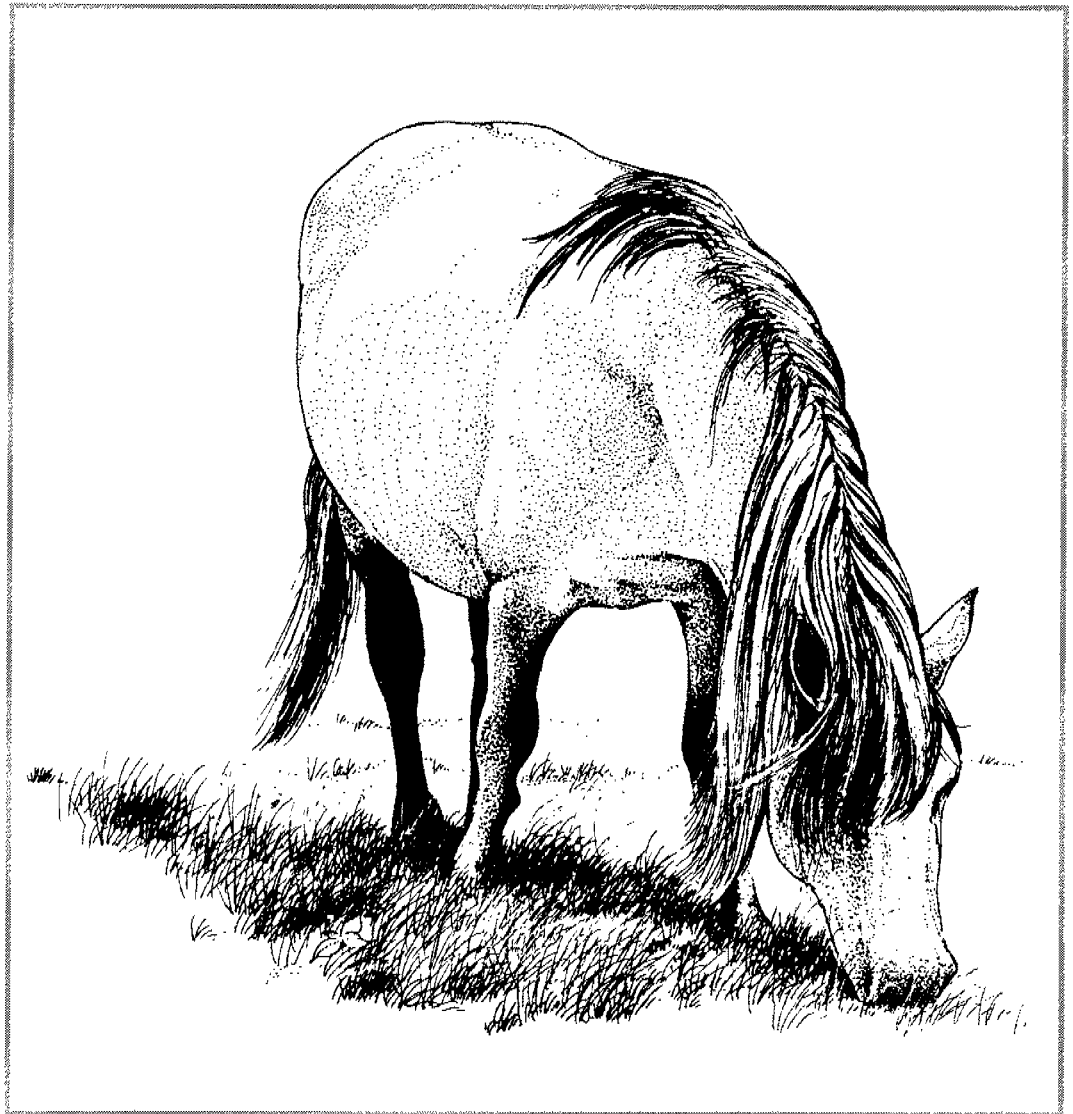


Examples of current grazing  
management of lowland heathlands  
and implications for future policy

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Number 271

**Examples of current grazing management of lowland heathlands  
and implications for future policy**

**Lowland Heathland Programme**

J C Bacon  
English Nature Lowlands Team

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# Contents

- Acknowledgements ..... 1
- 1. Introduction ..... 2
- 2. Table 1. Details of sites submitted as case studies in this report ..... 4
- 3. Case study site summaries ..... 6
- 4. Table 2. Case studies grazing scheme data ..... 14
- 5. Discussion and policy implications ..... 40
- 6. References ..... 44

## Acknowledgements

*[The 'acknowledgements' are being put at the front of this report in view of the exceptional contribution that has been made by the eleven case study authors who have submitted information about the 16 sites].*

This Report has only been made possible through the willingness of the many authors to submit their site information, data and knowledge about the grazing schemes that operate on each of their sites. Initially they completed a lengthy questionnaire to provide information which has been used to complete the Tables and Site Summaries, followed by checking of proofs prior to printing. English Nature and the Lowland Heathland Programme are indebted to them for making their time available and for the energy expended in completing the questionnaires. This added considerably to their already heavy workloads.

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## 1. Introduction

The continued existence of heathlands over periods of hundreds or thousands of years is closely related to their use by man. Management activities of controlled burning, cutting and extensive stock grazing have given rise to the present preferred heathland plant and animal communities. The ecological effects, advantages and disadvantages of these three management techniques have been fully described in Gimingham (1992) and Michael (1993) in the context of a review of the management of lowland heaths. The many ecological and practical problems associated with the successful burning of heaths and of obtaining and maintaining machinery for the cutting of heaths has been a persuasive influence on many managers to reconsider the many advantages of managing heaths by grazing in place of, or in combination with, these techniques.

The importance of getting the correct amount of grazing to produce beneficial effects without harmful side-effects is of crucial importance. Light summer grazing was one of the main traditional uses on lowland heathland and has many benefits to wildlife. Cattle sheep and ponies suppress scrub such as birch, and check the growth of vigorous competitive grasses such as purple moor-grass, encouraging a greater diversity of heathland vegetation and vegetation structure. Small scale trampling is beneficial in breaking up the litter matt, encouraging heather seed germination, creating niches for colonisation by other plants, creating bare ground for invertebrates and may assist with the suppression of bracken. Grazing also delays the onset of the mature and degenerate phases of heathland vegetation and can lengthen the period of rotational heather management. Conversely **overgrazing** can cause dieback of heather, reduction of its competitive abilities, and allow colonisation by grasses. Excessive trampling by heavy cattle and ponies can damage stands of older heather leading to earlier onset of degenerative phases.

There are a few heath sites where grazing has continued over the years and there are now several more where grazing has been successfully restarted. Cumulatively this amounts to a considerable amount of knowledge. However it is widely scattered amongst heathland managers across the lowlands of England.

The Lowland Heathland Programme has supported many of these grazing schemes over the past few years. It has also provided a forum for discussions between managers. It was felt desirable to commit to paper the facts, and techniques used for the grazing schemes, along with the reasoning and other considerations that have had to be taken into account by the scheme managers. A representative sample of heathland managers from around the main heathland areas were invited to fill in a questionnaire which would extract relevant information. This Report summarises the information and data collected from those managers in the hope that it will be of use to all those planning grazing schemes of their own.

