of the complementarity between them. The study has made a start at identifying the significance of each of the special qualities in each of the 22 moorland units. This is shown at the end of the following chapter, as an example of how this methodology could be developed more fully.

4. EVIDENCE ON THE CONDITION OF THE MOORLANDS

4.1. The previous chapter has identified the special qualities of the moorlands and has assessed their overall significance. This chapter now examines available evidence on the condition of the moorlands in relation to these special qualities. It assesses the moorlands 'fitness for purpose' and, by implication, the success of the current management policies being pursued by private landowners and public bodies.

4.2. In other words, while the previous chapter asked "*What is special about the moorlands?*", this chapter now asks "*How well do the moorlands measure up to the expectations raised by their special qualities?*".

4.3. Whereas the previous chapter drew on a wealth of previous published information, there is much less information available to this study on the condition of the moorlands. This is partly because, to be relevant to this study, the information must be reasonably current. It is also true that the concept of 'condition' or 'fitness for purpose' is less well developed than those of value and significance in relation to areas such as moorland. On most topics, the study therefore drew more on the views and experience provided by consultees than on published material (the main exception to this being the biological condition monitoring information on the SSSIs).

4.4. The chapter follows the same general structure as the previous one, with headings of natural resources, landscape quality, the historic environment, biodiversity, recreational use and public understanding, and farming.

NATURAL RESOURCES

Soils

4.5. The previous chapter noted that Exmoor's peat is of value, in part, because of the internationally rare blanket bog habitat that grows on it. However, the area of blanket bog is much smaller than the area of peat. Over the last 200 years it is thought that drainage with deep grips (drainage ditches cut down to the base of the peat) and repeated heavy burns have caused much of the peat to dry out, resulting in the conversion of blanket bog and wet heath vegetation to grass moorlands. In the absence of a high water table and actively accumulating sphagnum moss, it is likely that these areas of peat are gradually diminishing as the organic matter is oxidised. Although burning is now much less frequent than it was in the past, the gradual oxidation of the peat is likely to be continuing and is of concern, not only because it makes restoration of the vegetation to blanket bog and wet heath more difficult but because it releases stored carbon into the atmosphere as carbon dioxide, a 'greenhouse gas'.

4.6. National research, led by the University of Leeds is looking at the effect on peat quality, and on rainfall response times, of blocking the grips. The Moorland Improvement and Restoration on Exmoor (MIRE) project, a joint NPA, English Nature and Environment Agency initiative aims to restore the natural hydrology to

areas of deep peat within the North Exmoor SSSI. Work has started at Exe Head and Blackpits installing a network of wooden dams across artificial drainage ditches feeding the River Barle and using heather bales to reduce erosion. Rainfall infiltration and vegetation change on the surrounding peat is being monitored. It is intended that the project will be extended to other areas.

Water quality

4.7. The Environment Agency operates two ways of measuring the condition of water quality in the rivers of England and Wales. These are the River Quality Objectives (RQOs) and General Quality Assessment scheme (GQA).

4.8. RQOs are used to set conditions on the licenses granted to businesses discharging water into rivers and, through a variety of measures, to protect rivers from the impacts of the use of land for agriculture, leisure and housing. Every stretch of river is given a River Ecosystem Classification from RE1 to RE5 based on its expected quality. Compliance against this classification is measured using seven indicators of water quality including dissolved oxygen, biochemical oxygen demand (BOD) and total ammonia levels. All the rivers rising from the moorlands are in the highest classification (RE1).

4.9. The GQA scheme is the Agency's national method for comparing river quality from one river to another and for looking at changes through time. It provides a way of summarising the variety of water quality tests applied regularly to rivers and, compared to RQOs, is not used to imply a judgement on the quality of the river as a whole. The GQA scheme uses four separate measures of chemistry, biology, nutrients, and (for rivers with high public use, which do not include any on Exmoor) aesthetics. The chemistry and biology measures are given classifications from A (very good unpolluted river) to F (bad and polluted) and the nutrients classification measures nitrate and phosphate concentrations on a scale from 1 (very low) to 6 (very high).

4.10. Data obtained from the Environment Agency for all the main rivers rising on the moorlands shows that water quality is, in general, very good, with most indicators on most rivers receiving the highest classification. These data are summarised in **Table 4.1**. RQOs were last reviewed in 2001 and GQAs between 2000 (biological indicators) and 2002 (the other indicators).

4.11. All river stretches are compliant with their RQO, with the exception of the Aller (which drains the Porlock Vale as well as the eastern side of Dunkery) which is recorded as having a higher BOD in 2001 than it was expected to have. For the GQA, all rivers are given the highest classification for water chemistry and all but the Aller are given the highest classification for nitrate. All but two of the stretches are given the highest classification for phosphate (the cause of the second highest classifications allocated to the upper reaches of the Exe and Horner Water is likely to be treated sewage entering the rivers below the moorlands). The majority of stretches receive the highest classification for biological quality, with the upper reaches of the Bray and Barbrook receiving the second highest classification and the upper reaches of the Barle the third highest classification in 2000.

Table 4.1. Water quality data for rivers rising from the moorlands

River	Stretch	River Quality Objective (2001)	General Quality Assessment			
			Chemistry (2002)	Biology (2000)	Nitrate (2002)	Phosphate (2002)
Exe	Source to Exford below STW	RE1 compliant	A	A	1	2
Barle	Source to Simonsbath	RE1 compliant	A	C	1	1
Barle	Simonsbath to Tarr Steps	RE1 compliant	A	B	1	1
Bray	Challacombe Res. to Challacombe	RE1 compliant	A	B	1	1
East Lyn	Source to Leeford	RE1 compliant	A	A	1	1
Horner Water	Nutscale Res. to confl. with Aller	RE1 compliant	A	A	1	2
Farley Water	Source to Watersmeet	RE1 compliant	A	A	1	1
Badgworthy Water	Source to Malmsmead Bridge	RE1 compliant	A	A	1	1
Barbrook	Source to Dean	RE1 compliant	A	B	1	1
Aller	Source to confl. with Horner Water	RE1 marginal BOD otherwise compliant	A	A	2	1

Source: www.environment-agency.gov.uk

Conclusions on the condition of Natural Resources

- **The state of the relatively small areas of peat soils is a cause for concern, the small area of blanket bog compared to the extent of peat indicating that the majority of the peat is drying out due to past heavy burning and drainage.**
- **All the rivers rising on the moorlands are placed in the highest (least polluted) River Ecosystem Classification and all but the Aller are fully compliant with the water quality objectives that this classification implies.**
- All rivers are classified as unpolluted, and in the highest classification for water chemistry, with low levels of nitrates and phosphates. The biological quality of most rivers is very good, with the Bray and Barbrook receiving the second highest, and the Barle the third highest, classification.

LANDSCAPE QUALITY

4.12. The national guidance for Landscape Character Assessment[34] states that "*Landscape quality (or condition) is based on judgements about the physical state of the landscape, and about its intactness, from visual, functional, and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place*". The concepts of landscape capacity and sensitivity, which are currently being developed, are related to this and are particularly relevant when changes to land management or development are being considered[35].

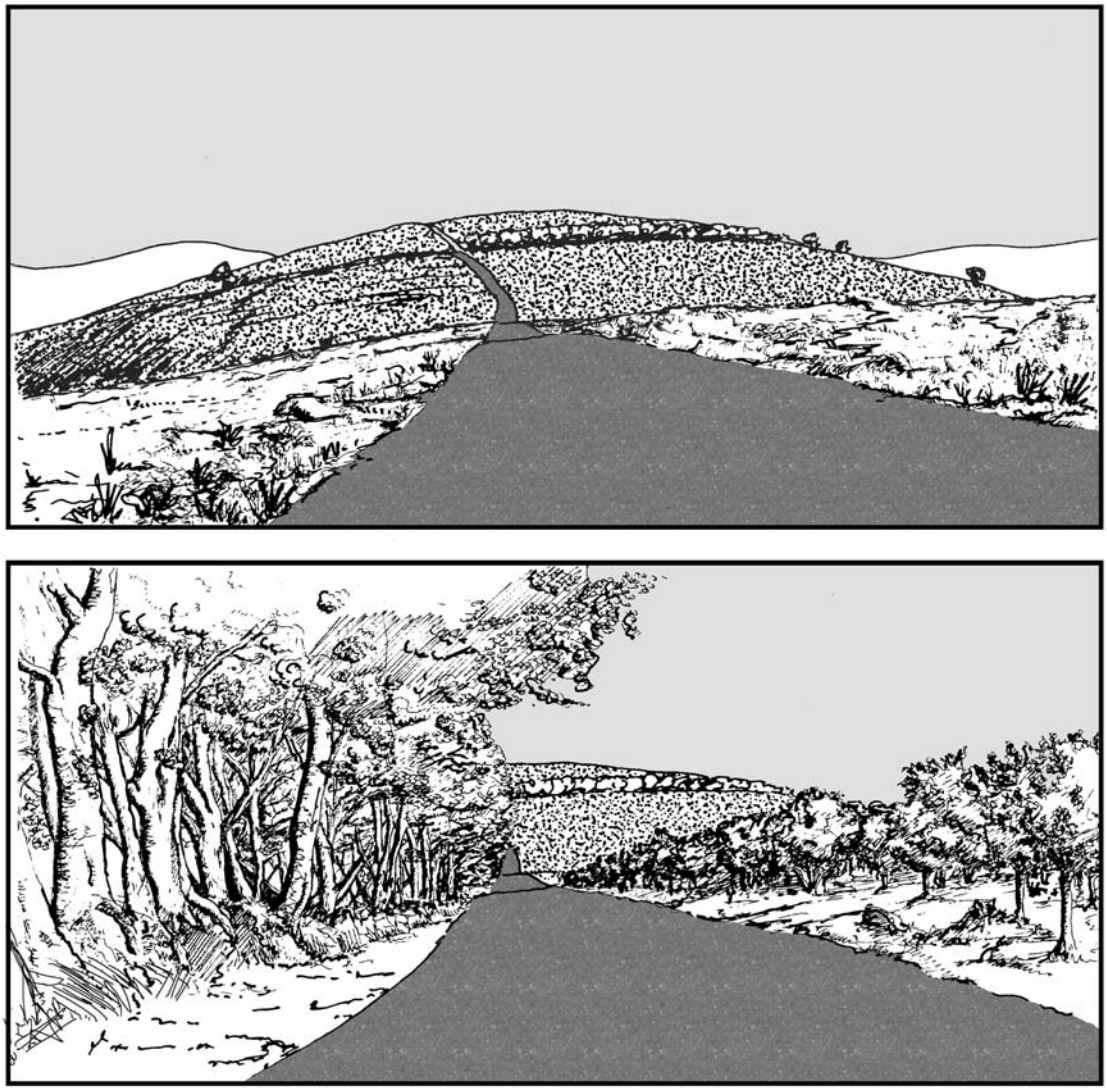
4.13. There have been no objective assessments of the landscape condition of the moorlands, although the work undertaken by the NPA in the early 1980s following the Porchester Report (paragraph 3.23) came close, in some areas, to considering the condition, as well as the value, of the landscape. Given the contribution that the scenic and aesthetic landscape of the moorlands gives to the National Park, it is perhaps surprising that the NPA and others have not focussed more closely on the changing nature and condition of the moorland landscape. Given the changing pressures on the moorlands, which are covered in more detail in the following chapter, there would seem to be a need to address this now, particularly in relation to public policy towards moorland management in the future.

Views of consultees

4.14. The condition of the landscape was raised in discussion with people during the study. Almost everybody considered this in relation to how the landscape had changed, regarding most forms of change that were outside their control as unwelcome. Most of the changes related to vegetation cover with many people commenting that the increase in scrub, particularly gorse on the verges of some of the moorland roads such as on Winsford Hill and Molland Moor, had reduced the views from the road. (There is also a road safety issue here, which has been addressed by cutting back scrub in the past, with drivers having no warning of ponies, sheep and cattle crossing the road from behind scrub). The impact of lines of scrub and tall hedges beside roads on the views of moorland was raised in the NPA landscape assessment in the early 1980s (paragraph 3.23) which gave the pictures shown in **Figure 4.1** as examples of how views can change. These demonstrate that changes in the vegetation away from the moorlands can alter people's views of the moorlands.

[34] Swanick C and Land Use Consultants, 2002. *Landscape Character Assessment Guidance for England and Scotland*. Report to the Countryside Agency and Scottish Natural Heritage.
[35] See for instance: Swanick C, 2004. *Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity* that accompanies the guidance.

Figure 4.1. Impact of roadside trees and scrub on views of moorland



Adapted from Curtis L and Walker AJ. 1981. *Moorland Conservation on Exmoor. The Porchester Maps: Their Construction and Policies*. ENPA, Dulverton.

4.15. In response to the comment from some people that the moorlands were seeing a general and unwelcome increase in the areas of gorse and rhododendron, some farmers commented that this trend was relatively recent and that many areas had contained far denser scrub, mainly gorse, in the early parts of the 20th century, citing aerial photographs taken during the Second World War as evidence of this. Others referred to aerial photographs showing that the areas used for tank training during the War, particularly on North Hill, had been 'stripped bare' during that period. This suggests that the amount of gorse in particular has varied considerably in the last century and that current changes are within the range of past changes.

4.16. The invasion of rhododendron from woodland onto moorland was remarked upon as reducing the condition of the moorlands by many landowners and managers. The issue appears to be greatest on parts of the coastal heaths, (such as at Highveer Point, Desolate and Honeycombe), on the northern edge of the Northern Heather Moors (such as onto Deer Park from Cloud) and onto the slopes of Haddon Hill

from the Haddon Valley. Work is being undertaken by landowners, often with financial help from English Nature and the NPA, to control rhododendron in most of these areas. Although this study did not have the opportunity to talk to visitors to the Park, the NPA rangers noted that the spring show of flowers by rhododendron is appreciated by many visitors. This suggests that visitors may have quite different views on the condition of the landscape from local people, who are more aware of change. Their differences are worthy of exploration and should be taken into account in any future assessments of landscape condition on Exmoor.

4.17. The encroachment of bracken, particularly up slopes onto higher moorland areas such as the flanks of Winsford Hill and across parts of Molland Moor was commented on by some people. The encroachment of bracken onto acid grassland and moorland would appear to be a national phenomenon and may be due to changes to the climate. However, a study of landscape change, repeated for all National Parks in England and Wales using aerial photographs from the 1970s and 1980s, suggests that the increase in bracken may be a recent phenomenon[36]. The land cover maps produced by the study show that the total areas of scrub and bracken on Exmoor as a whole fell by 11% in both cases between the mid 1970s and mid 1980s (the area recorded as bracken falling from 4,320 ha to 3,863 and as scrub from 811 ha to 722 ha).

4.18. Many people were concerned about the damage caused to the moorland soils and vegetation by vehicles. These are mainly four wheel drive vehicles including all terrain vehicles (ATVs), with cross-country motorbikes and sometimes tractors also causing damage. Since it is damage to paths and other rights of way that is the main concern, this is considered in more detail under the section on the condition of recreation (paragraph 4.42 onwards).

4.19. There were instances where people commented on the improving landscape condition of the moorlands. For instance many people welcomed reductions in the number of informal car parks on areas such as North Hill, Winsford Hill and Brendon Common where efforts have been made by the National Trust, NPA and Badgworthy Land Company to rationalise car parking spaces and denying cars access to certain areas. The NPA's policy of reducing interpretation boards in remote areas of countryside throughout the Park was also welcomed.