It is a timely Report as grazing is being actively encouraged by payments through such schemes as the Reserves Enhancement Scheme, Wildlife Enhancement Scheme, Environmentally Sensitive Areas, and in the long term grazing is likely to be a key management technique for heathland re-created under the heathland habitat action plan in the *Biodiversity Action Plan*.

It must be stressed that the Site Reports do not necessarily portray 'best practice' but more the efforts of managers to learn and work towards the operation of schemes which will, we hope, eventually give rise to 'best practice'. Some of the case studies report on grazing schemes that are in a 'development' phase so please refer to the texts in 'Section 3' and Tables 2.12 and 2.13 where grazing scheme managers

comments are summarised. These Sections contain qualitative assessments, comments, indications of past problems and where future changes or developments may improve the grazing management. We believe it is just as important to talk about the problems experienced in setting up grazing schemes as it is to describe any that are running smoothly. We are sorry not to have included more Site Reports and apologies if we have missed out anyone who would like to have been included.

## 2. Table 1. Details of sites submitted as case studies in this report

| Site name & OS Grid Ref.                   | County & heath type                                             | Grazing animal[s]                                                                   | Author & contact                                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goss & Tregoss Moors<br>SW 950 600         | Cornwall-<br>[Mid Cornwall Moors, H4].                          | Cattle [Charolais x Limousin] & ponies [Shetland].                                  | Ian Davies, English Nature, Unit 1B, Rural Workshops, St. Dennis, Cornwall PL26 8DW<br>Tel: 01726 824982.                                                                |
| Aylesbeare & Harpford Common<br>SY 059 903 | Devon - [East Devon Pebblebed heaths, H4].                      | Cattle [Continental x's, eg Limousin].                                              | Pete Gotham, RSPB, Mount Pleasant, Stoneyford, Colaton Raleigh, Sidmouth, Devon EX10 OHZ<br>Tel: 01395 567880.                                                           |
| Hartland Moor<br>SY 948, 853               | Dorset - [Dorset heaths, H2]                                    | Cattle [Red Devon & Hereford x's]; Ponies [Exmoor & New Forest]                     | Tim Brodic-James, English Nature, Slepe Farm, Arne, Wareham, Dorset BH20 5BN.<br>Tel: 01929 556688                                                                       |
| Stoborough Heath<br>SY 937 854             | Dorset- [Dorset heaths, H3]                                     | Ponies [New Forest and New Forest x's].                                             | Tim Brodic-James. [see above]                                                                                                                                            |
| The New Forest<br>SU 298 081               | Hampshire - [The New Forest heaths, H3]                         | Ponies [New Forest], cattle [various], sheep [various].                             | Neil Hill, English Nature, 1 Southampton Road, Lyndhurst, Hampshire SO43 7BU.<br>Tel: 01703 283944.                                                                      |
| Brookwood Heath<br>SU 958 555              | Surrey - [Thames Basin heaths, H2]                              | Cattle [British White & x's].                                                       | Rob McGibbon, Heathland Countryside Management Project, The Old Stable Block, Broadwater Park, Summers Road, Farncombe, Godalming, Surrey GU7 3BH.<br>Tel: 01483 423074. |
| The Flashes, Frensham<br>SU 865 400        | Surrey -[Wcalden heaths,H2].                                    | Cattle [Friesian x Hereford x Shorthorn].                                           | Rob McGibbon.<br>[see above].                                                                                                                                            |
| Prey Heath<br>SU 988 554                   | Surrey - [Thames Basin heaths, M16].                            | Ponies [New Forest].                                                                | Rob McGibbon.<br>[see above].                                                                                                                                            |
| Ashdown Forest<br>TQ 445 295               | East Sussex - [Ashdown Forest heaths in Sussex High Weald, H2]. | Sheep [Beulah] & cattle [Welsh Black].                                              | Chris Marrable, Conservators of Ashdown Forest, Ashdown Forest Centre, Wych Cross, Forest Row, East Sussex, RH18 5JP.<br>Tel: 01342 823583.                              |
| Sutton Common<br>TM 325 474                | Suffolk - [Suffolk Sandlings, H1].                              | Sheep [Beulah].                                                                     | Stephen Clarke, Suffolk Wildlife Trust, Foxburrow Farm, Saddlemakers Lane, Melton, Woodbridge, Suffolk IP12 1NA.<br>Tel: 01394 380113.                                   |
| Upper Hollesley Common<br>TM 336 475       | Suffolk - [Suffolk Sandlings, H1].                              | Sheep [Hebridean].                                                                  | Stephen Clarke.<br>[see above].                                                                                                                                          |
| Cavenham Heath<br>TL 750 728               | Suffolk - [Breckland, H1].                                      | Sheep [Suffolk x's].                                                                | Malcolm Wright, English Nature, Ridgeway, Fen Road, Pakenham, Bury St. Edmunds, Suffolk IP31 2LT.<br>Tel: 01359 230579.                                                  |
| Brettenham Heath<br>TL 925 860             | Norfolk - [Breckland, H1].                                      | Sheep [North Country Mule (Swale ewe x Blue Faced Leicester ram), and Suffolk x's]. | Malcolm Wright.<br>[see above].                                                                                                                                          |

| Site name & OS Grid Ref.                                        | County & heath type                                         | Grazing animal[s]                                                                                                            | Author & contact                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Swanington Upgate Common [et al]<br>TG 146 181                  | Norfolk - [Mid Norfolk, M25].                               | Sheep [ Shetland & Black Welsh Mountain].                                                                                    | Sandie Tolhurst, The Broads Authority, 18 Colgate, Norwich, Norfolk NR3 1BQ. Tel: 01603 610734.                                                                                                                                             |
| Skipwith Common<br>Site 1. SE 655 373<br><br>Site 2. SE 655 373 | North Yorkshire [Vale of York heathlands, H9].<br><br>ditto | Site 1 - Sheep [Hebridean].<br><br>Site 2 - Cattle [Galloway x Aberdeen Angus x Friesian x ] & ponies [Exmoor & Exmoor x's]. | Site 1. David Braithwaite, Bishops Burton College, Bishops Burton, Beverley, East Yorkshire HU17 8QG. Tel: 01964 553000.<br><br>Site 2. Caroline Fitzgerald. [ex Yorkshire Wildlife Trust, 10 Toft Green, York YO1 1JT]. Tel: 01904 659570. |



### 3. Case study site summaries

A summary and brief overview is presented below for each of the Sites from information supplied by the Reportees to supplement the more detailed information provided in Table 2. [Sites are listed in a geographical sequence running approximately from the south-west to north-east England].

#### Goss and Tregoss Moors

This site is an awkward atypical site. Until recently it was an abandoned and derelict site as far as grazing was concerned with 'common grazing rights' of cattle, sheep, goat, ponies and geese that have existed continuously, but declining rapidly to critically low levels by the 1980s and 1990s. There are still links with mainstream animal production but the 'common land' status and infra-structure problems [e.g. fencing etc.] means that although more grazing animals are available it is not yet possible to increase the present sub-optimal grazing levels. The approach taken has been to encourage local graziers rather than setting up an in-house stock enterprise. The grazing regime is very variable across the site ranging from constant grazing within some parts of the SSSI [through a S.15 Agreement], to low levels concentrated on approximately 50 hectares of the NNR which is also burnt - very much a 'reactive' regime rather than being 'prescriptive'. The choice of stock is largely down to the graziers and commoners choice with encouragement for hardy breeds to be used. The absence of sheep is due to them not being currently available, not by design! Cornwall still has a range of breeds locally available with a direct link to mainstream agriculture assisted by the 'special beef premium scheme' - without this it is very likely that the grazing would cease. There remains the need to demonstrate to a wider audience of potential graziers that the grazing is economically viable by concentrating on one or two sites to demonstrate the principle. Any CAP reforms are being watched with interest and concern for the effects they may have on the supply of grazing animals for this site. An EU 5b bid to encourage grazing on heathlands in Cornwall is currently under consideration in partnership with the National Farmers Union.

#### Aylesbeare and Harpford Common

Prior to the recent grazing regimes set up from 1992 there had been summer cattle grazing up to the early 1960s. In 1990/91 winter cattle grazing commenced on 20 hectares using 17 Devon cows primarily to trample the *Schoenus* marsh and encourage the Southern damselfly, and to see if it could be done! The Devons ate sedge, ivy, pine trees and heather but did not touch the *Molinia*. They lost weight quickly and were fed a high protein block daily. The farmer was happy as they calved better through not being fat! With this confidence under the belt the grazing regime moved to using store cattle of continental crosses from suckler cows, started up in 1994 using the warden's wife as grazier and financier! There then followed a period of funding by RSPB, and now by the RSPB and Countryside Commission. Stocking rates are determined by the Warden by a mixture of trial and error, guesswork, and how many animals are available. The area being grazed is adjusted to suit the number of stock. It is not an exposed site. The financial loss back in 1994 was approximately £1280 emphasizing the need for a lot of forethought to avoid financial hassle and stress. Despite this conservation benefits have been generally good and increasing with the number of years since controlled burning and grazing first started, provided care is taken over the particular requirements of any localised rarities.

More recently in 1997 a change has been made to grazing with single sucklers [mixed breeds], with calves [spring calving], with a shortening of the grazing season from end of April to end of June, whilst increasing the number of animals. This removes grazing during the latter half of the bird breeding season; reduces the period for stock management; removes the need for a bull on the site; and prevents the cows 'hunting' for food just when the calves need plenty of milk. The shortened grazing period requires extra animals in order to still achieve the correct livestock units per hectare per year. The aim is to increase the grazed area by 10 hectares a year if possible.

### **Hartland Moor NNR**

Prior to setting up the grazing regime in 1995 the heathland was managed by controlled burning of gorse and heather and by scrub control on rotation. In 1995, this the first grazing scheme on Hartland Moor, commenced as a joint initiative between English Nature, The National Trust and a small private estate. Essential grazing has been obtained by payments made under a WES Scheme to the NT who have therefore been able to supply animals from traditional North Red Devon and Hereford cross suckler herd cattle from one of their estates. This overcomes the problem of the BSE 30 month rule and loss of condition of steers in the winter period. The Exmoor ponies have proved ideal but the New Forest ponies need to be removed between December and February in the event of severe weather. The herd is being built up over five years as the grazier has to make the herd pay and is switching out of dairy into beef. The area being grazed will not be increased until restoration of the present area is complete. Traditional heathland management is carried out alongside grazing.

### **Stoborough Heath**

Grazing on this site had been determined by trial and error, and availability (or not!) of suitable stock in the period 1983 to 1993. It comprised two ponies grazed by a previous owner in 1983-85, 20 Friesians in winter 1986-88, and 12 Angus x Charolais cattle 1990-91. Since 1993 a ready supply of suitable ponies has been found and the grazing regime is now ideal. The need for improved grazing was emphasized by the alarming decline in the Wart-biter Cricket *Decticus verrucivorus* from a healthy position in 1985 when the site was acquired. The objective is for a special mix of herb rich grassy heath and dense cover. Ponies were chosen for the present regime as they were probably the more recent grazing stock before NNR acquisition. They are also more tolerant of poor grazing reducing the need to feed supplements. The stocking rate is determined by the site manager and conservation officer on the basis of variations in annual herbage growth and how many animals are available. It is not an exposed site but animals are removed in severe weather between January and March. The management is partly funded at present by the Species Recovery Programme. Additional scrub management and controlled burning is carried out as required.

### **The New Forest**

The New Forest has been extensively grazed by Commoners stock since 1086. The stocking rates are determined by the Verderers of the New Forest. Grazing intensity is difficult to quantify and since animals roam freely over large areas of the Forest and their movements and all stock tasks are controlled by Commoners it is difficult to quantify or make cogent entries to Table 2. The heaths are grazed by a mixture of grazing animals, grazing in different places and on different herbage at different times of the year and under varying weather conditions. There is always much debate as to whether grazing levels are too heavy or too little, whether grazing pressure is keeping

scrub [especially gorse, birch and thorn scrub] at bay, and whether the condition of the heather is healthy. It would be advantageous to conservation if the grazed area were to be extended by approximately 2000 hectares. Many studies have been carried out to try and quantify grazing activities and effects but the New Forest remains a bit of a closed book as far as this report is concerned. If anyone is particularly interested to better understand grazing in the Forest then the best action is probably to read some of the many research papers [e.g. Tubbs (1986); Putnam, Pratt, Ekins and Edwards (1987)], and to visit it and observe grazing animal activity at different times of the year.

### **Brookwood Heath**

This area of *Calluna* heath is probably a depauperate variant of M16 mire with peripheral deciduous woodland. There are no recent records of grazing until cattle were put on to 15 hectares of the site in June 1994 after a Countryside Stewardship Scheme paid for fence materials in summer and autumn 1993. The stocking rate was determined by the Project staff and varied according to herbage growth, trial and error, guesswork and how many animals were available. There is plenty of shelter available. A financial loss occurred when the cattle had to be sold fairly quickly at the time of low market prices when the planned 'holding land' suddenly became unavailable. More recently the Friesian/Hereford crosses have been replaced by British White and crosses. The cattle tend to concentrate grazing activity on to the *Molinia* associated with the woodland. This is one of the few heathland sites in Surrey that is not a Statutory Common. Although grazing does not rely on commoners grazing animals the site does have problems in terms of implementing grazing because it is heavily used by the public, especially dog walkers. Without considerable liaison with the public there could have been resistance to fence erection even though kissing gates were provided at path crossings. The desire to graze the site with sheep as well as cattle is not yet being implemented until a solution is found to the conflict between sheep and dogs. There is no scope for an extension of the grazed area. Advice to others setting up grazing schemes is to ensure that all the resources are in place before starting, including extra labour and handling facilities to cope with any sick animals.