4.20. It is significant that no-one commented during the study that increased built development in the Park or increased traffic volumes on the roads was reducing the landscape condition of the moorlands (although there was concern about vehicle use causing erosion across moorland). Furthermore, it would appear that the aesthetic values of the moorlands that were identified as being special at the designation of the Park and by Lord Porchester (of openness, wildness and remoteness) are the same qualities that people appreciate today. In contrast, it might be argued that the pace of change in the enclosed and developed areas of the Park and its surrounds has been greater than on the moorlands over the last 20 years (such as increases in traffic

[36] Taylor, J. C., Bird, A. C. and Keech, M. A., 1991, *Landscape change in the National Parks of England and Wales - Final Report Vol VI Exmoor.* Cranfield University, Silsoe. The accuracy of some of the vegetation mapping in this study has been questioned (such as confusion between burnt grass moorland and heather) and the data on changes of the main moorland habitats is therefore not used.

volumes, intensity of land management and built development). In this wider context, the moorland landscape can be judged to be in relatively good condition.

4.21. Nevertheless, the impact of medium and small scale visual intrusions such as overhead wires and fence lines, both across the moorlands themselves as well as on adjoining land such that it affects views onto and from the moorlands, needs to be taken into account, particularly in relation to any future activities to extend the landscape character of the moorlands to areas of currently enclosed moorland fringe (paragraph 3.27).

Conclusions on the Landscape condition of the moorlands

- The concept of landscape condition and related issues such as landscape capacity and sensitivity are developing at a national level. There have been no recent objective assessments of landscape change on Exmoor. There is a clear need for work to be done in this area to guide public policy on future management objectives.
- Consultees tended to respond to the issue of landscape condition in terms of the undesirable change they noticed which was closely related to their use of the moorlands (recreational, agricultural, etc).
- **Relative to ongoing changes in the surrounding countryside (increases in road traffic and built development), and to historic change on the moorlands, the landscape of the moorlands is probably fairly static. Exmoor as a whole, and the moorlands in particular, remain a sink of tranquillity in an otherwise increasingly busy region, although they remain vulnerable to change.**
- Local people and visitors who are familiar with the moorlands are most likely to be sensitive to landscape change. Consultees to this study remarked on the increase in scrub and bracken in many areas, regarding this as a decline in the landscape quality. The impact of other medium and small scale intrusions such as overhead wires and fence lines also needs to be taken into account in future work.

THE HISTORIC ENVIRONMENT

4.22. A thorough assessment of the condition of the archaeological resource on the moorlands (both the Scheduled Ancient Monuments and wider 'Areas of Exceptional Historic and Archaeological Importance' – see Figure 3.11) is being undertaken by the NPA and English Heritage during coming months. The paper prepared by the NPA and English Heritage for this study[37], which is reproduced in full in the technical annex, draws the following conclusions.

4.23. The overall state of preservation of sites is thought to be good. However, recent monitoring work has demonstrated that damage is occurring to the most fragile sites. For instance, the Royal Commission on the Historical Monuments of England's (RCHME) survey of standing stones between 1989 and 1991 found that 10% of these monuments had been lost in the last century. The fragility and irreplaceability of Exmoor's archaeology means that any loss is critical. Factors leading to declines in the condition of the archaeological resource are as follows:

- **Erosion caused by livestock**, which is exacerbated by inappropriate feeding and supplementary feeding locations. It is a particular problem with standing stones. Regular monitoring of sensitive sites is required. Care should be taken over the positioning of feeders.
- **Vehicle damage** is usually inadvertent damage caused by vehicles and quad bikes driving over archaeological sites, but is becoming a more frequent problem. It also includes damage caused by mowing, flailing and bracken cutting which is often undertaken as part of conservation management and may be a requirement of ESA agreements.
- **Ploughing and ground preparation**. On the moorlands this is only likely to be relevant in the case of heather restoration. Any such operations could be extremely hazardous for moorland archaeology.
- **Burning** can cause damage to archaeological sites, particularly where the fire is intensive.
- **Drainage works** not only cause damage to archaeological sites, but can also alter the hydrology leading to a loss of peat and palaeo-environmental deposits. Drainage can also lead to more rapid dispersal of surface water, which in turn can cause damage to archaeological sites further downhill.
- **Damage caused by walkers** is only a major issue on Dunkery Beacon. Greater access to, and appreciation of, the historic environment is desirable for residents of Exmoor and visitors alike, and it is likely that recreational pressure on sites will increase in coming years.
- **Four wheel drive vehicles** are causing more widespread damage, especially when used away from rights of way. When this occurs they can cause inadvertent damage to archaeological remains. For instance, at Hawkcombe Head, shallow-buried flints and other archaeological material dating from the late Mesolithic period have been exposed and eroded by four wheel drive vehicles.
- **Trail biking** is becoming an issue on a few sites where damage is beginning to occur. **Mountain biking** is not a current problem but may become so in future years.

[37] Wilson-North R and Riley H (2004). *Exmoor Moorlands – The Historic Environment*. ENPA

- **Pony trekking, hacking and hunting** has caused localised damage on some sites. For instance, at the Whit Stones, erosion started by horses and exacerbated by rainwater run-off and channelling, has caused severe damage to a Bronze Age burial cairn.
- **Vandalism** has been noted on some standing stones. In February 2004 a stone was removed from the Porlock stone circle and in a separate and unrelated incident, the Caractacus Stone on Winsford Hill was painted as a protest against the National Trust.
- **Bracken** rhizomes are highly detrimental to archaeological remains. The most sensitive sites on Exmoor are prehistoric and medieval settlements.
- **Scrub**. Given the uncertain future of farming, and the recent history of overgrazing on parts of Exmoor, it is possible that some areas will be at risk from 'scrubbing up' in the future. This is potentially undesirable, in that invasive, unchecked vegetation may cause damage to archaeological remains. 'Scrubbing up' also renders archaeology less accessible to the residents of Exmoor, visitors and for educational visits. It is an undeniable feature of the archaeology of the moorlands that these sites and landscapes can be appreciated and visualised more clearly when they are not covered in deep vegetation. In addition, scrubbing up may lead to the concentration of vehicles and livestock on specific parts of the landscape which may be detrimental to archaeological sites in those areas.

Conclusions on the condition of the Historic Environment

- The archaeological resource is irreplaceable. Any loss or damage is therefore critical.
- **Recent monitoring work suggests that the overall preservation of existing sites on the moorland is good. However, some 10% of standing stones have been lost in the last century and these losses continue. More comprehensive information on the condition of the archaeology should be obtained from a systematic assessment being carried out in 2004/05.**
- Most at risk are thought to be the fragile sites of stone settings, cairns and buried archaeology. Primary sources of damage are:
  - erosion by livestock, vehicles, riders and walkers, all exacerbated by heavy rainfall;
  - mowing or topping during the creation of fire breaks, control of bracken and in preparation for heather restoration;
  - burning (which, together with mowing and topping, is often undertaken as part of environmental management); and
  - root damage by bracken and scrub

BIODIVERSITY

English Nature's SSSI condition assessments

4.24. Defra's Public Service Agreement (PSA) places a target on public bodies, principally exercised by English Nature (EN), to ensure that 95% of the SSSI area is in favourable or recovering condition by 2010. To monitor progress against this target, EN assesses the condition of all of its SSSIs through site visits, with each unit of land within the SSSIs being visited at least once every six years. The assessment of the ecological condition of the SSSIs is based on objective 'Common Standards Monitoring' criteria that have been established across the UK through the Joint Nature Conservation Committee (JNCC).

4.25. This methodology is not without its critics. The House of Commons Environment, Food and Rural Affairs Committee recently held an inquiry into the PSA targets for SSSIs[38]. A number of organisations, including the Association of National Park Authorities, Country Land and Business Association and Water UK, while supporting the overall objective of conserving SSSIs expressed concern about the impact of the SSSI condition assessment process on other environmental benefits (landscape, natural resources and cultural heritage) and on the extent to which English Nature's work is supported and understood by others.

4.26. EN classifies the SSSIs into different units based on physical boundaries such as roads or changes in ownership or management. The condition of each unit is assessed into one of six categories: favourable; unfavourable recovering; unfavourable no change; unfavourable declining; part-destroyed and destroyed. The last four categories are collectively termed 'adverse condition'. There are no units recorded as part-destroyed or destroyed on Exmoor.

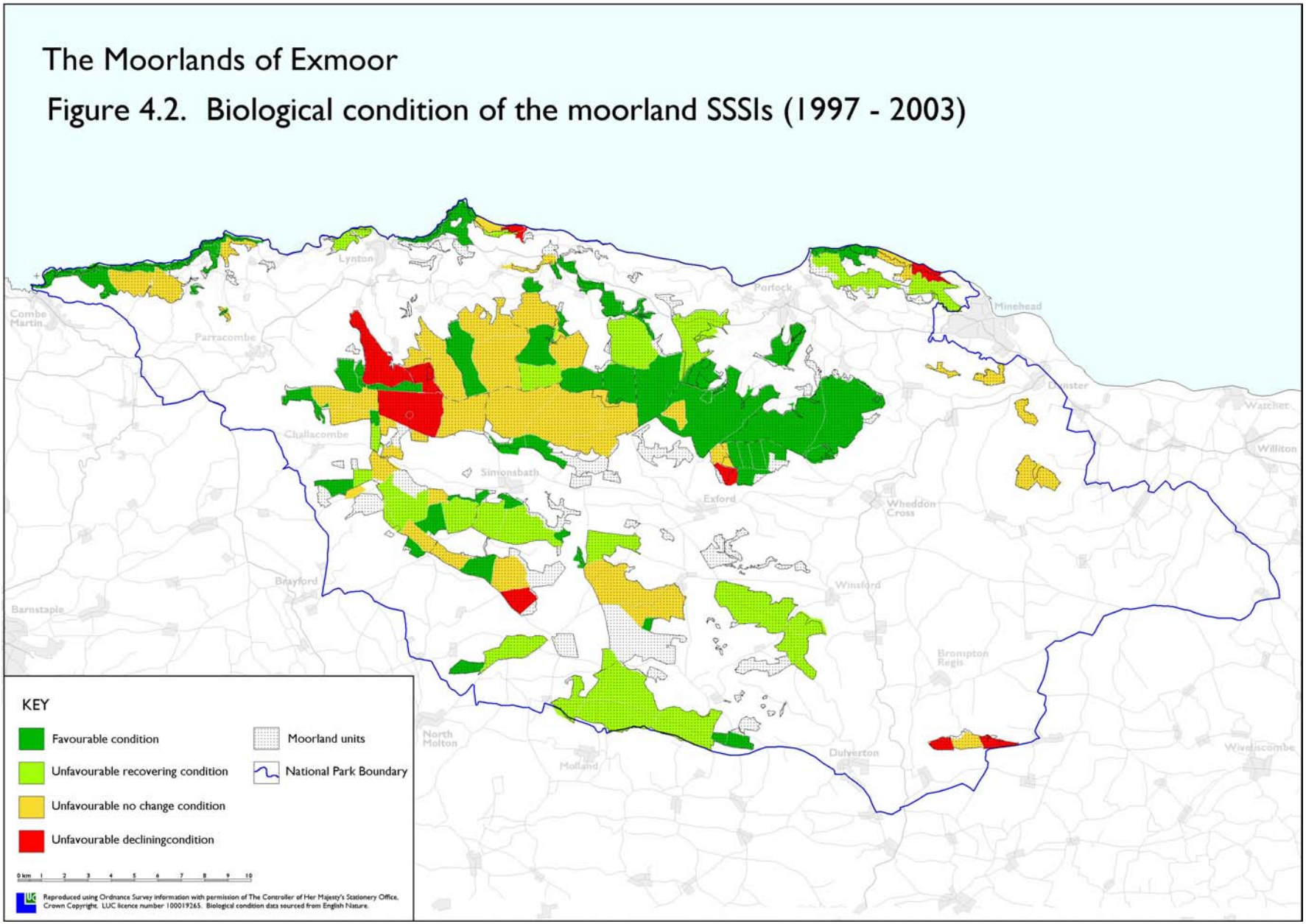
4.27. The following section is based on an analysis by this study of English Nature's condition assessments made between June 1997 and December 2003. The full analysis is included in the technical annex to this report.

4.28. Over all the moorland habitats in the five SSSIs, 5,626 ha (34%) are recorded as in favourable condition. 4,473 ha (27%) are recorded as being in unfavourable but recovering condition. 5,378 ha (32%) are recorded as being in unfavourable condition, with no change from the previous assessment and 1,161 ha (7%) are recorded as being in unfavourable and declining condition. It should be noted that the assessments on 19 units covering 14% of the SSSI area were undertaken before 2000 and a further 60 covering 39% was surveyed during 2000 and 2001. Consultees suggested that on some of these sites, the condition will have improved as a result of ESA prescriptions taking effect. The location of the areas in different condition categories is shown in **Figure 4.2.**

[38] Environment, Food and Rural Affairs Committee, 2004. Conserving the Jewels of England's Natural Heritage. Fourteenth Report of Session 2003-2004. HC 475. House of Commons London

The Moorlands of Exmoor

Figure 4.2. Biological condition of the moorland SSSIs (1997 - 2003)



4.29. Analysis of the condition assessments for all the SSSIs across England shows that moorland SSSIs are generally in worse condition than lowland SSSIs[39]. However, Exmoor's moorland SSSIs are in significantly better condition than the average for moorland SSSIs across England. Over England as a whole, 41% of the total SSSI area is in adverse condition, with 67% of blanket bogs and valley mires and 66% of upland heath being in adverse condition.

4.30. The reasons given for the adverse condition of individual land units are listed in **Table 4.2**. For most of the units, the assessments record one reason of unfavourable condition. However, for 15 units, covering an area of 2,413 ha, two reasons are recorded.

Table 4.2. The reasons given by EN for unfavourable SSSI condition

Condition assessment	Number of units (% of units)		Area in ha (% of SSSI area)	
Overgrazing	21	(16%)	3,075	(18%)
Inappropriate burning	11	(8%)	2,907	(17%)
Lack of appropriate grazing	16	(12%)	1,592	(10%)
Inadequate scrub control	12	(8%)	757	(5%)
ESA prescriptions	5	(4%)	456	(3%)
Drainage / ditch management	2	(1%)	165	(1%)

Note: Totals may exceed 100% because some areas have more than one cause of adverse condition

Causes of adverse ecological condition of the SSSIs

4.31. **Overgrazing** is the most common reason for adverse condition, particularly for land where the unfavourable condition continues to decline (where it is the reason for over 78% of the area of adverse condition). During the last six years, overgrazing has therefore continued to be a 'live' issue that is the greatest cause of further declines in ecological condition of the SSSIs, although it is strongly concentrated in a few large areas at The Chains, Ilkerton Ridge, Exe Plain, the northern part of Longstone Barrow, Warcombe, the southern part of Long Holcombe, Roosthitchen and on Withypool Common.

4.32. **Moorland burning** is the second most common reason for adverse condition. All of this is associated with land where there is no change in the unfavourable condition (i.e. it is not given as the reason for the condition declining in any units). As with overgrazing, burning tends to be an issue on the larger than average moorland units (recorded as an issue on 8% of units occupying 17% of the SSSI area), on the upland heath and grass moorland (51% and 43% respectively, with the greatest significance on the grass moorland, given the overall areas of the two habitat types). The large majority (91%) of unfavourable condition due to burning has occurred on Tom's Hill, Lanacombe, Brendon Common and Elsworthy and on Withypool Common.

[39] English Nature, 2003. *England's best wildlife and geological sites. The condition of Sites of Special Scientific Interest in England in 2003*. English Nature, Peterborough.