### **The Flashes, Frensham**

This wet heath site has become impoverished, possibly due to pumping from the underlying aquifer, resulting in drying out and a loss of plants characteristic of wet heath and mire. The commoner remembers his father grazing animals on the Common but there are no records for how that grazing management was carried out. The grazing evolved through the joint interest of the Heathland Project staff, Waverley Borough Council Ranger and Andy Millais, a local commoner with grazing rights, who wanted to graze the site 'like his father had'. His approach is that he values production but also regards it as a hobby. Special Beef premium initially probably helped a lot. The Project arranged fencing provided by the Species Recovery Programme (for Natterjack Toads), veterinary skills, fence maintenance and occasional stock inspections. Stocking rates are determined by discussion between the grazier and Project staff on a regular basis depending on herbage growth, trial and error, guesswork and how many animals are available. The site is partly exposed but stock can find shelter if they need it. All things considered, the scheme has worked well with good co-operation. The Project would sometimes like animals more on the heath rather than running with the back-up land as well. Grazing for the Natterjacks has not yet been hard enough although dung has probably increased invertebrate prey. Drying out of the site is the most worrying development.

## Prey Heath, Surrey

New Forest yearling ponies were bought in 1991 and pony grazing started on a trial area in that summer after a half hectare was enclosed following part tree removal and bulldozing out of tree stumps. This area was extended to about one hectare in the following summer, and by another half hectare in summer 1993. Grazing continued in 1994 along with the fencing of exclosures. Initially the ponies did not have much flesh on them and this compromised their use. The two periods of grazing in June and August varied according to growth of vegetation and the need for ponies elsewhere. Grazing time has been varied rather than the stock numbers as they fret badly if split up. Once grown they have proved to be very good grazers on both the heathland and calcareous grassland. They are very good on *Molinia* in the growing season where they selectively graze it out of the heather. The stocking rate is determined by the Project staff. It is not an exposed site and they have been very manageable and remarkably trouble-free. As they get older the ponies seem to be more interested in the very young birch regeneration though it does not appear that any stock and suitable stocking rates will give sustainable scrub control without other intervention. Ponies appear to be able to tip the balance towards heather regeneration on areas which have become enriched (e.g. after clear felling), carefully going around small heather plants unless they are very hungry. Although a very small site the pony grazing has proved to be very successful and there remains the hope that additional land up to a further 8 hectares might be grazed eventually.

## Ashdown Forest

This very large heathland site had commoners grazing reintroduced on to 40 hectares of the Forest area in 1989 immediately after the clearance of birch scrub from the area. Fencing had been allowed under the provisions of the Ashdown Forest Act, 1974. In 1976 a wild fire had burnt deeply across the grazed exclosure. Welsh Black cows were bought by a Commoner in 1989 to suit the available grazing and that winter seven cows were grazed over the winter. Although the area benefitted from winter cattle grazing this was discontinued due to problems of containment as animals succeeded in getting out to better pasture. Grazing has now settled down to a mix of sheep and cattle in the period May to October. The cattle have now been crossed with various other breeds to give an 'all-sorts' mixture. Control, management and financing of the stock and the grazing rests entirely with the Commoner and a situation of under-grazing, rather than over-grazing prevails. Stocking rates are determined by the Commoner according to the known carrying capacity of the land, current herbage growth and how many animals are available.

In 1996 the Conservators received permission from the Department of the Environment to enclose a total of 550 hectares to provide safe grazing. This is being implemented in two phases. The first phase in 1996 increased the fenced area to 80 hectares. In 1998 the whole 550 hectares will be fenced. There is a strong subjective view that grazing is the right management for the heath - it looks and feels right - especially if the stock used are of the wilder looking breeds! There is reaction against the 'gardened' approach to management which can appear when mechanical control of vegetation is obtained by heather mowing, bracken and gorse cutting, or by the use of herbicides. These are not felt to produce the required vegetation mosaics but rather less attractive managed patches of land.

## **Sutton Common**

This site had been largely neglected up to c1980 resulting in a decades work by volunteers and staff on Government Training Schemes to remove invading scrub, trees and bracken prior to the commencement of grazing in 1990. Choice of the Speckled Face Beulahs resulted from an EN investigation in the early 1980s. They 'do' reasonably well on the heath and subject to prior selection of ewe replacements they produce a good saleable fat lamb. Stocking rate is determined by the known carrying capacity of the land and according to current herbage growth. Grazing has been extended back into May, from June, in order to improve browsing control of birch seedlings and scrub. A trial over 1996/7 with clearing **only** two hectares of 60% birch cover on a twenty hectare site resulted in all regrowth being eaten and regeneration being prevented. Any drought in August might necessitate removal of sheep, but this has not happened yet. This site is an exposed site.

The sheep on Sutton Common are only about 15% of the Sandlings Project/Suffolk Wildlife Trust's flock which are grazed on up to twenty sites. The scheme receives a large amount of support and goodwill from a large number of volunteers, local people and organisations which mounts up to about one full time staff member over a whole year. Labour requirement is being steadily reduced by the erection of permanent fencing to replace temporary electric fencing.

The final message from the Scheme managers is that "whilst careful planning is essential at the outset do not keep the flock in the planning stage forever. Heath grazing works!"

## **Upper Hollesley Common**

A mature heath which was badly encroached by scrub and bracken until clearance work started in 1980s using volunteers, MSC, ET and other minimal cost groups. Grazing commenced in 1991 from June to November and has now been brought forward to start earlier in May. Hebrideans are presently the 'flavour of the month' for heath grazing and they give good results with minimal input so long as you can keep them inside the fences! The stocking rate is determined by how many animals are available. They are part of a much larger grazing scheme run by the Suffolk Sandlings Project. The site is not exposed. Ten days of volunteer time go into assisting with management of this flock and the search is always on for more skilled volunteer assistance. Free local help is available from local agricultural colleges looking for students on work placements. Efforts to reduce the annual losses are being concentrated on possible future sale of organic meet at a premium price. Securing future funding for the grazing Project continually exercises the minds of the scheme managers especially as they would like to extend the grazing.

## **Cavenham Heath NNR**

An atypical site with both acid and calcareous soils which is managed both for botanical interest and breeding birds. During the 1930s and through to the 1950s the heath was grazed but little detail is known. Then from the 1960s and up to 1976 the heath was under-grazed leading to scrub encroachment.

Grazing commenced in 1977 after fencing was completed. No extension to the area is required. The grazing is licensed annually to an adjoining local farmer who has an organic sheep enterprise with produce sold at the farm's shop and a London market. He chooses the breed that will give him an economic return. Suffolk Crosses are not

ideal but he says he cannot get a return from the hardier breeds. Grazing normally occurs from June to January but may occur in May and February / March as well. The stocking rate is determined by the Site Manager depending on the abundance of rabbits and the availability of herbage which varies considerably from year to year and season to season, according to the rainfall on these light soils. The farmer may be asked to remove the sheep when necessary to rest the grazing or when grazing is short and for lambing in the spring.

The system of supplementing the naturally fluctuating intensity of rabbit grazing with the sheep grazing works well for the special objectives for this site.