4.33. **Lack of appropriate grazing** is recorded as a cause of unfavourable condition where the grazing is either too light, involves the wrong kind of livestock or takes place at the wrong time of year to maintain favourable condition. It is only occurs as a cause of adverse condition where there has been no change in the unfavourable condition since the last assessment. Once again, it tends to occur on larger than average units, though less so than for burning (it is recorded on 6% of units representing 8% of the SSSI area) and is strongly on the grass moorland at Great Tom's Hill, the west part of Long Holcombe, Swap Hill and Elsworthy.

4.34. **Scrub encroachment** (which includes invasion by rhododendron) is strongly concentrated on the coastal and Brendon heaths. Elsewhere, it occurs on small areas of upland heath and valley mire. Five areas are responsible for 86% of the area of scrub encroachment or rhododendron invasion recorded in the assessments. These are on Trentishoe Down, Eastern Brockholes, North Hill, Deer Park (north of Tom's Hill) and the central part of Haddon Hill.

4.35. Scrub encroachment would appear to be around three times more significant as an issue on Exmoor than across all England's moorland SSSIs, where it is a cause of unfavourable condition on less than 3% of upland heath and bog.

4.36. Unsuitable management undertaken to meet an **ESA prescription** (i.e. suspected non-compliance with the ESA management requirements) is identified as a cause of unfavourable condition on 5 units, representing 3% of the SSSI area and 7% of land in adverse condition. All of this area is in the grass moorland (41%), upland heath (39%) and blanket bog (20%) habitat types. The areas where this is a concern are on Swap Hill, the southern part of Longstone Barrow, Woodbarrow Hangings and Winaway on North Exmoor SSSI and on the west part of Haddon Hill on South Exmoor SSSI.

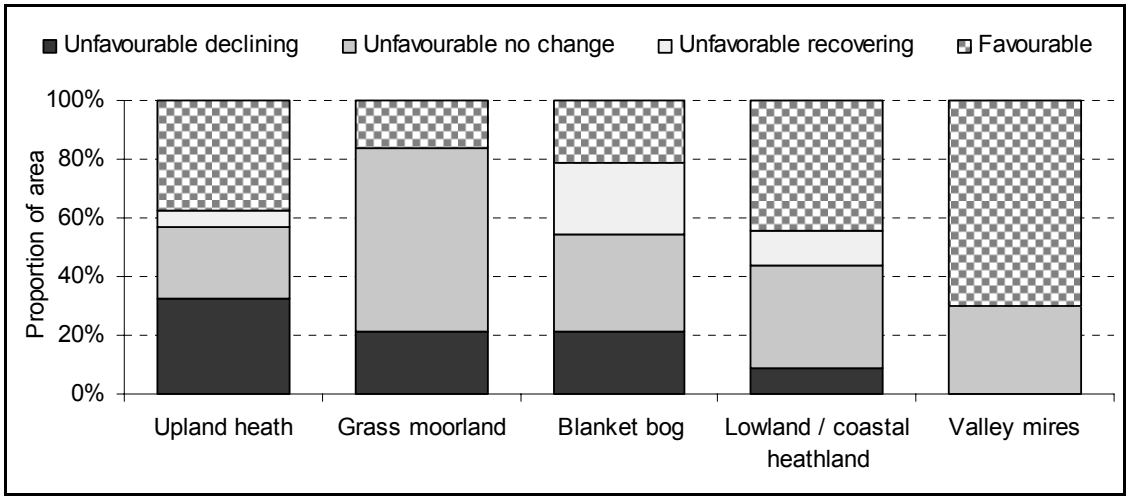
Analysis of ecological condition by broad habitat type

4.37. It is useful to review the condition, and the causes of adverse condition, for the six most common habitat types. Caution must be used in interpreting the information here since each land unit is allocated to one habitat type only. With some of the units being extremely large, it is inevitable that this categorisation will mask significant variation in vegetation within these units.

4.38. **Figure 4.3** summarises the condition of the six most abundant habitats, with the habitats arranged in declining abundance (upland heath being the most abundant). This shows that North Exmoor's blanket bog is under greatest threat, with the highest proportion of its area in unfavourable declining condition. While it has the lowest proportion of its area in adverse condition, the coastal heathland of the Coastal Heaths SSSI has the second highest area in unfavourable declining condition and would also appear to be under significant threat.

35. Conversely, the valley mire found on North Exmoor SSSI appears to be under least threat, with the greatest proportion of its area in favourable condition and none in unfavourable declining condition. Most improvement is found on the Coastal Heaths SSSI's upland heath.

Figure 4.3. Condition assessments of the habitat types – Proportion of all land in each habitat type



4.39. **Table 4.3** summarises the causes of adverse condition on the most abundant habitats. This shows that overgrazing, followed by burning, are the greatest threats to the most common habitat of upland heath. Burning followed by lack of appropriate grazing are the greatest threats on the second most common habitat of the grass moorland, found on North Exmoor SSSI (which has generally the least biodiversity interest). Scrub encroachment followed by lack of appropriate grazing are the greatest threats on the lowland and coastal heathlands that are concentrated along the coast and on the Brendon Heaths.

Table 4.3. Causes of adverse ecological condition by broad habitat types

Cause of adverse condition	Upland heath	Grass moorland	Blanket bog	Lowland/ coastal heathland	Valley mire
Overgrazing	19%	6%	40%	-	17%
Burning	15%	50%	-	7%	-
Lack of appropriate grazing	-	39%	9%	31%	12%
Scrub	4%	-	-	34%	-
ESA prescription	2%	8%	5%	-	-

Note: Figures relate to the proportion of all land in each habitat type

Condition of the moorlands for individual species

4.40. Evidence from the breeding bird survey undertaken in 2002 (see Chapter 4) suggests that birds which rely on open grassland and heath such as Skylark and Wheatear have fared badly in the last ten years, whereas birds that prefer deeper vegetation and scrub such as Stonechat (for which Exmoor is internationally important) and Grasshopper Warbler have increased significantly over the same period. The establishment of the Dartford Warbler as a breeding species may be caused by the increasingly mild winters in the last decade or so.

Defra's monitoring of the condition of the ESA

4.41. During the first four years of the ESA, from 1993 to 1996, Defra contracted ADAS to undertake a programme of environmental monitoring on land under agreement.

There has been no systematic survey by Defra since then, although a number of individual sites have been monitored.

4.42. The report on the initial monitoring[40] concluded that it was too early in the life of the scheme to demonstrate significant changes in the ecological condition of the moorlands (the same conclusion was drawn for landscape and the archaeological resource), but there was only limited evidence of any enhancement arising from the scheme. It commented that grazing pressure on heather had remained too high in some areas and the relatively low levels of burning had resulted in a predominance of old heather which was more vulnerable to damage from grazing.

Conclusions on the condition of Biodiversity of the moorlands

- English Nature's biological assessment of the SSSIs provides the most detailed analysis of condition of any of the 'special qualities'. However, it should be remembered that the assessments have a narrow focus (taking no account of other qualities such as archaeology or landscape) and the methodology is not widely understood.
- **Based on surveys between 1997 and 2003, nearly 40% of the moorlands were in unfavourable condition, including 7% that were continuing to decline further. However, Exmoor's moorlands are in better condition than SSSIs across English National Parks and English moorland as a whole. Lack of appropriate grazing and scrub encroachment are much more significant as reasons for unfavourable condition than over England's moorlands as a whole (but are still secondary to overgrazing as threats on Exmoor as elsewhere). It is likely that these pressures will continue to grow in the future.**
- The analysis earlier in this report of recent losses in moorland (paragraph 2.30) shows that there has been a general fragmentation, both at the fringes of the larger blocks and in the creation of isolated areas, of moorland. This is likely to reduce the viability of populations of scarce species.
- The blanket bog (concentrated in the Grass Moors of the Centre) is the most threatened habitat, with overgrazing being the main cause of continuing decline. Conversely the coastal heathland habitat is in the best condition, although scrub encroachment, associated with low levels of grazing and with rhododendron invasion, is the main threat here.

[40] ADAS, 1997. *Environmental monitoring in the Exmoor ESA 1993-1996*. Report to MAFF

RECREATIONAL USE

4.43. The conditions of the moorlands for recreational use can be considered in relation to the ease with which people can get to them and, when they are there, move across them, the impacts of other people using them and the role of ticks and other pests. The important issue of the public understanding of the moorlands is also considered here.

Access to the moorlands

4.44. Exmoor is remote from large centres of population (compared to most other National Parks) but is relatively accessible by road and rail. Although Lord Porchester commented that the improvements then being made to the Tiverton to Barnstaple road (North Devon Link Road) would attract many people to the Southern Heather Moors, it would appear that the A39 coast road and the B3223 Dulverton to Lynmouth road are routes used most frequently by car to access areas of moorland. Main line rail connections to the South East and North are close by at both Taunton and Tiverton Parkway stations.

4.45. Public transport to the moorlands is infrequent and some areas are only served in the summer period. Of the three year-round bus services running in the National Park, only the No 38 Minehead to Porlock Weir, No 398 Tiverton to Minehead and No 606 Withypool to Taunton services give close access to moorland (the latter running only once a week). The Taunton to Barnstaple No 300 service runs along the A39 coast road between Easter and October and the No 400 'Heritage Bus' does a round trip between Minehead, Exford and Porlock during the Easter and June-September periods. While these give intermittent access to the Coastal Heaths and the Northern Heather Moors, there are no bus services to the Southern Heather Moors or the Grass Moors of the Centre.

Access across the moorlands

4.46. The previous chapter described the various forms of public access across the moorlands and concluded that there were relatively few areas that are inaccessible, with the CRoW Act formalising access to the whole of the moorlands. The NPA is currently preparing a strategy on the implementation of the open access to the moorlands and coast and is identifying the locations were use is likely to increase and where upkeep to maintain the quality of paths is likely to be required.

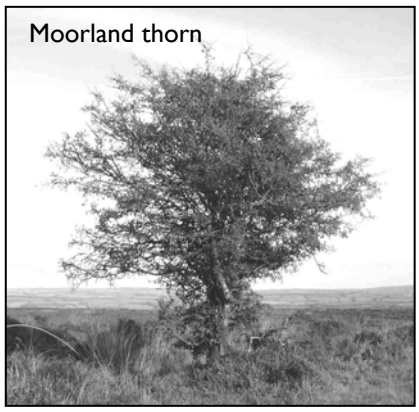
4.47. Evidence on the condition of paths and tracks on the South West Coast path comes from a survey quoted in a briefing note produced by the NPA[41]. In 1999, of the 26.5km of off road sections of the South West Coast Path in the National Park, 96.5% was in good condition, on 2.1% there were seasonal problems and on 1.4% there were year round problems. Of the 956 metres of Coast Path identified as unsatisfactory, the majority of problems were due to natural causes or livestock. However, 108 metres were eroded by vehicles and 136 metres by heavy usage from walkers. The large majority of the Coast Path was therefore in good condition.

[41] ENPA (undated). *The impact of Tourism on Exmoor*.

4.48. Between 1997 and 2001, Exmoor received funding from the EU Objective 5b programme to repair and maintain paths (known as the 'Exmoor Paths Partnership' which grew out of the earlier 'Dunkery Project'). As part of this project people walking along heavily used sections of path (not necessarily on moorland) were asked what they thought of the condition of the path. Responses were polarised between good (46.8%) and poor (42.8%), with 10.4% saying they were in average condition. Like people's views on the condition of the landscape, users often rated the condition of paths in relation to their previous experience. They were more likely to complain of high levels of erosion if they had previous experience of the path before it was eroded. This suggests that local people are less tolerant of the poor condition of paths than visitors[42].

4.49. The previous chapter identified Dunkery Beacon and the Valley of Rocks as popular areas for visitors, with North Hill and Haddon Hill both popular with local dog walkers. Sherdon Hutch and nearby Lanacre Bridge have become popular places for picnicking and swimming. It is at these sites that problems of footpath erosion, litter and, in dog walking areas, dog fouling at the start of paths, are most severe. Constrains on the resources available to the NPA and National Trust mean that problems tend to be dealt with as they occur, rather than in the pre-emptive fashion that was possible under the Objective 5b funded Exmoor Paths Partnership.

4.50. The issue of scrub and bracken has already been discussed in relation to the condition of the landscape and archaeology. They were also seen as potential problems for recreation, forcing people to use narrower paths (in turn leading to problems of erosion), reducing their views and making dogs more difficult to control. However, given that people are happy to walk through dense woodland, it seems likely that this concern about tall vegetation is more to do with the change in the landscape character it creates than the inconvenience it causes walkers and riders. There is however, a link between tall vegetation and ticks, covered below.


Moorland thorn

4.51. People's enjoyment of walking or riding across open spaces is usually dependent on their knowing where they are going and not feeling they are lost. There is probably less likelihood of people getting lost on Exmoor than on the larger expanses of moorland on Dartmoor or parts of the Pennines, particularly in good weather when views of the Bristol Channel can help orientate people not familiar with the area. The NPA, National Trust and other large landowners have taken a deliberate policy of keeping signage on the moorlands to the bare minimum so as to preserve their sense of wildness. Instead, the NPA produces a range of leaflets, available with other walking guides at their visitors' centres, describing popular walks in the Park. This study found no evidence that lack of signage limited people's recreational enjoyment – indeed many people commented that it enhanced it.

[42] Exmoor Paths Partnership 4th Progress Report quoted in ENPA's briefing note *The impact of Tourism on Exmoor* (undated).

Conflicts between users

4.52. The previous chapter noted that Exmoor receives lower numbers of visitors than any of the other UK National Parks. While this means that the problems of severe overcrowding on roads, at car parks and on popular walking routes that are found in areas such as the Lake District and Peak District do not occur on Exmoor, there are a few areas where the number of people reduces their enjoyment or places a strain on the infrastructure of paths, tracks and vegetation. The issue of footpath erosion, litter and dog fouling has been mentioned above, but the number of sites where these are a problem is small and in all cases there is no sense in which the problems are getting out of hand. Nor did anyone consulted in the study expect these problems to increase dramatically as a result of the forthcoming right of open access.

4.53. Erosion by vehicles driving on moorland tracks or across open moorland was seen as a more significant problem however. The damage done to archaeological sites has already been referred to. In several areas, such as Exford Common and on Withypool Common, concern was expressed that track ways are becoming wider, sometimes taking on a dual-carriage way appearance as old rutted tracks are abandoned in favour of a new parallel route. Sometimes this may be caused by farmers driving to check their stock but the most common sources of heavy vehicle use are hunt followers and hunt tourists (the former usually being subscribers and therefore under more control of the hunt itself) and four wheel drive enthusiasts using Roads Used as Public Paths (RUPPS). The NPA and Badgworthy Land Company have recently improved the hunt track that crosses Brendon Common by adding hard core. Other areas where heavy but legal vehicle use have been causing a problem are on West Anstey Common (particularly at the Froude Memorial) and at Hawcombe Head. Along some routes, such as the RUPP across Withypool Common to Upper Willingford Bridge, vehicle use seems to have increased but is currently not causing significant damage.

4.54. Illegal vehicle access to moorland (i.e. not along a right of way or without the landowner's permission) seems to be increasing with members of the public (usually young men) driving All Terrain Vehicles or cross-country bikes across moorland for sport. Landowners usually alert the NPA rangers who inform the police but it is rare for the offenders to be caught. The NPA and National Trust have started to use automatic vehicle counters at popular access points to monitor the amount of use.

Ticks and other pests

4.55. The sheep tick is one of the less welcome species found on Exmoor. Even a short walk in woodland or across the moorlands can result in a significant number of ticks attaching themselves to the legs of walkers, their dogs and horses. While this is unpleasant enough, the greater concern is the transmission of the potentially fatal Lyme disease. Populations of the tick are thought to be increasing across the UK and research commissioned by the NPA and others has confirmed that this is the case on Exmoor[43]. This research showed that the highest tick populations occur in bracken, sheltered purple moor grass and on whortleberry. Conversely, areas exposed to

[43] Brown RW, 2000. *Tick Populations and Zooneses in Somerset and Exmoor 1996 – 1999*. Birkbeck College, University of London.

wind and cold, short vegetation and heather dominated areas have very low tick populations. The other important determinant of tick populations is the presence of a host animal (cattle, sheep and red deer are all hosts).

4.56. Many consultees were concerned about the threat posed to the health of those who work on the moorlands (farmers, rangers, huntsmen and recreational businesses) by Lyme disease, and the risk that Exmoor could develop a reputation for high populations of ticks that would reduce recreational use and visitor numbers.

4.57. There are few other natural pests that cause problems to members of the public. In comparison to the northern-most UK moors, the freedom from the summer midge on Exmoor is a blessing.

Public understanding

4.58. The purposes of National Park designation, set out in the Environment Act 1995, refer to a need to promote public understanding of the special qualities of Park. One of the issues that arose from many people, particularly from the farmers consulted during the study is the lack of understanding by many members of the public, particularly visitors about the current management of the moorlands. Some members of the Exmoor Access Forum, including NPA staff, commented than some visitors think that the moorlands are all publicly owned and are unaware of the importance of grazing by private landowners and farmers. This not only has implications for the practical management of the moorlands, but suggests that aspects of the special cultural and historical qualities of the moorlands, described in the previous chapter, are not well known.

4.59. During the study, it also became evident that the expectations and objectives that people have for the future of the moorlands vary. This is most evident in the debates (or lack of agreement) between the farmers and environmental bodies on the optimal agricultural management of the moorlands. This issue is covered in more detail in the following section.

Conclusions on the condition of the moorlands for Recreation

- The strategy being prepared by the NPA in preparation for the start of open access under the CRoW Act to the moorlands in 2005 will give a detailed assessment of the condition of the access infrastructure (such as rights of way onto the moorlands, need for gates, styles and signage, and likely conflict with other uses).
- Access onto the moorlands is generally well served by public highways and rights of way, although public transport is poor.
- **There are relatively few areas where high numbers of users have significantly reduced the quality of recreation or caused other problems. Dunkery Beacon and the Valley of Rocks are the only the moorland areas that could be termed 'recreation honey pots' and the problems caused here are minor compared to those experienced in other National Parks.**
- There is evidence of cycles of popularity, with areas such as Sherdon Hutch west of Lanacre Bridge and the Whitstone Post on Porlock Common currently very popular (with local picnickers and day trippers respectively), requiring local management.
- Damage caused by vehicles, either straying onto moorland to park (as at the Froude Memorial on West Anstey Common) or to travel across moorland (as across parts of Cheriton Ridge) is becoming more widespread. Damage is often caused during legal access (such as by hunt followers in winter) but may also be illegal (such as by young people from local towns on cross country bikes).
- Growth of tall heather, bracken and gorse is considered a growing nuisance to walkers and riders because of the physical obstruction it causes and because of the increasing numbers of sheep ticks taking shelter in it. Gorse growing on the edges of moorland roads (such as across West Anstey Common) is considered a threat to road safety through reduced visibility.
- Consultees commented that public understanding of the way the moorlands are managed is generally not good, with some visitors believing the moorlands are all in public ownership.

FARMING

4.60. An assessment of the condition of agricultural management on the moorlands needs to cover several different areas. Firstly, there is the financial condition of farming , secondly the position of the moorland farmers and their families who, as identified in the pervious chapter, are an important reservoir of cultural history and stock husbandry knowledge, and finally the state of their agricultural management of the moorlands (grazing and burning). These are considered below.

The financial condition of moorland farming

4.61. The report produced by the University of Exeter for the NPA on the state of farming on Exmoor shows how the income of hill farmers across the South West slumped between 1995/96 and 1999/2000 to provide an average net farm income of just less than £5,000 per business in 1999/2000. Since then, falls in the value of the Hill Farm Allowance received by most farmers have been offset by dramatically improving cattle and sheep prices (in part due to a national shortage of stock after the Foot and Mouth Disease epidemic in 2001), with buoyant prices in the current year likely to mean a return to profitability for most farms.

4.62. The long term impact on the moorlands of the low and declining farm incomes of the second half of the 1990s is still not clear. On the one hand, the low profitability of farming caused many businesses to shed employed labour, reducing the staff time available to shepherd stock or undertake burning, and some smaller businesses gave up farming entirely, resulting in a loss of knowledge and skills. On the other hand, the low incomes, coupled with changes in the subsidy scheme rules, led to a reduction in the livestock on the moorlands (see below) which has almost certainly reduced the extent of over-grazing from a biodiversity point of view. However, with many farmers predicting further falls in stocking levels as a result of the decoupling of CAP subsidies, it seems likely that the pendulum is set to swing towards below optimum stocking levels, exacerbating the problems already found on parts of the Coastal and Brendon Heaths of a lack of appropriate grazing.

4.63. As the previous chapter identified, moorland farmers are heavily reliant on public subsidies and agri-environment payments. The impact of future changes to CAP payments and the Hill Farm Allowance and the introduction of the Higher Level of the new Environmental Stewardship Scheme to replace the ESA in 2005 are all likely to be significant. These changes are considered in the next chapter on ‘drivers of future change’.

Moorland farmers and their families

4.64. The University of Exeter study explored the confidence that moorland farmers have in the future of their businesses and the likely levels of succession within their family. The study found that, while there are a significant proportion of older farmers on Exmoor without a successor, the situation on moorland farms is brighter than on non-moorland farms (47% of moorland farms having identified a successor compared to 37% of non-moorland farms).

4.65. Moorland farmers are more positive in their assessment of the current state of their business with 32% describing it as 'good' compared to 26% of non-moorland farmers. Moorland farmers are also more optimistic about the future outlook for their business with 21% describing their economic prospects as good compared to 17% of non-moorland farmers. The report concludes that *"the majority of moorland will remain in the hands of the families that have managed Exmoor's moorland for many decades"*.

4.66. Nevertheless, the small number of farmers actively farming the moorlands must remain a cause for concern. Long term trends of farm amalgamation make it likely that the number will continue to decline. A 'critical mass' of individuals and businesses needed to maintain knowledge of stock management on the moorlands, (such as where stock will heft and gather and which genetic lines are less susceptible to diseases such as looping ill) or to undertake collective moorland operations (such as burning or gathering sheep for dipping and shearing) must be maintained if efficient stock and moorland management is to continue.

The agricultural management of the moorlands

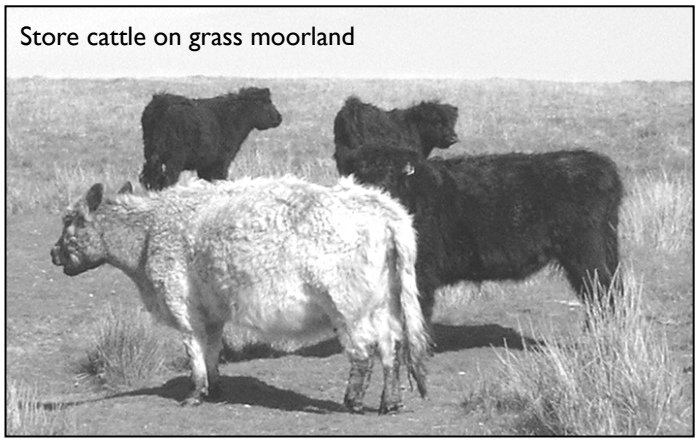
4.67. The biological condition of the moorlands on the SSSIs and the limited information available on the ESA have already been reviewed. This section reviews other assessments of the moorlands agricultural condition. Not surprisingly, views on the state of agricultural management of the moorlands vary significantly between the farmers and landowners who view their own management as good, and conservation groups who tend to be more critical.

4.68. Since the Wildlife and Countryside Act imposed management restrictions on owners and occupiers of SSSIs in 1981 and over-grazing controls were introduced to livestock subsidies in the 1990s, many moorland farmers have been subject to limits on their agricultural management. The majority of Exmoor farmers who have entered the ESA scheme since it was introduced in 1992 have voluntarily accepted further conditions.

4.69. Over-grazing has been a significant issue on Exmoor, although not to the same extent as in other upland areas. The Rural Development Service (RDS) has undertaken overgrazing surveys under the CAP cross compliance controls, on four areas of moorland on the north western edge of the Northern Heather Moors (Ilkerton Ridge, Furzehill Common, Walcombe and Cheriton Ridge). The RDS concluded that the current level of grazing on Ilkerton Ridge did not warrant the imposition of 'sustainable stocking rates'. However, on the other three areas, the moorland was classed as over-grazed and sustainable stocking rates have been introduced.

4.70. While environmental bodies are clear that grazing levels in recent years have reduced the ecological diversity of these areas, there is also agreement that the situation on Exmoor is much better than on Dartmoor and Bodmin, where suppression of heather by heavy grazing is far more widespread and severe. There is also a growing recognition that the impact of declining grazing levels is being felt more quickly on Exmoor, in terms of the encroachment of scrub, than on these other moors and possibly than on moorland elsewhere in the UK. This is backed up by evidence from the University of Exeter study which reports that, compared to non-moorland farms,

more moorland farmers are planning to reduce livestock numbers (particularly cattle) and there is some evidence of an anticipated withdrawal from grazing commons.


Store cattle on grass moorland

4.71. Not surprisingly, farmers tend to see their past practices in a different light. They point out that livestock numbers on some areas of the moorland have been seasonally high for many years. The tradition of summer grazing very large numbers of sheep from across North Devon on the Exmoor Forest took place for several hundred years before the Forest was sold to the Knights in the early 19th century. They also point out that livestock numbers on Exmoor as a whole have been falling. Defra's June Agricultural Census shows that sheep numbers on Exmoor as a whole fell by nearly a quarter between 1990 and 2002 and cattle numbers by 6%. It is likely that the introduction of stocking densities on the heather moorland under ESA agreements during this period has resulted in a greater reduction in stock numbers than over Exmoor as a whole.

4.72. It is interesting to review the changes in agricultural practice that have taken place in the last 30 years. The Porchester Report described the typical moorland farming system in the late 1970s in which flocks of Exmoor horn and Devon closewool ewes and herds of North Devon suckler cows formed the basis of the moorland management system, hardy breeds that are now in a minority. The report also describes average prices in the autumn of 1977 of £22 for a store lamb and £860 for a yearling bull – figures not very different from those received in recent years, a generation later (although farmers now receive substantial direct subsidies which did not apply then).

4.73. Returning to the present, farmers comment that some of the management prescriptions they are being encouraged to follow for environmental reasons are impractical to adopt and have unforeseen consequences. A particular concern has been the consequences of removing all cattle from the heather moorland and coastal heath entered into the ESA (Tier 1 part 5) between 1 November and 15 April. While winter stocking numbers rose to levels that required extensive supplementary feeding and were not sustainable in the long term during the 1970s and 1980s, many farmers question whether a complete removal of cattle is desirable in ecological terms. A consequence of this requirement is that farmers have moved to keeping less hardy breeds (such as Limousin X cows) that generally fare better than traditional breeds (North Devon or Aberdeen Angus X cows) in winter housing. However, these less hardy breeds are less willing to graze unpalatable vegetation such as purple moor grass when they are turned out on the moorland and cattle stocking levels on most of the heath moors have fallen further than farmers suspect were intended.

4.74. Most farmers are unclear what the long term management objectives of the SSSI and ESA are on the grass moorlands. They comment that the Exmoor Forest never supported the dense heather stands that are common on areas such as Dunkery and Molland Moor and it is unrealistic to seek to manage them as if they did[44]. While they agree that early summer grazing by cattle is the best way to suppress the unpalatable and dominant purple moor grass, they explain that early summer stocking of moorland is unsuited to the predominantly spring calving herds, particularly on the commons where bulls and bulling heifers can not safely be turned out onto open moorland.

4.75. Another concern has been the burning regimes that farmers have been encouraged to adopt. Since 1997, all moorland ESA agreements have included a requirement for the farmer to draw up and get Defra agreement for a 'moorland management plan' that lays out a programme of rotational burning and cutting of scrub and bracken control over the ten year period of the agreement. Farmers complain that the areas that they are allowed to burn are sometimes impractically small, and the programmes inflexible over the timing of burning, with the consequences that not enough of the heather moorland is being burned. However, they do acknowledge that the role of the NPA staff in co-ordinating burning on the commons and providing man power to help manage burns safely has been helpful, resulting in a larger area burned in the last two seasons.

4.76. Farmers comment that the combination of impractical management requirements with market demands for better quality earlier finished stock, mean that the distinctive role of the moorlands in Exmoor's agricultural system is being marginalised. The priority attached to keeping stock that are well adapted to grazing the moorlands has declined in favour of stock better suited to their more productive in-bye ground. Under these circumstances, they argue, it is no surprise that the condition of the moorlands receives a lower priority on most farms.

4.77. In terms of the areas that farmers consider to be in the best condition, there is agreement with the biological assessment undertaken by English Nature on a few areas. For instance, most farmers agree with the assessments that Pig Hill, Clannon Ball and Badgworthy Hill are in good or recovering condition. However, they feel that much of the heather on the large area from Dunkery to Wilmersham Common is in poor condition, being too old and tall. They also believe that Varle Hill, Ashway Side, Molland Moor and parts of the Anstey Commons are in declining condition because of the low levels of grazing and the increasing growth of gorse.

4.78. In general, farmers accept that some of the practices followed in the 1970s and 1980s have been unsustainable. But they feel that insufficient account has been taken of their own skills and experience, with the consequence that some of the ESA prescriptions are inflexible and were introduced without enough discussion about their consequences. They do acknowledge that a more flexible approach is starting to be taken.

[44] Environmental bodies would probably agree with this but would point out that the Exmoor Forest supported biologically more diverse wet heath and blanket bog.

Conclusions on the Agricultural condition of the moorlands

- The profitability of moorland farming declined substantially in the period 1995 to 2000, largely as a result of declines in the value of agricultural subsidy. The forthcoming decoupling of support and the creation of a separate payment region within the moorland line is likely to further reduce levels of support payments in the long run, although market prices have been stronger in the last two years.
- In addition to the evidence from English Nature's biological assessment of the SSSI's (reviewed earlier), the RDS has classified Furzehill Common, Walcombe and Cheriton Ridge as over-grazed and sustainable stocking rates have been imposed.
- **Most of the farmers consulted during the study voiced concern about the sustainability of the environmental management prescriptions they are being asked to follow (such as the low stocking levels particularly during the winter and the small fragmented areas planned for burning each year). They questioned both the management practicality of these regimes and their suitability to Exmoor's more productive conditions, compared to other English moorlands.**
- Market forces, changes to support payments and environmental prescriptions for moorland management have led to reductions in the numbers of cattle kept and to a move away from traditional hardy breeds best equipped to graze unpalatable moorland vegetation. The distinctive role of moorlands within the farming system is in decline, with moorland increasingly being seen merely as another (large) field on the farm available to take pressure off the in-bye land.
- It was widely agreed that the NPA's involvement in arranging and manning moorland burning in the last few years has been successful.
- **Across Exmoor as a whole, the rate of succession to family farms is declining and, although there are an increasing number of small non-commercial farms, agricultural management of the majority of the Park is becoming concentrated in fewer hands. This is especially the case on the moorlands where the number of active farmers, and thus the 'critical mass' of man power (to undertake activities such as stock clearance and burning) and the reservoir of moorland management knowledge, is already low.**
- Evidence from the University of Exeter study of farming on Exmoor suggests that moorland farmers are more positive in their assessment of the current state of their business, and more confident for the future, than their non-moorland colleagues. Information from this study suggests that an immediate crisis in succession to moorland farms is unlikely.