### **Brettenham Heath**

A typical Breckland heath site with both acid and calcareous soil types which is managed for botanical interest and breeding birds. Grazing was understood to have occurred in the 1930s through to the 1960s but no details are available. Between c1960s to 1982 the heathland was largely neglected apart from some low level intermittent grazing.

Although rabbits are considered to be important grazers on the Breck heaths creating excellent conditions for nesting Stone Curlew, their numbers vary considerable so the present complementary sheep grazing regime was started in 1983 after fencing and a water supply had been provided at considerable expense. A major bracken control programme was also commenced in 1984 over c146 hectares. Two grazers have about half the grazing area each on an annual grazing licence. Fences divide the area internally into 4 paddocks of which two are grazed at any one time. The sheep are taken off for lambing in January and returned with their lambs in April or May. Lambs are then gradually sold off during the rest of the year. One farmer puts on North Country Mules and the other Suffolk crosses. Neither breed is ideal from a conservation point of view but they are chosen by the farmers in order to obtain a financial return. Hardier breeds are either not available or would not be profitable. The Site Manager has the final say over grazing intensity and the number of animals varies according to the rabbit numbers, and herbage growth which itself varies according to rainfall on these light Breck soils. The site is not exposed and there are no plans to extend the grazed area.

### **Swannington Ugate Common**

Swannington Ugate Common is one of a number of mainly small sites managed by the Norfolk Wildlife Trust and where grazing requirements are implemented through a 'flying flock' approach. Reading and interpretation of the 'Table' entries need to be viewed with this in mind. The information provided for this site shows up the different perspective and problems that arise when managing stock on a number of small sites compared to a large site.

Swannington is an atypical site with M25 and M24 vegetation dominated by *Molinia* with heath species occurring on the higher and drier areas in a mosaic of acid and base soils. The heath area has had no recent management except for patch mowing by volunteers on odd occasions since 1985 and the removal of scrub in 1988 and again in 1992/3. Grazing commenced in 1993 and increased in 1994 between the months of June and September to four 0.2 hectare plots in different parts of the site and with very different vegetation. Grazing early in the year is crucial if the vigour of *Molinia* is to be controlled. Although the NWT have 120 animals of three breeds of hardy sheep available in their flying flock the Hebrideans were not used on this site, only Shetland

and Black Welsh Mountain. The stocking rate is determined by the conservation manager/shepherd and varies according to herbage growth and how many animals are available and these determine how much land is actually grazed. Flock size has been built up by keeping own bred young. Volunteers help with moving and handling animals.

Several lessons have been learnt by using the flying flock and these are presented in the shepherds annual flying flock Report. Success relies on: the practising of good sheep husbandry both for welfare and to reduce problems cropping up at daily inspections; planning sheep movements to reduce transport and handling requirements to a minimum; having a shepherd with a dog in order to save an enormous amount of labour and the need to organise volunteers; using hardy breeds of sheep which will 'do' on poor grazing; putting effort into training good volunteers and thereby ensuring there is back up for the shepherd.

### Skipwith Common

Skipwith Common is a typical Vale of York heathland with both species poor dry *Calluna* heath and *Erica tetralix* and *Sphagnum compactum* wet heath. Two separate grazing enclosures were set up. One [see Skipwith 1] with Hebridean Sheep was set up in 1984 on an area which had had scrub controlled by cutting and stump treatments in the 1960-83 period, along with the occasional accidental fire. The other [see Skipwith 2] was set up in 1994 using cattle and ponies to follow up tree felling between 1990 to 1994 and stump treatment on 14 hectares of the enclosure in 1994.

The Hebridean sheep were selected after experimentation with other hill breeds because of their hardiness and thriftiness and demonstration of good grazing and browsing habits on open heathland. They are easily managed and shepherded. The Hebrideans do not necessarily always graze for the entire May to September period but always part of it and they may be moved around other sites grazed within the YW T scheme with which costs are shared. The Hebrideans which are stocked at a maximum of two ewes + lamb[s] and a minimum of one ewe and lamb[s] per hectare, do not lamb on the heath, and although it is not an exposed site they go off to chalk grassland SSSIs in the winter period. Grazing intensity is controlled by the conservation manager and after initial experimentation now varies according to the amount of birch scrub to be controlled and the seasonal growth of herbage. The management is now providing the desired improvements but concerns remain as to future funding for the grazing scheme.

The cattle and grazing enclosure commenced in 1994 as an experimentation to see if the larger herbivores would be resistant to dog worrying and as a way of better controlling *Molinia*. The choice of breed, Galloway x Aberdeen Angus x Friesian cows, is governed by having hardy animals that look well on this public site and as a result of what can be begged or borrowed. The stocking rate of just over 1 per hectare on this unexposed site compares with the recommendations in the Heathland Management Handbook. The cattle were found to do an excellent job on the *Molinia*, browsed a little birch and kept their condition well and were no trouble. The ponies did not 'do well' and this was thought to be due to them having been paddock reared. They also suffered from 'sweet itch' and appeared tormented by midges. They were removed after two months. However it is intended to try harder 'moor' bred Exmoor colts which are expected to do well.

Overall the managers are convinced that summer grazing with Hebrideans is the best way to control birch regrowth and that *Molinia* can be controlled in the summer by

hardy cattle or ponies. The desire to extend range grazing by Exmoor ponies and feral goats to the remainder of the Common is being hampered by lack of funds to buy stock and the need to secure public support for the removal of trees to improve the heathland and make rounding up more practical.