OVERALL CONCLUSIONS ON THE CONDITION OF THE MOORLANDS

4.79. It is fifty years since Exmoor was designated as a national park, thirty years since it became the national focus for debate on moorland conservation and ten years since it received ESA status and funding. One might have expected that this level of attention would have produced widespread recognition and understanding of the area's special qualities and led to their favourable management. However, this chapter has shown that this is far from the case – in many areas there is evidence of a lack of consensus between the major stakeholders over the desirable end state of the moorlands, and of the best way of achieving this. In some instances, it would appear that the quality of the moorlands is continuing to deteriorate.

4.80. The message is not all bad. There is widespread agreement that most recreational uses of the moorlands are sustainable and even that recreational use could rise as a result of the provision of open access under the CRoW Act without impacting on their special qualities. Concerns about the scenic beauty and aesthetic qualities of the moorlands are relatively minor and it is clear that the landscape qualities that led to the designation of the Park in 1954 are still cherished and valued by residents and visitors alike.

4.81. It is on the topic of the agricultural management of the moorlands that there is most disagreement. Although the outright conflict of the late 1970s and early 1980s is fortunately long past, there remains a gulf of understanding between moorland farmers and the different groups representing conservation interests over what the optimal condition of the moorlands' vegetation cover should be and how best to provide this. On the one hand, the biological monitoring of the moorland SSSIs undertaken by English Nature shows that a high proportion of the moorlands are in poor or even declining condition. On the other hand, many farmers complain that the grazing and burning regimes they are being encouraged to adopt to improve this condition are not practical in agricultural management terms, are not financially viable and will not ultimately be effective.

4.82. Concern has also been expressed that management to benefit biodiversity, such as mechanical cutting of bracken or preparation of grass moorland to reintroduce heather, could damage hidden archaeology. Finally, the impact of some of the proposed management activities on the wider scenic and aesthetic qualities of the moorlands, and the opportunities for enhancing these qualities, do not seem to have been considered.

4.83. This is not to say that Exmoor should be singled out as a particularly bad example amongst other National Parks in England and Wales. The conditions of Exmoor's moorlands are either typical of equivalent areas in other Parks or, in key areas such as the quality of recreational use, appear to be in better condition. Indeed what is most interesting is that Exmoor seems to be leading national trends in terms of the changes to agricultural management, providing an indication of the issues that are likely to affect other areas in a few years time.

4.84. Exmoor has found itself at the cutting edge of national debate about the future of moorland before. This study suggests that circumstances may once again be pushing Exmoor forward, giving its people the chance to lead national policy development.

Towards an integrating audit of significance and condition

4.85. This study has developed a methodology that builds on the approach used by National Park Authorities in their 'State of the Park' reporting. This methodology echoes the techniques used in Environmental Impact Assessment and Sustainable Environmental Appraisal, where separate qualities are evaluated to a common format. Within the constraints of the evidence available, this report has endeavoured to put each of the special qualities of the moorlands on an equal footing. It has made separate assessments of the significance of each of the special qualities, in terms of the expectations that people have, and has then evaluated the condition of the moorlands in relation to these expectations.

4.86. If these two separate stages are put together, they provide a way of auditing the moorlands that integrates all of their special qualities. It is suggested that this is a methodology which can be developed further and used usefully in other areas.

4.87. Although not considered necessary in this study, a simple table can be used to summarise both the significance and condition of different management units, with a 'traffic light' system of colouring condition (running from green from sites that are in favourable or in unfavourable improving condition, to red for those that are in unfavourable declining condition). An example of this is given below at **Table 4.4**. It is suggested that this approach might be used by the NPA in further work on each of the 22 moorland units identified in this study undertaken with the landowners and managers.

Table 4.4. Example of summary audit table

Management unit	Visual landscape		Historic environment		Biodiversity		Recreation		Agricultural management	
	Value	Condition	Value	Condition	Value	Condition	Value	Condition	Value	Condition
Area 1	M	**D**	**H**	F	**H**	U	M	F	M	U
Area 2	**H**	U	**H**	U	**H**	F-D	**H**	F	M	U
Area 3	**H**	F-U	**H**	F	**H**	F-D	**H**	F	**H**	**D**

Key: Significance categories: **H**igh, **M**edium, **L**ow
Condition categories: **F**avourable, **U**nfavourable static, unfavourable **D**eclining

4.88. There are two lessons arising from this study in relation to the development of this methodology. **Firstly**, while a simple classification of significance ranging from international to local proved adequate for this study, using the Quality of Life Capital approach[45] to compare the importance of benefits received by different groups of people would provide a useful way of resolving conflicts. **Secondly**, the concept of favourable condition developed in the Common Standards Monitoring assessments of SSSIs is one that can be applied to the other special qualities.

[45] Countryside Agency *et al*., 2001. *Quality of Life Capital: Determining what matters and why*. www.countryside.gov.uk/LivingLandscapes/qualityoflife/

5. CURRENT POLICY OBJECTIVES AND DRIVERS OF FUTURE CHANGE

5.1. This chapter turns to the future of the moorlands. It looks at where public policies are taking the moorlands in terms of the objectives that are being pursued and it looks further forward at the pressures that are likely to drive future change.

CURRENT POLICY OBJECTIVES

5.2. This section looks at the key areas of public policy affecting the moorlands. It does so under the topics of Government and EU support for hill farming, assessment of the condition of Sites of Special Scientific Interest, the Environmentally Sensitive Area Scheme and the provision of open access under the Countryside and Rights of Way Act. A final section looks at specific examples of policies for re-introducing heather to the moorlands.

Support for hill farming

5.3. Government's intentions for farming as a whole were made clear in the Strategy for Sustainable Farming and Food published by Defra in 2002 and were reinforced in the Rural Strategy published in 2004. Government expects farming to become more 'market facing' rather than 'subsidy driven', to become more environmentally sustainable and to diversify incomes away from primary agriculture. The reform of the CAP, which is covered in more detail later in this chapter, will go a long way to achieving these aims.

5.4. It has long been accepted that farmers in hill areas face particular disadvantages and have extra responsibilities in terms of their role as stewards of fragile environments and rural communities. Government's main policy instrument for supporting farming in the Less Favoured Areas (LFA) is the Hill Farm Allowance (HFA), an area payment that replaced the headage-based Hill Livestock Compensatory Allowance in 2001. The objectives of the HFA are "*to contribute to the maintenance of the social fabric in upland communities through support for continued agricultural land use and to help preserve the farmed upland environment by ensuring that land in LFAs is managed sustainably*".

5.5. The more precise purposes of the HFA, particularly in relation to the economic and social contribution that hill farming makes, are not entirely clear. The Task Force for the Hills appointed by MAFF, reporting in 2001, recommended that "*the long term aim for LFA support should be an integrated tiered payment scheme reflecting environmental and social benefits, actual costs of landscape, wildlife and access maintenance and the economic difficulties of traditional hill farming*". The Government undertook a review of the HFA in 2003 which concluded that the scheme should continue in its current form until it is scheduled to end in 2006. A more fundamental review of support for the LFAs will take place in the light of the new Rural Development Regulation which will operated between 2007 and 2013. This is considered further in the later section on 'drivers of change'.

5.6. The findings of this study suggest that the social contributions of farming are important to Exmoor and should be valued, particularly in terms of the experience that farmers and their families have of the management of the moorlands. In addition, public policy on the moorlands needs to recognise the danger of 'economic disconnection' of the moorlands under free market conditions, making their favourable management more reliant on continuing agri-environmental support. The justification for providing support for farmers' core businesses, rather than purely for the environmental benefits they provide, therefore needs to be taken into account in future reviews of LFA support.

Condition of the SSSIs

5.7. Defra's Public Service Agreement (PSA) places an obligation on the Department and its agencies, led by English Nature to bring 95% of SSSIs into favourable or recovering condition by 2010. This challenging target is being addressed through management agreements (in which ESAs and the Countryside Stewardship Scheme play the major role), backed up by enforcement action where necessary.

5.8. Progress towards the PSA target across England is slow and the previous chapter has looked at the poor biological condition of much of Exmoor's moorlands. English Nature is engaged on a site-by-site review of the conservation objectives it has for all SSSIs, a process that is likely to continue until 2005/06. This review is examining whether the current end state (habitat type) that is being sought, and which the condition assessments are measuring progress towards, is appropriate. This is particularly important on the grass moorlands where a decision will need to be taken whether a return to upland heath, wet heath or blanket bog from the purple moorgrass dominated swards that are now present is realistic. It is possible that the conservation objectives on some areas such as Long Holcombe will be altered, with the single objective being the restoration of blanket bog on areas of deep peat, accepting that the surround areas will remain as grass moorland.

5.9. It should be noted that the focus of the PSA target for SSSIs is narrowly focussed on biological (and in the case of the earth science sites, geological) condition and takes no account of other qualities such as scenic landscape quality or archaeological needs. It remains to be seen whether this will change with the introduction of the new 'integrated agency'.

The ESA

5.10. The objectives of the Environmentally Sensitive Area Scheme that relate specifically to the moorlands are

- *To maintain and enhance the nature conservation interest and landscape character of moorland by encouraging appropriate burning, cutting and grazing management.*
- *To increase the area of heather moorland by reversion on land previously improved for agriculture.*
- *To protect archaeological and historic features.*

5.11. The ESA, with the other agri-environment schemes (Countryside Stewardship and Organic Farming Schemes), closed to new entrants in 2004. From 2005, a single Environmental Stewardship Scheme will replace them although it is understood that

existing agreements under these schemes will continue to run. On Exmoor, it is likely that the higher tiers (including all the moorland tiers) will be replaced by the Higher Level the new scheme, with lowest tier(s) going in to the Entry Level.

5.12. The precise management options and payment levels that will be available under the High Level (HLS) of the new scheme have not yet been published by Defra. However, it is expected that payments at similar levels to those already available under the ESA will be available, but on a more targeted basis, with farmers and landowners having to demonstrate that particular public benefits will be delivered under the scheme rather than, as now, there being an assumption in favour of agreements on all land classified as being suitable for the different tiers.

5.13. It is likely that the approach being developed already through moorland management plans, where the particular management needs of each site are established and a programme of work agreed, will be the basis for agreements under the HLS. It is significant that, although the requirement to adopt moorland management plans was introduced to the ESA in 1997, the number of plans agreed and brought into effect is currently small.

5.14. A review of the age of the current ESA moorland agreements shows that the vast majority of agreements were renewed in 2003 (22% of moorland under agreement) or in 2004 (around 50% - finally figures are not available). This would suggest that the transition from the ESA to the HLS will be gradual. If Defra decide to terminate existing ESA agreements at the five year break, the first major tranche of HLS agreements on the moorlands will be in 2008.

Open access

5.15. The introduction of open access on foot to the moorlands under the Countryside and Rights of Way (CRoW) Act will take place in August 2005. The large majority of the moorlands already either have open access, have *de facto* access that is accepted by the landowner, or are well served by public rights of way. The practical impact of the CRoW Act is therefore not expected to be great. However, the legislation is providing an impetus to the County Councils and NPA to re-assess the network of rights of way onto the moorlands and the signage and interpretation on the moorlands. There is strong agreement that signage on the moorlands themselves should be kept to a minimum to preserve their remote and wild character.

Action to re-introduce heather to grass moorland

5.16. Most of the activity to enhance the quality of the moorlands has focussed on restoring heather and other dwarf shrubs to areas of grass moorland or acid grassland that was reclaimed from moorland in the last century. In contrast, there has been little discussion about what objectives are appropriate or achievable to improve the landscape condition of the moorlands. The project to re-wet areas of deep peat (the MIRE project) was described in the previous chapter (paragraph 4.6).

5.17. Several different approaches have been taken to re-introduce heather, with different levels of success, and a selection of these are described in **Box 5.1**. While it is clear that the type of intervention will depend on the nature of the site (for instance

whether heather is present in the sward as stunted plants or in the seed bank), there does not seem to have been a co-ordinated approach to finding the most effective techniques on Exmoor. Furthermore, and more worryingly, there appears to be poor integration with the ESA scheme. Of the projects reviewed below, only one has successfully used the ESA enhancement tier (Tier 2).

Box 5.1. Examples of different approaches to moorland restoration

Kipscombe: The National Trust and their tenant at Kipscombe are working to restore 22 hectares of semi-improved grassland back to heathland. The land was reclaimed from moorland by ploughing and reseeding in the 1970s. With the arrival of a new tenant in 2001, the National Trust put up winter livestock housing to facilitate better grazing and has acquired funding from English Nature and the NPA to place cattle grids across the A39 to allow the removal of fencing. Over the next few years, the tenant will take a cut of hay in July and then turn cattle out to graze the aftermath, removing the cattle before Christmas (the date depending on weather and ground conditions). Over time, this should reduce soil fertility and create conditions in the sward favourable to the natural recolonisation of heather and other heathland species from surrounding land. The disadvantage of this 'low intervention' method of moorland restoration is that it receives the lower tier of payment under the ESA (£50/ha under Tier 1 part 5 rather than £225/ha under Tier 2 part 2 where more active restoration is involved).

Warren: The NPA's tenant at Warren Farm, with financial support from the NPA and English Nature, is shortly to start a programme of reintroducing heather into purple moor grass dominated moorland at Trout Hill and Pinford. Plots of around 20 ha in size will be prepared by cutting, and in some cases spraying off, the vegetation after which heather seed heads will be mechanically broadcast. Grazing by cattle in the early summer will be carefully managed to suppress regrowth of purple moor grass. Despite the suitability of this work for the moorland restoration payment under the ESA (Tier 2 part 2), this project will not receive this payment because of conditions included in the tenancy agreement with the NPA which could amount to a form of double funding.

Honeymead Two Gates: The landowner of this block of moorland on the southern side of Exe Cleave undertook a plan of moorland restoration under Tier 2 part 2 of the ESA (the only area in the ESA to have been accepted into this tier) by ploughing areas of the purple moor grass and reseeding with a heather seed mix. It is understood that this technique has not been successful and the programme has been abandoned. Concern has also been expressed about the impact of ploughing and reseeding on as yet undiscovered archaeology and on wider landscape character.

Winsford Allotments: In 1993, an area of 97 ha at Winsford Allotment was entered into Tier 2 part 1 of the ESA by the landowners, the Badgworthy Land Company. The site had been subject to heavy autumn and winter grazing for a number of years and was classified as acid grassland. From 1993, winter grazing ceased and summer grazing levels were reduced substantially to 0.11 livestock units (LU) per ha. A vegetation survey by the RDS in 2003 has shown that heather has recovered and recolonised well over half the area which can now be classed as dwarf shrub heath. There is now an issue of whether grazing levels should rise again to around 0.22 LU/ha to prevent excessive growth of heather, gorse and bracken. This would require the ESA agreement to be changed, with the area placed in Tier 1 part 5, resulting in a reduction in the payment of nearly £1,000 per year.

Molland Moor: The Heather Trust, in partnership with the landowner and using national research funding from Defra, is testing and demonstrating a series of experimental techniques of burning, managing gorse and cutting purple moorgrass. The trials are in their second year and results are, as yet, unproven.

NATURAL DRIVERS OF CHANGE

Climate change

5.18. The UK Climate Impacts Programme (UKCIP) has co-ordinated research into a range of climate change scenarios for the UK. The results are presented as averages (of temperature, rainfall, etc.) for three future time periods: 2011 to 2040 (the 2020s), 2041 to 2070 (the 2050s) and 2071 to 2100 (the 2080s), and for three possible scenarios: low emissions, medium-low emissions, medium-high emissions and high emissions.

5.19. Potential climatic changes by the 2050s include up to 3°C rise in temperature, up to 20% increase in winter rainfall, up to 30% decrease in summer rainfall and generally more extreme weather patterns. The changes are expected to be greater by the 2080s.

5.20. Natural habitats and species may be put under severe pressure, especially those on the edge of their natural range or that depend on regular rainfall – conditions which apply on the moorlands. Blanket bog which, which is already one of the most sensitive and threatened habitats on Exmoor, is likely to be put under particular pressure. Species which are on the southern edge of their range such as the merlin or the rare plant, lesser twayblade, are likely to diminish while species on the northern edge of their range, such as the Dartford warbler, may benefit.

5.21. For productive agriculture this may mean reduced soil moisture, possible new pests and diseases and a requirement for new pasture varieties and species. On the other hand, increased carbon dioxide concentrations and a longer growing season may increase pasture and tree growth rates as long as adequate water and nutrients are available.

Bracken encroachment

5.22. There seems little doubt that bracken is spreading on Exmoor, consolidating its hold in areas where it has been present in small quantities and moving away from the valley bottoms up slopes on to moorland. While this is likely to be partly due to reductions in grazing pressure, particularly in the spring and early summer when the young fronds are most sensitive to trampling, experience from across the UK suggests that there is a natural change occurring as well, perhaps linked to climate change.

5.23. Bracken is generally considered undesirable since it is poisonous to livestock and out-competes palatable species, its roots damage buried archaeological remains and it harbours tick populations. However, it is important for the high brown fritillary butterfly. Various means are available for its control. Rolling or cutting in the spring as the fronds emerge is effective if repeated for several years. However, this practice has already caused serious and irreversible damage to low stone settings on Exmoor and should only be practiced on areas where there is no protruding archaeology. Aerial spraying with the herbicide Azulox is the alternative but is considerably more expensive.

Rhododendron invasion

5.24. Rhododendron is present in many of Exmoor's woods and its close proximity to some areas of moorland means that its spread onto these moorlands will remain an issue. Reductions in grazing pressure on these areas are likely to increase the rate of spread. Rhododendron on the moorlands is considered undesirable for the same reasons as bracken and its impact on semi-natural habitats and the open moorland landscape is generally considered greater (its show of flowers in the spring is popular with many people, although this is probably more appropriate along woodland walks than extensive areas of moorland).

5.25. Eradication of rhododendron from Exmoor as a whole is not an option and an ongoing programme of cutting and treating stumps with an herbicide will be needed to contain its spread.

Ticks and Lyme disease

5.26. It is important that the threat posed by ticks on the moorlands is based on objective evidence and is seen in the context of tick populations across the English countryside. On the one hand, it would be unfortunate if unfounded concern and publicity lead to a reduction in recreational use, while on the other hand, it is important that levels of Lyme disease in people and the implications of ticks on practical livestock management are carefully monitored.

5.27. Three conditions would appear to be necessary for the rise in tick populations to continue. Firstly, it is likely that climate change is a factor in the nationwide increases that have been noticed in recent years. Secondly, the development of longer vegetation, particularly bracken and long grass provides the cover that ticks prefer. Thirdly, there must be sufficient numbers of host animals (principally sheep, deer and cattle although many other species can host ticks) to support the population. The findings of this report suggest that falling livestock numbers may lead to taller coarser vegetation in many areas. It remains unclear which of these two factors (falling numbers of hosts and more suitable vegetation cover) will influence tick numbers the most.

POLICY DRIVEN CHANGE

Decoupling of agricultural subsidies

5.28. The fundamental reforms of the Common Agricultural Policy (CAP) that will be introduced in 2005 and subsequent years will have major impacts on the profitability and management practices of farming on the moorlands, although precisely what these impacts will be is not yet clear.

5.29. The NPA has undertaken a simple modelling exercise to predict the effect that the replacement of livestock headage payments with the Single Payment Scheme (SPS) and the gradual transition of this scheme to an average area payment will have on Exmoor. Although the NPA acknowledge that the sample of moorland farms on which the model is based is small (seven farms with more than 50% of their area in the moorland line), this work suggests that these farms will face a 37% fall in their subsidy income between 2003 and 2012 (not taking account of modulation or of agri-

environment scheme receipts). Given that these payments make up a high proportion of these farmers' total income (paragraph 3.161), such a sharp fall is likely to cause many of these business to restructure, with most probably opting to cut their costs and farm over a larger area.

5.30. The decoupling of subsidies will, in itself, have important implications since farmers will no longer be encouraged to keep certain kinds of livestock by the SPS. Providing they meet the minimum standards of management laid down in the 'cross-compliance' conditions, moorland farmers will be free to keep as many or as few stock as they wish. Research undertaken by the University of Exeter for Devon County Council[46] suggests that it will be cattle farming businesses in the Severely Disadvantaged Areas, including the moorlands, that will face the largest reductions in income from the CAP.

5.31. The intention of farmers on Exmoor in response to the reforms of the CAP can be gleaned from the study of Farming on Exmoor by the University of Exeter[47] and from the discussions held with moorland farmers during this study. While many will not make firm decisions until the rates of payment under the SFP are confirmed, there is a common consensus that the decoupling of direct subsidies and increased exposure to cheaper world markets means that keeping cattle on the moorlands is unlikely to be profitable, with the threat of bovine TB and the higher labour requirement needed to keep cattle a further disincentive. Given that cattle grazing, particularly on the grass moorland in early summer, is critical to the sustainable environmental management of the moorlands and that many areas already receive too little grazing, this anticipated decline in cattle numbers is likely to have a significant negative impact.

The new Rural Development Regulation

5.32. The European Commission's proposals for the new Rural Development Regulation that will herald a new England Rural Development Plan for the period 2007-2013 were published in July 2004. The Commission has proposed that support for farmers in "*mountain areas and in areas with handicaps*" should continue, based on area payments that compensate farmers for additional costs and income foregone related to the degree of natural handicap. It proposes that the boundaries of the Less Favoured Areas should be reviewed, with the criteria being soil productivity and climatic conditions and an assessment of the importance of extensive farming activities for land management. Debate in the UK has suggested that hill farming support should be based on the delivery of environmental and social benefits and it remains to be seen whether this will be taken on board at an EU-wide level.

The impact of a ban on hunting with hounds

5.33. At the time of writing, it seems likely that Parliament will ban hunting with hounds. The economic and other impacts on Exmoor of a ban are outside the scope of this report and have been covered in other studies for the NPA and local authorities.

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[46] Lobley, M & Butler, A. J. 2004. *The Impact of CAP Reform on Devon's Agriculture*. Centre for Rural Research, University of Exeter.

[47] Lobley M, Wakefield D, Butler A and Turner M. 2004. *The State of Farming on Exmoor 2004*. Centre for Rural Research, University of Exeter. Report to Exmoor National Park Authority

Evidence from this study suggests that recreational use during winter will be reduced significantly in the remoter parts of the Northern Heather Moors and the Southern Heather Moors and the contribution that hunting has made to the cultural identity of the moorlands will become part of their history rather than a living culture. It is also likely that patterns of deer distribution on the moorlands and in woodland will change as the dispersing activity of the hunts ceases. The impact on overall deer numbers remains to be seen, although some consultees suggest that farmers will be less tolerant of deer grazing pressure on their in-bye land and will increase their own culling of deer.

Legislation on common land management

5.34. Defra has made a commitment to introduce legislation to facilitate more effective management of common land, while maintaining its protection. Although nearly a quarter of the moorlands are registered as common land, on most commons there is now only a handful of active commoners and only Brendon Common has an active commoners association.

5.35. A key test of the legislation's effectiveness will be the extent to which commoners with an interest in active management are able to agree and enforce between themselves sustainable management of their commons. In the absence of sufficient active commoners to achieve this, another key test will be the ease with which the owners of common land can introduce sustainable management without undermining the future rights of registered commoners.

PEOPLE DRIVEN CHANGE

Changing recreational demands

5.36. The changing nature of recreation in Britain is a major topic that is outside the scope of this report. However, it is likely that Exmoor will see growing demand for short break holidays, particularly outside the main holiday season. Retired people, usually travelling as couples or small groups, will make up a large proportion of staying visitors. The recent increase in competitive and adventure events on Exmoor is likely to continue and there is likely to be a general increase in the more active forms of recreation that the moorlands are well placed to provide (such as longer distance walking). It seems likely that the number of regular local walkers (exercising their dogs) will remain more static.

Demand for moorland bred livestock

5.37. The detachment of the moorlands from the wider farming economy that has taken place in recent years is partly due to market demands for higher quality, earlier finished beef cattle and lambs. These trends are likely to continue, with farm assurance schemes applying higher standards of animal husbandry that will make grazing of the moorlands less integral to mainstream livestock production. However, there is a small but growing demand for high value branded livestock products that are linked with particular localities and can demonstrate environmental benefits. While the opportunities for moorland farmers to supply these markets are not yet clear, this represents an important opportunity that deserves exploration.

Demographic change and declining moorland management skills

5.38. The rate of succession to family farms is declining and, although there are an increasing number of small non-commercial farms, agricultural management of the majority of the Park is becoming concentrated in fewer hands. This is especially the case on the moorlands where the number of active farmers, and thus the 'critical mass' of man power (to undertake activities such as stock clearance and burning) and the reservoir of moorland management knowledge, is already low. However, evidence from a study by the University of Exeter[48] suggests that moorland farmers are more positive in their assessment of the current state of their businesses, and more confident for the future, than their non-moorland colleagues. Information from this study suggests that an immediate crisis in succession to moorland farms is unlikely.

[48] Lobley M, Wakefield D, Butler A and Turner M. 2004. *The State of Farming on Exmoor 2004*. Centre for Rural Research, University of Exeter. Report to Exmoor National Park Authority

6. SCENARIOS FOR THE FUTURE OF THE MOORLANDS

6.1. This penultimate chapter of the report aims to stimulate debate and dialogue between the many people who use the moorlands and are responsible for their future. It looks firmly to the future and asks the question "*What kind of moorland do we want?*". It is not for this report to answer conclusively this question, but by proposing a vision for the moorlands and suggesting two alternative scenarios or possible outcomes, based on current trajectories, it is hoped that this chapter will encourage people to face up to the major choices that face future of the moorlands.

6.2. It is clear from this study that there is much common ground between the groups that have often found themselves on the opposite side of arguments over the last 50 years. For instance there is little disagreement over the special aesthetic and landscape qualities of the moorlands or that current levels of most forms of recreational use of the moorlands are not damaging their special qualities.

6.3. However, it is equally clear that, while there has been much detailed work on particular management issues such as the recovery of heather or co-ordination of burning programmes, there has been remarkably little discussion between the different groups about the 'big picture' of where public policy and private activity should be taking the moorlands. Perhaps this is because people have not wanted to risk upsetting the fragile compromises reached after the heated debates of the 1960s and 1970s. However, the result is that vital issues, such as the desirable end state of the grass moorlands or the future of the farmland adjacent to the moorlands, have not been properly aired.

6.4. **Unless these issues are faced, and a consensus found that is acceptable to all the major groups, there is a danger that decisions on the management of the moorlands, by individual farmers and landowners as well as by public bodies, will continue to be haphazard and often conflicting. Much is said in public policy circles about the need for joined-up thinking and integrated policies. The moorlands of Exmoor are one area that is crying out for delivery of this laudable aim.**

A VISION FOR THE MOORLANDS

6.5. It is hoped that the following vision for the moorlands, concentrating on the qualities that the moorlands should provide in the future, will help stimulate the debate and bring about the consensus that is so needed. It is derived from the views of consultees and from the vision for moor and heath presented in the NPA's National Park Management Plan[49]

A proposed vision for the moorlands

We seek a future that will see Exmoor's moorlands providing:

- Inspiration to Exmoor's visitors and residents alike, through their tranquillity and solitude, their grandeur and wildness and their awe-inspiring size and views
- Secure habitats for the rich biodiversity and distinctive species adapted to live there
- An environment for people of all ages to learn about the natural world and its processes
- Opportunities for strenuous exercise and mental challenges in an environment that can be as hazardous as it can be beautiful
- Protection of the rich record of human history and habitation, particularly for those artefacts that have disappeared from more intensively used land
- Livelihoods for a diverse community of farmers and their families and for other businesses that rely on them
- Water of the highest quality to the rivers draining them and a sink for atmospheric carbon that would otherwise contribute to global climate change

6.6. The problem with visions of this sort is that they provide little for people to disagree with and, on their own, they do not highlight areas of potential conflict within the vision. Neither do they determine priorities for the allocation of finite resources. The remainder of this chapter therefore examines two potential outcomes for the moorlands, based on current trends and the drivers of future change. These paint polarised pictures of the possible future of the moorlands in which two quite different sets of underlying drivers of change operate.

- The first scenario assumes that pressures for the withdrawal of grazing, declining recreational use and a lack public interest in the moorlands converge. This scenario explores the consequences of abandonment of the moorlands.

[49] ENPA, 2001. *Exmoor National Park Management Plan 2001 – 2006*. Exmoor National Park Authority, Dulverton

- The second scenario assumes that increasing public demand for the qualities and products of the moorland leads to a resurgence of interest and investment. This scenario explores the potential for the moorlands to expand, both in terms of their public profile and their physical extent.

6.7. These two scenarios are not intended to be mutually exclusive for Exmoor as a whole – indeed it is likely that some areas of moorland may follow one scenario while others will follow the other.

ABANDONED AND UNCONTROLLED MOORLANDS?

- Declining numbers of farmers with the knowledge and skills to manage the moorlands, combined with further reductions in the economic incentives (including long term falls in support payments) to stock them, will result in the agricultural abandonment of most of the Coastal Heaths, the Brendon Heaths, Dunkery Hill and many of the smaller outlying areas.

- This agricultural abandonment, particularly by cattle, will lead to encroachment by gorse, birch and rhododendron, the invasion of which on areas such as the coastal slopes, Doone Valley and Haddon Hill will prove uncontrollable. This in turn will result in major changes to the wildlife of the moorland. Species typical of open moorland such as merlin and lapwing will decline while species more suited to thicker cover such as red deer and Dartford warblers will increase.

- Declining laying and coppicing of the beech hedges will result in the gradual loss of the wide views up to the moorlands from Exmoor's minor roads.

- Longer vegetation will lead to further increases in populations of sheep ticks and result in the moorlands getting an unfavourable reputation with some walkers and riders. However, the increasingly wild character of the moorlands will attract people seeking more challenging and remote forms of recreation.

- Climate change will see the areas of blanket bog shrink further and flash flooding will cause gullying on steep paths and other bare land.

- Significant increases in illegal use of 4X4 vehicles, cross country motorbikes and mountain bikes across the moorlands will prove to be very difficult to control and will progressively reduce the peacefulness and wildness of the moorlands.

- The landscape change arising from taller roadside hedges, scrub encroachment and the loss of livestock on the moorlands, coupled with an increasing sense of wilderness in the most remote and abandoned areas of moorland, will bring about a major change in the character of Exmoor as a whole.