#### 4. Table 2. Case studies grazing scheme data

Table 2.1 [Part 1] Vegetation & site details

| Site name                                                                                   | Goss & Tregoss Moors                                                                                                                                              | Aylesbeare & Harpford Commons                                                                                                                             | Hartland Moor                                                                                                                                                                                                                                                | Stoborough Heath [Part]                                                                                                                                                                                                                                                                                                                                | The New Forest                                                                                                                                                                                                       | Brookwood Heath                                                                                                                                                                           | The Flashes, Frensham                                                                                                                                                                                                            | Prey Heath                                                                                                                      |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| HEATH VEGETATION TYPE[S] & % COVER with National Vegetation Classification.                 | Mid Cornwall Moors heath.<br><br>H4 ("Western gorse - bristle bent heath") 25%.<br><br>Intricate mosaic of 'H' & 'M' communities with a large amount of woodland. | East Devon Pebblebed heaths.<br><br>H4 ("Western gorse - bristle bent heath") 15%.<br>H4a 7%; H4c 2%;<br>H4d 6%.<br><br>Mosaic of above vegetation types. | Dorset dry, humid & wet heath.<br><br>H2 (dry heath) <i>Calluna vulgaris</i> / <i>Ulex minor</i> 35%.<br><br>H3 (humid heath) <i>Ulex minor</i> / <i>Agrostis curtisii</i> 5%.<br><br>M16 (wet heath) <i>Erica tetralix</i> / <i>Sphagnum compactum</i> 10%. | Dorset & 'wet' heath.<br><br>H3 ("Dwarf gorse - bristle bent heath") 25%; and M16 - 15%.<br><i>Ulex minor</i> / <i>Agrostis curtisii</i> heath; <i>Erica tetralix</i> / <i>Sphagnum compactum</i> wet heath.<br><br>Typical [part] complex of humid, wet heath and mire communities with occurrence of M24; lack of H2 dry heath and lawn communities. | The New Forest heath.<br><br>H3 ("Dwarf gorse - bristle bent heath") [including H3a, H3b, H3c, H2a].<br><br>M16a, M16b, M16c, M21a, M29.<br><br>A large scale mosaic of wet, dry and humid heath, gorse and bracken. | Thames Basin heath.<br><br>H2 ("Heather - dwarf gorse heath") 10%.<br><br>M16 [wet] 50%.<br><br>Mainly a depauperate variant of M16 mire mostly species poor and lacking <i>Sphagna</i> . | Wealden heath.<br><br>H2 a, b, c ("Heather - dwarf gorse heath") 10%.<br>M16 a, c mire 60%.<br><br>A mixture of wet and dry heath. [The wet areas are becoming impoverished through drying out probably due to aquifer pumping]. | Thames Basin wet heath.<br><br>M16a - ( <i>Erica tetralix</i> / <i>Sphagnum compactum</i> mire) 80%.<br><br>A mainly wet heath. |
| OTHER VEGETATION TYPE[S] & % COVER with National Vegetation Classification where available. | W1 - 50% [ wet willow woodland partly result of tin streaming].<br><br>Plus:<br>M 14, M23, M25, M28b - 25% [mire and wet heath]                                   | M's -58%. [M14 - 7%; M16a - 16%; M21a - 1%; M24a - 11%; M24c - 16%; M25a - 7%.<br><br>Also: U20b - 8%; W4a - 6%; W10c - 11%; W23 - 1%; W25 - 1%.          | M13 <i>Schoenus nigricans</i> / <i>Juncus subnodulosus</i> 15%.<br><br>M14 mire - 8%, M21 - 7%,<br><br>W4 - birch wood 5%<br><br>U1 <i>Festuca ovina</i> / <i>Agrostis capillaris</i> grassland - <5%.                                                       | Tightly grazed [lawn] acid grassland with <i>Erica cinerea</i> - 10%.<br><br>Gorse scrub - 10%;<br><br>M21 - 15% , M24 - 5%, M25 - 20%, mires<br><br>[No H2 dry heath].                                                                                                                                                                                | M24, M25, MG6b, acid & stream side lawn grasslands.<br><br>M14, M16c, M21a, M24c, M29, valley mires.<br><br>Blackthorn, birch and Scots pine scrub.                                                                  | Mainly peripheral birch, oak woodland - 15%.<br><br>Scots pine woodland - 15%; with associated <i>Molinia</i> .                                                                           | <i>Pinus sylvestris</i> secondary woodland - 20%, and scattering of birch scrub.                                                                                                                                                 | Birch and oak woodland - 10%, birch and pine scrub - 5%.<br><br>Semi-improved grassland - 3%, and a pond are on edges of site.  |
| TOTAL AREA of SITE [ha]                                                                     | 700                                                                                                                                                               | 200                                                                                                                                                       |                                                                                                                                                                                                                                                              | 110                                                                                                                                                                                                                                                                                                                                                    | 27500                                                                                                                                                                                                                | [large]                                                                                                                                                                                   | c100                                                                                                                                                                                                                             | 12                                                                                                                              |
| AREA GRAZED [ha]                                                                            | c185                                                                                                                                                              | 30                                                                                                                                                        | c400                                                                                                                                                                                                                                                         | 12.2                                                                                                                                                                                                                                                                                                                                                   | 27500                                                                                                                                                                                                                | 15                                                                                                                                                                                        | 40                                                                                                                                                                                                                               | 1.5                                                                                                                             |
| + LAY BACK LAND [ha] used in ... months.                                                    | Cattle - none.<br>Ponies - c30. In Dec to Apr. [c5 used for supp feeding]                                                                                         | none                                                                                                                                                      | yes, for supplementary feeding Nov to March.                                                                                                                                                                                                                 | 25 ha used in extreme weather in January to March.                                                                                                                                                                                                                                                                                                     | yes, unknown area, used variably but mainly in winter.                                                                                                                                                               | none                                                                                                                                                                                      | yes, 2ha [as part of the woodland], Oct to March, for feeding and 3ha grass fields.                                                                                                                                              | none                                                                                                                            |

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.