RE-ENVIGORATED AND EXPANDING MOORLANDS?

- Gradual growth in the demand for active but quiet recreation by a more affluent population leads to increased public interest in the moorlands. Public willingness to contribute financially to the moorlands' management, both through spending with tourism providers and through publicly subsidised schemes, grows.

- Levels of recreational use grow substantially, particularly the more physically active and challenging forms of recreation. Problems of congestion on narrow roads during peak holiday periods and erosion of footpaths and tracks become significant. Action to restrict public access to the most popular sites proves controversial.

- Robust enforcement of laws on illegal vehicular access across the moorlands is necessary to reduce the impact of four wheeled vehicles and cross country motorcycles.

- Moorland farmers will become progressively more engaged and enthusiastic about the opportunities available from providing the high quality environment sought by recreational users and by public sector bodies.

- Sustainable grazing levels, heavily dependent on support payments, are maintained across the moorlands. Public sector bodies play a key role in brokering grazing agreements between landowners and graziers and by supporting collective activity, especially on commons, perhaps by adopting (through consensus) a more active wardening role. The role of the moorlands in a viable stock management system is maintained by grant aiding the necessary physical infrastructure (such as cattle grids, mobile sheep dips and small abattoirs) and by public sector promotion of hardy livestock breeds and their products.

- Niche markets for high value moorland products from Exmoor will grow, such as for wild venison and moorland honey, providing a further financial incentive for improved management.

- Incentive payments delivered through the Higher Level Stewardship scheme for early summer grazing by cattle on the grass moors, coupled with flexible Moorland Management Plans (allowing variations in stocking levels and burning regimes on an annual basis) will gradually increase the botanical diversity of the grass moors.

- This botanical diversity is enhanced further by the introduction of heather and other dwarf shrubs, in dispersed small pockets (not in large geometric blocks) across the grass moors. Successful blocking of moorland grips on the Chains and reductions in the burning around blanket bog will result in active accumulation of sphagnum moss and restoration in blanket bog.

- Reductions in the intensity of agricultural management on the land adjoining the moorlands will enable reestablishment of the large scale open landscapes across areas that were converted from moorland to grassland in the 20th century, particularly between the Northern Heather Moors and Coastal Heaths. While this will not involved reinstating dwarf shrub heath vegetation, it will enable the blurring of

currently sharp changes in vegetation colour and texture, creating larger scale 'sweeps' of extensively managed land.

- Successful first steps with the clearance of plantation forestry on Grabbist Hill, Bincombe and Hadborough Plantations will result in larger areas of conifer being returned to heather moorland on the Brendon Hills.

- Further discoveries of prehistoric stone settings lying hidden in grass moors coupled with research on the culture and environment that led to these sites will increase the reputation and recognition of Exmoor's unique archaeological record, bringing a source of visitor interest and spending.

- Greater public appreciation of the special qualities of Exmoor and its moorlands, in a world where a high quality tranquil environment is increasingly valued, will bring a renewed sense of purpose to the moorlands.

7. ACTIONS TO SECURE A SUSTAINABLE FUTURE FOR THE MOORLANDS

7.1. This study has drawn attention to the qualities of the moorlands that make them special and has assessed how well the moorlands are meeting the expectations placed on them. The previous two chapters have looked at the pressures for change that are acting on the moorlands, have suggested potential outcomes if these pressures continue and have suggested a vision that should be pursued. This final chapter makes suggestions for the actions that should be taken by the organisations and individuals in whose hands the future of the moorlands lie, to bring about the vision.

7.2. The proposed actions are split into three groups under the headings

- Creating a consensus on future objectives;
- Gathering evidence to inform actions; and
- Facilitating more sustainable management.

7.3. For each of the actions, the key players who should be responsible for taking it forward are identified and the likely resources required to implement the action are suggested. A final section at the end of the chapter suggests which of these actions should be taken forward immediately and which will require more preparation.

CREATING A CONSENSUS ON FUTURE OBJECTIVES

7.4. One of the key overall findings of this study is that, despite the range of statutory designations and initiatives that have focussed on the moorlands for the last 50 years, there is a lack of consensus between the different interests on what the future objectives of managing the moorlands should be. It is difficult to see how progress can be made towards improving the condition of the moorlands without agreement between all the parties who will need to be involved to bring this about.

7.5. Ways need to be found to create a clarity of purpose that is widely understood and accepted. If the moorlands are to continue to be managed by grazing and if the knowledge and traditions held by moorland farmers are to continue to form part of the culture of Exmoor, it is particularly important these farmers accept and feel part of a collective future. The following actions are proposed as necessary to create this strong consensus on future objectives.

1. A re-invigorated Moorland Forum

7.6. The Moorland Forum (previously called the Moorland Panel) has met under the auspices of the NPA for many years to share concerns and information, with a membership of the main moorland owners, representatives of moorland farmers and staff from the relevant statutory agencies. In recent years, NPA members have become regular attendees and the Forum has met most frequently in the NPA Headquarters in Dulverton.

7.7. Consultees reported that the Forum has taken on a more stilted and formal atmosphere in recent years and as a result has become less effective as an opportunity for frank discussion and inclusive debate. In addition not all interests are

represented – the most notably absent being landscape, archaeological and recreational interests.

7.8. There is a sense in which the centre of gravity has shifted from the Moorland Forum to the ESA agreement holders meeting in recent years (as the NPA moorland management agreements have come to an end or been relinquished in favour of ESA agreements). However, in future, with the replacement of the ESA with the Environmental Stewardship Scheme (ESS) agreements that are more clearly focussed on delivering particular benefits in which other bodies have an interest (such as favourable condition of the SSSIs), and with the introduction of the new Integrated Agency, it is suggested that there will be advantages in a rejuvenated, responsive and representative Moorland Forum becoming the main arena for discussion on the performance of this scheme on the moorlands.

7.9. Responsibility for providing administrative support for the Forum should continue to lie with the **National Park Authority.** However, it is important that meetings are seen to be independent of official NPA business and attendance by NPA members should, in general, be low key. Consideration should be given to the Forum electing its own chairman who should take care to maintain an independent position. There is merit in holding meetings in less formal venues than the NPA's Exmoor House, such as village halls or hotels. Close liaison between the NPA staff organising the meetings and staff from other statutory agencies, particularly the new Integrated Agency when it is formed, over the topics to be discussed at meetings will be important. The business of the Forum should be reported back to the NPA.

7.10. The actions suggested below should provide plenty of topics for the Forum to consider. In general, it is suggested that the Forum will be most effective if, at each meeting, one of the key actors (such as a statutory or voluntary body, landowner or group of businesses) is asked to report on and invite discussion on a particular initiative or area of work on the moorlands.

7.11. The resource implications of this suggested action are small. Additional staff time will be required, drawn from existing NPA staff, to give higher priority to organising Moorland Forum meetings. There will be slightly higher costs associated with holding meetings at venues away from the NPA's Exmoor House.

2. Pro-active engagement by moorland farmers

7.12. There is an impression that, with some notable exceptions, Exmoor's moorland farmers (collectively rather than individually) have become accustomed to reacting to what they see as unwelcome change imposed on them, rather than getting involved at an early stage and accepting that changes are necessary and bring opportunities. This is clearly a two way process – farmers must feel that their views will be listened to and taken account of, while others must feel that farmers will adopt a positive role in helping to deliver public benefit.

7.13. Responsibility for initiating this action lies with the farming trade associations. It is suggested that the **National Farmers' Union** (NFU), which holds a regular 'Hill Farming Forum', should draw up and publish a paper involving other organisations such as the Country Land and Business Association (CLA), National Sheep

Association and Tenant Farmers Association. This paper should describe an agreed vision and objectives that moorland farmers have for the future of their moorlands. An important issue that should be covered in this paper is the pre-requisites that farmers believe will be necessary for the re-establishment of a sustainable livestock production system involving the moorlands.

7.14. The resources associated with this action are modest. It is hoped that the NFU will allocate time from a senior member of regional staff to facilitate and prepare the suggested paper and that key farmers will agree to attend the meetings necessary to agree their joint position.

3. Foster appreciation of the overall value of the moorlands

7.15. This study has found that the search for solutions to specific practical problems on the moorlands has meant that the overall significance of the moorlands has often been lost in the detail. Retaining a clear understanding of the 'whole landscape' and natural beauty significance of the moorlands will be important if integrated solutions that exhibit 'joined up thinking' are to be found.

7.16. This action should be seen as a general recommendation to all bodies involved in the future of the moorlands. However, it is suggested that two organisations will be best placed to take this action forward.

7.17. Firstly, it is hoped that the new **Integrated Agency** will adopt an organisational structure at a regional and local level that allows a new level of integrated thinking between the different public sector interests covered by the Agency. This is particularly relevant in terms of the way the ESS delivers multi-functional objectives that dovetail landscape quality, biodiversity, the historic environment and public recreation while fostering a vibrant rural economy.

7.18. Secondly, it is suggested that the **Exmoor Society**, as the charitable body dedicated to the conservation and protection of the National Park, should keep a watchful eye on developments and, where necessary, call bodies to account on the wider impacts of their policies. The Society may wish to take on the role of 'honest broker' where it feels these wider impacts are not being sufficiently addressed. The Society is well placed to undertake this role since it is not fettered by other functions and can act as a champion for the statutory purposes of the National Park. This will require the Society to allocate a small amount of time to its Executive Committee and Secretary to undertake this role on an ongoing basis.

4. A better understanding of PSA targets for the SSSIs

7.19. It is clear that the Public Service Agreement (PSA) target for improving the condition of SSSIs, which will be an important driver of future public policy towards the moorlands particularly through the new Higher Level of the ESS, is not well understood by landowners and managers and by many of the bodies with an interest in the moorlands.

7.20. English Nature is engaged in reviewing the conservation objectives of each SSSI unit, against which their biological condition will be assessed, over the coming eighteen months. While these individual site reviews will be conducted using objective criteria

and will usually only involve discussion with the relevant landowner, the process as a whole provides **English Nature** with an opportunity to explain the purpose of the PSA target and the implications it has for future management and for targeting of grants such as the Higher Level of the ESS.

7.21. There is also a message arising from this action for **Defra** at a regional and national level. It is important that pursuit of the PSA target for SSSIs should not take place regardless of the consequences for other special qualities. For instance, action to re-introduce heather to grass moorland should take account of the landscape, archaeological and recreational implications of doing so. This suggests that English Nature's reporting to Defra of progress against the PSA target should take account of the views of partner bodies (who will therefore need to be formally consulted) on the implications of the biological condition of each SSSI for their areas of responsibility or interest. The views of partner bodies should be taken into account by Defra in assessing performance against the target on a regional and national level. This liaison should become easier once the Integrated Agency is in place.

7.22. This proposed action has resourcing implications for English Nature. While the suggestion that English Nature should explain the purpose and implications of the PSA targets can be accommodated within their existing work (for instance during attendance at Moorland Forum and other liaison meetings), a requirement to consult more widely before reporting to Defra will involve extra staff time.

5. Establish objectives and needs for each of the moorland units

7.23. The actions suggested above have treated the moorlands as if they a uniform area with similar problems and opportunities. This study has shown that this is far from the case. The study has made a start in identifying the individual character and needs of different areas, with a separate technical annex summarising the information that has been gathered on each of the 22 moorland units distinguished by the study. However, the study has not been able to contact all moorland owners and managers and a more rigorous process is required to repeat the auditing process of assessing the value and significance; condition; drivers for change; and actions to achieve a sustainable future for each of the moorland units.

7.24. It is suggested that the **National Park Authority** takes on this task, with the aim of completing an audit and drafting an action plan of each of the moorland units within the next year. The NPA has already started the process by contributing valuable information on a unit-by-unit basis to this study. It is suggested that five stages are required to complete the task.

- Firstly, partner organisations should be consulted in writing about their objectives for each unit.
- These objectives should be used to consider whether the boundaries of the sites (as defined by the Section 3 map, moorland line and open access land), should be extended or reduced in order to deliver the best and most sustainable outcomes.
- Site meetings should be held with all the main moorland owners and managers (usually one meeting per unit).
- Existing evidence on the value and condition of each unit should be reviewed and summarised briefly to a common format (drawing in more detail on the sources

used in this study, together with new evidence that is suggested below, when this becomes available).

- Finally, a brief individual action plan should be drafted, to remain as a live document that can be adapted to take account of new circumstances and initiatives. Making these action plans available as electronic rather than printed documents should ensure they are available for all parties to refer to.

7.25. This action has significant resource implications for the NPA. On the assumption that each 'moorland audit and action plan' will take four staff days to complete (not including the time taken by partners to contribute to it), the NPA will need to allocate at least 40% of a full time post to undertaking this work.

GATHERING EVIDENCE TO INFORM MANAGEMENT

7.26. The quality of information on the state of the moorlands is extremely variable. Some individual areas have been closely studied by student projects or assessments for the ESA while other areas have been rarely studied. The information that is available on the biodiversity of the moorlands, such as the extent of habitats or populations of birds or red deer is, in general, much more complete than information on the other special qualities.

7.27. To a large degree the quality of the decisions that are made on the way the moorlands should be managed will depend on the quality of the information that is available about this management. The following five proposed actions will go along way to improving the quality of this information base.

6. Monitor changes in vegetation cover

7.28. Views on the condition of the moorlands, particularly in terms of their landscape quality and suitability for recreation, are heavily influenced by opinions on changes to the vegetation, particularly in the extent of scrub and bracken. Evidence on the height and age of heather, on the depth of purple moor grass swards and the extent of blanket bog will be crucial in determining the success of grazing and burning programmes. Finally, monitoring of rights of way and other routes across the moorlands will be an important way of assessing the impact of recreation.

7.29. Aerial photographs already preserve evidence of vegetation cover dating back at least 70 years and some of these records have already been digitised allowing their analysis using Geographic Information Systems software. However, with a few exceptions (such as the work done by Cranfield University[50] and studies conducted by English Nature on key sites), this analysis has not been done in a way that allows direct comparisons between dates and it is not possible to show how vegetation cover is changing across all of the moorlands.

7.30. It is suggested that a contract is let to a specialist contractor to review evidence of trends in past vegetation cover and to establish a baseline using recent aerial photographs, 'ground truthing' desk based analysis with site visits. It will be

[50] Taylor, J. C., Bird, A. C. and Keech, M. A., 1991, *Landscape change in the National Parks of England and Wales - Final Report Vol VI Exmoor*. Cranfield University, Silsoe.

important that the methodology used to create this baseline is robust and repeatable at future intervals. It is likely that these studies will be of particular value in the targeting of the Environmental Stewardship Scheme and it is suggested that this work is commissioned and managed by the **Rural Development Service** on behalf of Defra. There are clearly resource implications in the commissioning of this work.

7. Evaluate the evolving condition of the moorland landscape

7.31. This report has highlighted that, with the exception of the creation of 'Map 2' in the wake of the Porchester Report (paragraphs 2.6 and 3.23), there has been little detailed assessment of the quality and condition of the moorlands landscape. Given the importance of the moorland landscape in terms of the National Park's designation and the value that many visitors and residents attach to the area, it is important this assessment is now undertaken. National research funded by the Countryside Agency and its partners, under the title of Countryside Quality Counts, has developed an indicator of change in countryside quality which it states can be used for "*targeting and monitoring within the new Environmental Stewardship Scheme and landscape planning (including sensitivity and capacity assessment)*".

7.32. It is suggested that the **National Park Authority** should take responsibility for undertaking an assessment of the changing condition of the moorlands' landscape within the wider context of the whole National Park. The work should also consider the capacity of the wider landscape of the National Park for expanding the visual extent of the moorlands' qualities of wildness and openness. This work may require additional funding in terms of a research contract to follow the methodology developed by the Countryside Quality Counts project. The resource implications of this for the NPA are significant.

8. Assess the condition of the archaeological resource

7.33. This action is already underway by the **National Park Authority** and **English Heritage** who are planning to assess the condition of the Scheduled Ancient Monuments and the wider Areas of Exceptional Archaeological and Historical Importance. It is suggested that this assessment follows the same broad structure as that used for the common standards monitoring of the SSSIs, placing each site into a condition category of favourable, unfavourable recovering, unfavourable no change and unfavourable declining, with the reason for unfavourable status recorded for the last two categories.

9. Monitor public access to, and recreational use of, the moorlands

7.34. In the past, levels of public recreation have been measured through periodic (usually at long intervals) surveys based on a relatively small sample of sites and users. The last large survey, the All Parks Visitor Survey, is now over ten years and a repeat survey will take place in 2005. However, developments such as the provision of open access to the moorlands from August 2005 under the Countryside and Rights of Way Act, and the emphasis placed by Government on visitor numbers in the National Parks' funding formula suggested that a more rigorous approach is needed that takes account of the quality and different purposes of recreational use. This study has suggested that, while visitor numbers may be lower than in other National Parks,

there are many different types of groups each of which value the moorlands in different ways. These different motivations and uses (such as educational, sporting, social and spiritual) need to be distinguished and different judgements made on the value of these uses in public policy terms. If numbers of visitors are to be allowed, or encouraged, to increase without damaging the qualities of the moorlands, it is important that numbers are measured on a regular basis.

7.35. The technology available for automatically measuring the numbers of people and cars passing along paths or roads has improved significantly in recent years. As this study has reported, the National Trust has installed vehicle counters at four sites on the Holnicote Estate and it is understood that it has plans to use people counters at key entry and exit points onto and off the moorlands. The NPA are using counters to monitor the vehicular use of un-surfaced roads and illegal sites and will be monitoring numbers of walkers using open access land. Other methods will need to be used to assess the different qualities of recreational use, such as monitoring the sales of different guided walk leaflets and other publications from NPA Visitors Centres and the targeted use of visitor questionnaires in newsletters.

7.36. There is a need for a co-ordinated strategy lead by the **National Park Authority** and **National Trust** to ensure that as comprehensive picture as possible, within resource limits, of use by different types of user is gathered. While there will a capital outlay to purchase automatic vehicle and people monitors, it is hoped that analysing data can be accommodated within existing work programmes.

10. Co-ordinate best practice in moorland management and restoration

7.37. There is a wealth of local knowledge available from moorland landowners and farmers on Exmoor, added to which there is valuable experience being gathered from initiatives in other areas such as the Peak District, Cumbria and Scotland some of which is likely to be of interest on Exmoor. However, as reported in this study, these sources of information are not being used effectively to guide the management prescriptions in some schemes and initiatives. It is important the best local knowledge is preserved and new technical advice from outside Exmoor is made available. Without this, there is a danger that funding on agri-environment schemes, as well as the goodwill and commitment of moorland landowners and farmers, will be squandered.

7.38. In the past, the MAFF Experimental Husbandry Farm at Liscombe provided technical advice to the South West's upland farmers. Although there is no justification to re-instate the physical presence and experimental work at a single site such as Liscombe, the same principle of a hub of knowledge and expertise is relevant. It is suggested that a 'virtual Liscombe' centre of land management practice for the South West's upland environments should be established on Exmoor. This would co-ordinate best practice and develop consensus on issues such as:

- Optimal stocking rates for different habitats in different conditions (for instance distinguishing between the stocking rates at different stages)
- Re-introduction of heather to grass moorland – an issue that is relevant to Bodmin Moor and Dartmoor as well as Exmoor

- Restoration of moorland on conifer plantation sites
- Burning regimes – frequency in relation to different ages and densities of heather
- Husbandry and control of red deer
- Re-wetting peat through blocking moorland drains
- Control of sheep ticks
- The ecology of the heather beetle in the South West
- Adding value to and branding moorland livestock
- Scrub control, taking account of the relationship between species such as gorse and important wildlife such as the Dartford warbler
- Rhododendron eradication and gorse control

7.39. It is suggested that the proposed centre of upland management practices would not directly commission or undertake research, but would act as a sounding board for others commissioning research and a means of disseminating the result of research and best practice to users. This dissemination would take place through visits to demonstration sites, the holding of seminars and occasional conferences, and publication of technical advice notes. While it would require a dedicated staff, it is likely that this staffing would be of a part-time nature initially, developing into a full-time presence if demand warranted it.

7.40. A large number of bodies will need to be involved in this initiative, including those already undertaking research such as the Heather Trust and Institute for Grassland and Environmental Research (IGER) who have a research centre at North Wyke near Okehampton as well as those who are developing standards of best practice such as the Rural Development Agency, English Nature, National Park Authority, Environment Agency, National Trust and Exmoor Pony Society. All of these organisations, as well as moorland landowners and farmers themselves will have an interest in receiving and making use of the information that is gathered.

7.41. It is suggested that none of these organisations will be in a position to take responsibility on their own for the initiative. A 'champion' to acquire funding will be required. It is suggested that the **National Park Authority** should convene an initial meeting of the bodies listed above and that these bodies should collectively approach the regional agencies (Government Office South West, the Chamber of Rural Economy, Regional Priorities Board and Regional Development Agency) to provide funding of staffing, set-up and running costs. It is hoped that one of the bodies listed will be in a position to provide office accommodation and services as an in-kind contribution.

FACILITATING MORE SUSTAINABLE MANAGEMENT

7.42. The final group of suggested actions are those that will directly help bring about improved outcomes for the moorlands. The ultimate option of public bodies taking direct control of managing moorland, through the purchase of livestock and employment of staff to manage them, was considered by the study. However, it is suggested that not only are public bodies likely to be less effective at managing efficient livestock enterprises than individual farming businesses, but doing so would undermine the important cultural contributions that family run moorland farms make to Exmoor. Instead, the following actions will assist landowners, farmers and other

moorland managers to deliver the objectives that will have been agreed through the previous actions, particularly through the individual moorland audit and action plans.

11. The employment of part-time 'moor keepers'

7.43. The more integrated and 'multi-functional' approach to conserving the range of special features of the moorlands that is recommended by this study will require high standards of moorland management. The idea of creating 'moor keepers' posts has been discussed before by the NPA and National Trust, particularly during the period of Objective 5b funding in the late 1990s. These would be part-time posts, drawn from the existing farming community, who would act as local 'eyes and ears' of landowners and graziers, helping to deliver agreed livestock and recreational management on the ground and working closely with the NPA rangers and National Trust wardens.

7.44. It is suggested that the idea should be resurrected by the **National Park Authority** in discussion with the National Trust, Badgworthy Land Company, other key landowners and the Rural Development Service. The core areas of the moorlands that are likely to warrant a 'moor keeper' are the group of commons on and around Brendon Common, Bossington and North Hill, Dunkery and the two Anstey Commons.

7.45. On the assumption that four part-time moor keepers posts are justified, coming under the functional management of the NPA rangers team, it is suggested that the annual costs of employing these posts is likely to be in the region of £60,000.

12. Flexible and targeted agri-environment funding to expand the moorlands

7.46. The Environmental Stewardship Scheme (ESS) that replaces the ESA next year will include a targeted Higher Level that is likely to be directed at the moorlands. The prescriptions of this scheme must take full account of local circumstances and knowledge on Exmoor, and project officers should be able to exercise discretion to alter prescriptions in the light of consultation with bodies as English Nature, the NPA and English Heritage. It is most unlikely that a funding formula based primarily on 'profit foregone' will deliver the kind of benefits that are sought. Instead, the scheme will need to recognise that more significant incentive payments to provide management that is currently uneconomic, such as summer grazing by cattle, will be required.

7.47. A key challenge for the new scheme that has not been adequately addressed by the ESA is the expansion and enhancement of the moorlands in ways that enhance their contribution to Exmoor's wider landscape, restore biodiversity and increase protection of the archaeological resource. The 'restoration' tiers of the ESA (Tiers 2 part 1 and 2) have concentrated on restoring biologically degraded grass moorland to upland heath and wet heath and, with a few exceptions, have not been particularly effective (paragraph 5.17). While this ecological restoration should remain a priority (but will require more effective and locally appropriate prescriptions), it is suggested that an additional focus should be the expansion of the visual moorland landscape which should also bring benefits to biodiversity and archaeology.

7.48. It is suggested that Defra makes payment options available under the Higher Level of the ESS for 're-wilding' land adjoining the moorlands. Payments should be available to remove fencing on agriculturally improved land adjoining moorland and reduce the intensity of management so as to extend and enhance the large scale and open views of the moorland landscapes and to initiate the restoration of moorland habitats on land that has been agriculturally improved. The areas where this option is most appropriate will have been identified in action number 7, above, to evaluate the condition of the moorland landscape. It is likely that priority areas will lie between the Northern Heather Moors and the Coastal Heaths and on the western and southern edge of the Grass Moors of the Centre.

7.49. Given that the area covered by the moorland 'restoration' tiers of the ESA is only 7% of the moorland area (around 1,300 ha) and the annual value of agreements on this land (around £80,000) is only 4% of total ESA expenditure, there will need to be a significant increase in funding to the new scheme on Exmoor, of the order of £500,000 a year, if these aspirations are to be met.

13. A moorland management infrastructure grant

7.50. If the agricultural management of the moorlands is to be reintegrated with mainstream livestock production systems, there will need to be investment in infrastructure that makes grazing easier in practical husbandry terms, as well as more cost effective for the farmers. Facilities such as cattle grids, particularly along the A39 coast road, mobile sheep dips and temporary livestock races (fencing) will be required.

7.51. It is suggested that part of the NPA's Sustainable Development Fund (SDF) is preferentially allocated to grant aiding capital investment of this kind. It is suggested that the value allocated from the SDF to this grant should be at least £30,000. Money that has not been allocated to moorland management infrastructure by a certain date each year should be available to other applicants to the SDF.

14. A new Moorland Enterprise Challenge Fund

7.52. The new priorities that are established for moorlands will require new innovative solutions, many of which are likely to be 'home grown'. There will be a particular need to stimulate new enterprises that are able to tap into market demands for sustainable products from the moorlands. Examples of these are the creation of new activity-based tourism and guided walks on the moorlands, the launch of a moorland products brand, or the marketing of Exmoor ponies for riding or Exmoor venison for eating.

7.53. It is suggested that a new Moorland Enterprise Challenge Fund should be established, administered by the **National Park Authority**, that is open to moorland owners, managers other businesses and voluntary bodies, who are making sustainable use of the moorlands, to establish novel ways of delivering public benefits on the moorlands. Applicants will need to present a well researched business plan for which grant aid at a high rate (70%) should be available.

7.54. The NPA will need to bid for new funding to undertake this action. Potential sources of funding are the Regional Development Agency, Defra and constituent local authorities. It is suggested that the value of this fund, which should be available for at least five years should start at £50,000 a year, rising to £100,000 in the third, fourth and fifth year.

15. The future of support to moorland farms

7.55. Detailed recommendations on the review of support for the Less Favoured Areas (the Hill Farm Allowance Scheme), that will take place in advance of the new Rural Development Programme 2007-2013, are outside the scope of this report. However, it is clear from this study that the decoupling of the CAP taking place between 2005 and 2012, combined with changes in the market for moorland livestock, will increasingly divorce Exmoor's moorlands from mainstream livestock farming systems. The Environmental Stewardship Scheme will be targeted at delivering particular environmental benefits. There is a danger that the wider economic and cultural role of the moorlands as part of a dynamic land management system, that is an integral part of Exmoor's wider farmed landscape, will be lost. It is extremely likely that the income of moorland farmers will fall with reductions in the value of CAP support. The opportunities for farmers to increase their income from the market, by adding value to moorland livestock or diversifying their incomes, will be limited compared to farmers 'down the hill'. This danger is likely to apply to other upland areas in England.

7.56. This study therefore suggests that there is a need for public policy to address the economic and cultural benefits provided by the moorlands which will not be picked up through agri-environment schemes, decoupled CAP support and the limited opportunities of the market place. This implies a continuing important role for LFA support which **Defra** should take account of in its next review of the Hill Farm Allowance Scheme.

A PROGRAMME FOR INTRODUCING THE ACTIONS

7.57. This report has been produced for the Exmoor Society who it is hoped will wish to see the actions carried out. In the majority of cases, responsibility for undertaking, or initiating the action, lies with the NPA. This implies an additional action for the **National Park Authority** and **Exmoor Society**, together, to respond to this report by drawing up a costed programme of actions, making sure that all the bodies that will need to be involved are informed of their role and engaged in the overall process of delivering a sustainable future for the moorlands.

7.58. Some of the actions suggested above can be introduced immediately, while others will take longer to prepare or acquire the necessary funding. A division of the actions according to this programme is as follows:

Actions for immediate implementation

1. ***A re-invigorated Moorland Forum*** (led by the NPA)
2. ***Proactive engagement by moorland farmers*** (lead by the NFU)
3. ***Foster appreciation of the overall value of the moorlands*** (the Exmoor Society)
4. ***A better understanding of the PSA targets for the SSSIs*** - initiated immediately but taking place over the next 18 months (English Nature)
5. ***Establish objectives and needs for each of the moorland units*** - to take place during the next year (NPA)
8. ***Assess the condition of the archaeological resource*** - already started (NPA and English Heritage)
9. ***Monitor public access to the moorlands*** – already started (NPA and National Trust)
13. ***A moorland management infrastructure grant*** – allocated from the existing SDF budget (NPA)

Actions for medium term implementation

3. ***Foster appreciation of the overall value of the moorlands*** – delivered through an inclusive and networked regional structure of the new Integrated Agency (Defra)
6. ***Monitor changes in vegetation cover*** – delivered through a research contract (RDS/the new Integrated Agency)
7. ***Evaluate the evolving condition of the moorland landscape*** – use of the 'Countryside Quality Counts' methodology (NPA)
10. ***Co-ordinate best practice in moorland management and restoration*** – requiring the identification of a champion and funder (NPA to take initial lead)
11. ***The employment of 'moor keepers'*** – discussion with landowners and agencies required (NPA and National Trust to lead)
12. ***Flexible and targeted agri-environment funding to expand the moorlands*** – to await launch of the Environmental Stewardship Scheme (Defra)
14. ***A new Moorland Challenge Fund*** – dependent on a successful bid for funding (NPA)

Actions for longer term implementation

15. ***The future support to moorland farms*** – to await review of LFA support under the Rural Development Programme 2007 - 2013

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9. GLOSSARY

CAP	Common Agricultural Policy
CSS	Countryside Stewardship Scheme
Defra	Department of Environment, Food and Rural Affairs
DCMS	Department of Culture, Media and Sport
EH	English Heritage
ELS	Entry Level Scheme
ERDP	England Rural Development Plan
ES	Exmoor Society
ESA	Environmentally Sensitive Area
FC	Forestry Commission
HFA	Hill Farm Allowance
HLS	Higher Level Scheme
LFA	Less Favoured Area
NPA	Exmoor National Park Authority
RDS	Rural Development Service
RPA	Rural Payments Agency
SAC	Special Area of Conservation
SAM	Scheduled Ancient Monument
SMR	Sites and Monuments Record
SPS	Single Payment Scheme
SSSI	Site of Special Scientific Interest

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October 2004