Table 2.1 [Part 2] Vegetation & site details

| Site name                                                                                   | Ashdown Forest                                                                                                                                                                                                                                                                                                                                           | Sutton Common                                                                                                                                                                                                                                       | Upper Hollesley Common                                                                                                                                       | Cavenham Heath                                                                                                                                                                                                         | Brettenham Heath                                                                                                                                                                                                                                | Swannington Ugate Common                                                                                                                                                                                                                                                                              | Skipwith Common [1]                                                                                                                                                                                                                                                       | Skipwith Common [2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HEATH VEGETATION TYPE[S] & % COVER with National Vegetation Classification where available. | <p>Typical Ashdown Forest wet and dry heath.</p> <p>H2c ("Heather - dwarf gorse heath") 40%; <i>Calluna vul</i> / <i>E tetralix</i> (<i>U. minor</i> / <i>Molinia</i> sub community);</p> <p>M16 / M25 - 25% <i>Molinia mire</i> / <i>P. erecta</i> / <i>E. tetralix</i> / <i>Sphagnum</i> community.</p> <p>All heath vegetation types represented.</p> | <p>Typical of Suffolk Sandling heaths.</p> <p>H1 ("Heather - sheeps fescue heath") 65%; with mature <i>Calluna vulgaris</i> + some <i>Erica cinerea</i>.</p> <p>With acid grass [rabbit grazed] - 30%, &amp; bracken litter, post Asulox + 5%].</p> | <p>Typical of Suffolk Sandling heaths.</p> <p>H1 ("Heather - sheeps fescue heath") 70%; with mature <i>Calluna vulgaris</i> + some <i>Erica cinerea</i>.</p> | <p>An a-typical site of <i>Calluna</i> Breck grassland on acid and calcareous soils.</p> <p>H1 ("Heather - sheeps fescue heath") 40%; <i>Calluna vulgaris</i>.</p> <p>Mosaic with wet meadows and sand sedge - 5%.</p> | <p>Typical 'Breck' heath with a mixture of acid sands and calcareous soils.</p> <p>H1 ("Heather - sheeps fescue heath") 10% of <i>Calluna vulgaris</i>; with 80% acid and calcareous grassland.</p> <p>Not typical of other lowland heaths.</p> | <p>An atypical <i>Molinia</i> dominated grass heath.</p> <p>M25a - 50% + M24b, c - 25% [with <i>Calluna vulgaris</i>; and also with some <i>sphagnum</i> &amp; <i>Erica</i>].</p> <p>Joint occurrence of acid and base species. Flushed depressions in a mosaic with drier acid heath vegetation.</p> | <p>Typical of Vale of York dry/wet heaths.</p> <p>H9c ("Heather - wavy hair grass heath") 67%; with <i>Calluna</i> / <i>Erica</i> / <i>Molinia</i> dry heath.</p> <p>M16 - 3.5%. <i>Erica tetralix</i> / <i>Sphagnum compactum</i> mire.</p> <p>Typical for Skipwith.</p> | <p>Typical of Vale of York heaths [though with trees removed].</p> <p>H9c ("Heather - wavy hair grass heath") 5%; species poor dry <i>Calluna</i> heath with <i>Deschampsia flexuosa</i>.</p> <p>M16 -39% wet heath &amp; M25, M23, M4 -4% marshy grassland, [with <i>Erica tetralix</i> / <i>Sphagnum compactum</i> / <i>Molinia caerulea</i> / <i>Potentilla erecta</i> etc].</p> <p>At present atypical due to wholesale felling of trees, fire sites, much bare ground and disturbance.</p> |
| OTHER VEGETATION TYPE[S] & % COVER with National Vegetation Classification where available. | <p>U20 - bracken 20% W4 - birch scrub &amp; woods with stream side alder and willow 15%.</p>                                                                                                                                                                                                                                                             | <p>Birch / pine scrub - 5%. Pine woodland with some birch - 10%.</p>                                                                                                                                                                                | <p>Bracken litter [post Asulox spraying] - 25% Pine woodland - 5%</p>                                                                                        | <p>Silver birch - 5%.</p>                                                                                                                                                                                              | <p>Birch &amp; hawthorn scrub - 5% Birch, oak and pine - 5%</p>                                                                                                                                                                                 | <p>Birch, willow and alder saplings and stump regrowth. M 22c - Fen meadow with <i>Juncus</i> and Meadow sweet - 25%.</p>                                                                                                                                                                             | <p>W 4 - pine &amp; birch scrub and wood with <i>Molinia caerulea</i> 30% and U20 bracken.</p>                                                                                                                                                                            | <p>W 4 - pine and oak woodland with young birch [now mainly cleared] 52% and a little U20 bracken.</p>                                                                                                                                                                                                                                                                                                                                                                                          |
| TOTAL Case Study SITE AREA [ha]                                                             | 2590                                                                                                                                                                                                                                                                                                                                                     | 109                                                                                                                                                                                                                                                 | 87                                                                                                                                                           | 204                                                                                                                                                                                                                    | 236                                                                                                                                                                                                                                             | 0.8                                                                                                                                                                                                                                                                                                   | 270                                                                                                                                                                                                                                                                       | 270                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AREA GRAZED [ha]                                                                            | 80                                                                                                                                                                                                                                                                                                                                                       | 75                                                                                                                                                                                                                                                  | 24                                                                                                                                                           | 73                                                                                                                                                                                                                     | c210                                                                                                                                                                                                                                            | 1.5                                                                                                                                                                                                                                                                                                   | 11                                                                                                                                                                                                                                                                        | 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| + LAY BACK LAND [ha] used in ... months.                                                    | none                                                                                                                                                                                                                                                                                                                                                     | none                                                                                                                                                                                                                                                | none                                                                                                                                                         | none                                                                                                                                                                                                                   | none                                                                                                                                                                                                                                            | none                                                                                                                                                                                                                                                                                                  | none                                                                                                                                                                                                                                                                      | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.

Table 2.2 [Part 1] Details of grazing animals [1st period] & grazing site

| Site name                         | Goss & Tregoss Moors                                                                  | Aylesbeare & Harpford Commons             | Hartland Moor                                                                             | Stoborough Heath            | The New Forest                            | Brookwood Heath           | The Flashes, Frensham                                                | Prey Heath                                                          |
|-----------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------|---------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------|
| Year                              | Post 1994                                                                             | 1997                                      | 1997                                                                                      | Post 1994                   | 1086 onwards(!)                           | 1997                      | 1997                                                                 | Post 1994                                                           |
| First Period                      | April to Dec                                                                          | April to June                             | April to Dec                                                                              | January to December         | All year round                            | May to Sept               | Jun-Sept                                                             | Jun                                                                 |
| species                           | cattle & ponies                                                                       | cattle                                    | cattle and ponies                                                                         | ponies                      | ponies, cattle, pigs                      | cattle                    | cattle                                                               | ponies                                                              |
| breed[s]                          | C - Charolais x Limousin etc.<br>P - Shetland                                         | Limousin x and other mixed breeds         | C - North Red Devon x<br>P - Exmoor & New Forest                                          | New Forest & New Forest x's | various, but including New Forest Ponies. | British White and crosses | Friesian x Hereford x Shorthorn                                      | New Forest                                                          |
| sex                               | C - heifers, steers<br>P - mares, stallion                                            | single suckler cows and calves.           | C - cow suckler herd<br>P - female                                                        | mares                       | various                                   | cows, heifers & steers    | cows & heifers                                                       | mares & gelding                                                     |
| number of animals                 | C - 50 [+/-10]<br>P - 10-15                                                           | 10 - 12                                   | C - 50 [+/- 2]<br>P - 6                                                                   | up to 6                     | various                                   | 3                         | 6                                                                    | 4 mares & 1 gelding                                                 |
| ages                              | C - 3 to 5 yrs and 0 - 1.5 yr followers<br>P - variable                               | cows + calves                             | C - < 2.5yrs<br>P - unknown                                                               | various                     | various                                   | 1-5 yr                    | 2 - 3 yrs                                                            | 4 yrs                                                               |
| area grazed [ha]                  | C - 50 ha NNR + c80ha SSSI<br>P - 10 ha                                               | 30                                        | C - c400 ha<br>P - c400 ha                                                                | 12.2                        | 27500                                     | 15                        | 35                                                                   | 1.5                                                                 |
| LSUs / ha / year [approximately]* | 1st Period:<br>C & P = 0.15<br>2nd Period (see Table 2.3) C & P = 0.15<br>Total = 0.3 | 0.09                                      | C - 0.09, P - 0.01<br>Total 1st Period = 0.1<br>Total 2nd Period = 0.003<br>Total = 0.103 | <0.44                       | unknown                                   | 0.08                      | 1st period: 0.07<br>2nd period (see Table 2.3): 0.06<br>Total = 0.13 | 1st period: 0.25<br>2nd period (see Table 2.3): 0.25<br>Total = 0.5 |
| supplements                       | C - hay and silage and mineral vitamin lick<br>P - hay & silage                       | none<br>[a handful of nuts to keep tame]. |                                                                                           | none                        |                                           | yes (mineral licks)       | yes [mineral licks]                                                  |                                                                     |
| water supplied                    | no [wet site]                                                                         | no [streams]                              | natural pond sources                                                                      | no [stream on site]         | no [natural sources].                     | trough (mains water)      | no [from stream + pond].                                             |                                                                     |

\* LSU Calculation: 
$$\text{LSUs / ha / year} = \frac{\text{Grazed Part of the Year} \times \text{Number of Animals (excluding dependent young)} \times \text{LSU equivalent}}{\text{Grazed Area (in hectares)}}$$

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.

Table 2.2 [Part 2] Details of grazing animals [1st period] & grazing site

| Site Name                         | Ashdown Forest                                                 | Sutton Common        | Upper Hollesley Common | Cavenham Heath                               | Brettenham Heath                                                              | Swannington Upgate Common           | Skipwith Common [1] | Skipwith Common [2]                                                    |
|-----------------------------------|----------------------------------------------------------------|----------------------|------------------------|----------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------|---------------------|------------------------------------------------------------------------|
| Year                              | 1997                                                           | post 1990            | post 1991              | post 1977                                    | post 1983                                                                     | 1994                                | post 1984           | post 1994                                                              |
| First Period                      | May to Oct                                                     | May / June to Sep    | May / June to Nov      | June to January                              | April to January                                                              | June to September                   | May to September    | C - April to September<br>P - June & July                              |
| species                           | sheep & cattle                                                 | sheep                | sheep                  | sheep                                        | sheep                                                                         | sheep                               | sheep               | cattle & ponies                                                        |
| breed[s]                          | S - Speckle Faced Beulah x's;<br>C - Welsh Black + crossbreeds | Speckle Faced Beulah | Hebridean              | Suffolk x's                                  | North Country Mule [Swale ewe x Blue faced Leicester ram]; + Suffolk crosses. | Shetland; Black Welsh Mountain;     | Hebridean           | C - Galloway x Aberdeen Angus x Friesian.<br>P - Exmoor & Exmoor Cross |
| sex                               | S - ewes & lambs<br>C - cows & calves                          | ewes + followers     | ewes, rams, lambs      | ewes and lambs                               | ewes + lambs                                                                  | ewes and lambs + ram                | ewes & lambs        | C - cows<br>P - Colts                                                  |
| number of animals                 | S - 90 [+/- 30]<br>C - 20 [+/- 2]                              | 80 + followers       | 50 + followers         | 150 [+/- 100]                                | 400 [+ / - 100]                                                               | 22                                  | 23 [+ / - 3]        | C - 12 [+ / - 1]<br>P - 2                                              |
| ages                              | S - ewes & lambs<br>C - cows & calves                          | 2 - 5 years          | 0 - 8 years            | 0 - 8 years                                  | 0 - 8 years                                                                   | up to 10 yrs                        | various             | C - 1.5 yrs<br>P - 2yrs                                                |
| area grazed [ha]                  | 80                                                             | 75                   | 60                     | 73                                           | c210                                                                          | 1.5                                 | 11                  | 19                                                                     |
| LSUs / ha / year [approximately]* | S - 0.1 [+/- 0.03]<br>C - 0.1 [+/- 0.01]<br>Tot = 0.2 +/- 0.04 | 0.11                 | 0.027                  | 0.27 [+ / - 0.18]                            | 0.32 [+ / - 0.8]                                                              | 0.73                                | 0.13                | C - 0.25<br>P - 0.01<br>Tot = 0.26                                     |
| supplements                       | none                                                           | none                 | none                   | yes [hay in winter] ; + minerals & vitamins. | yes [hay in winter]; + minerals & vitamins                                    | none                                | none                | none                                                                   |
| water supplied                    | no [stream]                                                    | yes                  | yes                    | yes [by trough]                              | yes [by trough]                                                               | yes [5 litres / day in hot weather] | yes                 | pond                                                                   |

\* LSU Calculation:  $\text{Grazed Part of the Year} \times \text{Number of Animals (excluding dependent young)} \times \text{LSU equivalent}$

$$\frac{\text{LSUs / ha / year}}{\text{Grazed Area (in hectares)}} =$$

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.

Table 2.3 [Part 1] Details of grazing animals [2nd period] & grazing site

| Site name                        | Goss & Tregoss Moors | Aylesbeare & Harpford Commons | Hartland Moor         | Stoborough Heath | The New Forest | Brookwood Heath | The Flashes, Frensham                    | Prey Heath          |
|----------------------------------|----------------------|-------------------------------|-----------------------|------------------|----------------|-----------------|------------------------------------------|---------------------|
| Year                             | post 1994            | 1997                          | 1997                  | post 1994        | 1086 onwards   | 1997            | 1997                                     | post 1994           |
| Second Period                    | Dec to Apr           | none                          | Jan to March          | none             | none           | none            | Nov - Feb                                | Aug                 |
| species                          | ponies               |                               | ponies                |                  |                |                 | cattle                                   | ponies              |
| breed[s]                         | Shetland             |                               | Exmoor & New Forest   |                  |                |                 | Friesian x Hereford x Shorthorn          | New Forest          |
| sex                              | mares and stallion   |                               | female                |                  |                |                 | cows                                     | mares & gelding     |
| number of animals                | 10 - 20              |                               | 6                     |                  |                |                 | 6                                        | 4 mares & 1 gelding |
| ages                             | variable             |                               | unknown               |                  |                |                 | 2 - 3 yrs                                | 4 yrs               |
| area grazed [ha]                 | 12.72                |                               | c400                  |                  |                |                 | 35                                       | 1.5                 |
| LSUs /ha / year [approximately]* | 0.98                 |                               | 0.003                 |                  |                |                 | 0.06                                     | 0.25                |
| supplements                      | hay & silage         |                               |                       |                  |                |                 | barley straw; mineral and roughage licks |                     |
| water supplied                   | no [wet site]        |                               | natural ponds sources |                  |                |                 | no [ stream & pond]                      | no [from site]      |

\* LSU Calculation: 
$$\frac{\text{LSUs /ha / year}}{\text{Grazed Part of the Year} \times \text{Number of Animals (excluding dependent young)} \times \text{LSU equivalent}} = \text{Grazed Area (in hectares)}$$

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.

Table 2.3 [Part 2] Details of grazing animals [2nd period] & grazing site

| Site Name                       | Ashdown Forest | Sutton Common | Upper Hollesley Common | Cavenham Heath | Brettenham Heath | Swannington Uppgate Common | Skipwith Common [1] | Skipwith Common [2] |
|---------------------------------|----------------|---------------|------------------------|----------------|------------------|----------------------------|---------------------|---------------------|
| Year                            | post 1991      | post 1990     | post 1991              | post 1977      | post 1983        | 1994                       | post 1984           | post 1994           |
| Second Period                   | none           | none          | none                   | none           | none             | none                       | none                | none                |
| species                         |                |               |                        |                |                  |                            |                     |                     |
| breed[s]                        |                |               |                        |                |                  |                            |                     |                     |
| sex                             |                |               |                        |                |                  |                            |                     |                     |
| number of animals               |                |               |                        |                |                  |                            |                     |                     |
| ages                            |                |               |                        |                |                  |                            |                     |                     |
| area grazed [ha]                |                |               |                        |                |                  |                            |                     |                     |
| LSUs /ha / year [approximately] |                |               |                        |                |                  |                            |                     |                     |
| supplements                     |                |               |                        |                |                  |                            |                     |                     |
| water supplied                  |                |               |                        |                |                  |                            |                     |                     |

\* LSU Calculation: 
$$\frac{\text{Grazed Part of the Year} \times \text{Number of Animals (excluding dependent young)} \times \text{LSU equivalent}}{\text{Grazed Area (in hectares)}} = \text{LSUs /ha / year}$$

Key to Tables: Empty box - indicates no information supplied or not available. n/a - not applicable. c - approximately. C - cattle; S - sheep; P - ponies.