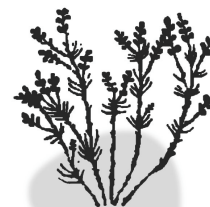


Hampshire Heathland Project

A grazing feasibility study for Hazeley Heath SSSI

June 2004

Hart District Council and the Hampshire Heathland Project



Tomorrow's
Heathland Heritage

Supported by English Nature
and the Heritage Lottery Fund

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Introduction

Hazeley Heath is an area of lowland heathland located in northeast Hampshire, to the north of Hartley Wintney. It is registered common land, designated a 'Site of Special Scientific Interest' (SSSI) and is part of the proposed Thames Basin Heaths 'Special Protection Area' (pSPA) a European designation under the Birds Directive for the presence of Annex 1 bird populations.

Historically the site has been managed by grazing with a variety of stock, burning of vegetation and cutting of wood, gorse and heather for fuel. The area was also subject to gravel extraction and large scale erosion from military

movement. These activities have maintained the site's 'openness' by preventing tree encroachment and made the area suitable for a wide range of, now rare, heathland fauna and flora.

In recent years traditional management has ceased and the level of management undertaken has been insufficient to maintain the heathland. As a result, the heathland no longer attains favourable status as defined by English Nature and the features of interest for which the site is designated as an SSSI are in decline.

Hampshire now supports the most lowland heathland of any county in the UK – approximately 17000 ha, mostly in the New Forest (Tubbs, 1986; Westerhoff, 1992). This represents some 30% of the UK total and 13% of all the lowland heathland in Europe. Outside the New Forest over 90% of the former heathland has been lost since 1790. Only 2350ha survive scattered across six of the Natural Areas of Hampshire. Significant numbers of rare heathland species occur on these sites, with many nationally important populations present, and these heaths represent a significant environmental, historical and recreational heritage asset.

The dramatic loss of lowland heathland has led it to be recognised as a priority habitat in the UK Biodiversity Programme and a national habitat action plan has been produced. Most areas have been designated as SSSIs by English Nature who are committed to delivering the Public Service Agreement (PSA) target of 95% by area of SSSIs into 'favourable condition' by 2010.

The ownership of Hazeley Heath is split between two landowners: Hart District Council own the southern area in Hartley Wintney Parish, while the Timpany Trust own the larger, northern area in Mattingly Parish. Wildlife Enhancement Scheme (WES) agreements are in place between the landowners and English Nature. These fund practical habitat management works to assist in meeting the PSA targets.

A management plan has been prepared by an independent consultant to steer the implementation of habitat management works in order to restore the site. A number of management options are discussed within the plan, notably the recommendation to reintroduce a conservation grazing regime. (P Edgar, 2003).

This document compares the merits of the available management techniques and how they will be able to meet the conservation objectives of the site. The practicalities of introducing a conservation grazing regime are explored, possible conflicts identified and solutions presented.

Options for heathland management

A number of options are available to manage lowland heathland, with varying suitability. These are discussed in detail in the Hazeley Heath Management Plan (P Edgar, 2003). They include grazing, mowing, burning, scrub and bracken management and heathland restoration through operations such as turf stripping, soil inversion and rotoation. These techniques vary in suitability, sustainability and cost. Each technique can be employed in a different way and there are a large number of variables so results vary considerably between sites.

Grazing

The introduction of a low-intensity grazing regime is often considered to be one of the most suitable and sustainable methods for managing a heathland. It produces a wide variety of niches for specialist species which are unobtainable through mechanical means and is a return to a more traditional method of management. After initial expenses of fencing and stock procurement, grazing is relatively inexpensive but is demanding on staff time. The details of the grazing regime, such as type of stock, timing and stocking rate, require careful attention. Grazing will not completely control scrub or gorse or the encroachment of bracken so some supplementary management is required. Initial site preparation including clearance of existing scrub is also often necessary.

Mowing

Mowing can be relatively successful in maintaining healthy stands of heather with age and structural diversity achieved through cutting small irregular patches on a long rotation of 10-15 years. Degenerate heather does not respond well to rotational cutting, it is unlikely to be effective in encouraging the spread of heather onto areas of dense or tussocky acid grassland and continued mowing may cause soil compaction leading to areas of erosion or unsuitable bare ground. It may not be possible to cut areas on steep or uneven terrain and annual cutting requires long term commitments in terms of resources for both the cutting and other necessary management such as scrub and bracken control and heathland restoration. Mowing creates large amounts of cut material which then require disposal.

Burning

Similarly, burning can be used to maintain stands of heather if undertaken on a patchwork of long-term rotation. However, burning is not considered the preferred management option at most sites in northeast Hampshire, particularly where the site lies close to a residential area, and can be damaging to invertebrate populations. Maintaining good control over the burn is essential, requiring skilled and experienced personnel. Burnt areas can be considered unsightly or set a poor example to the public, which may result in an increase of accidental and deliberately set fires.

Manual and mechanical scrub and bracken control

Scrub can be managed by a variety of mechanical means from chainsaw operators to large, tracked machinery. Bracken is managed using mechanical or chemical methods. Scrub and bracken control are necessary to maintain the open nature of heathland but alone they are not sufficient to maintain or extend the existing heathland habitat, nor do they create all the niches required by the variety of heathland flora and fauna.

Other heathland restoration

Other methods of heathland restoration and re-creation may also be used. Such management can include turf stripping, soil inversion and rotoation, the former in areas of dense grass swards, the latter in areas of degenerate heather or bare ground. Since this management is designed specifically to increase the area of heather it is not used to maintain existing stands and should be carried out in conjunction with grazing, mowing or burning as described above. These techniques are expensive and are less suitable in sensitive areas.

Summary of management techniques

Table 1

| | | Grazing | Mowing | Controlled burning | Mechanical scrub control | Other management techniques |
|-----------------|--|---------|--------|--------------------|--------------------------|-----------------------------|
| Positive aspect | Sustainable in long term | ✓ | | ✓ | | |
| | Manage scrub | ✓ | ✓ | ✓ | ✓ | |
| | Creates variety of high quality niches | ✓ | | | | |
| | Possible on whole site | ✓ | | | ✓ | |
| | Reduce need for other management | ✓ | | ✓ | | |
| Negative aspect | Requires fencing | ✓ | | | | |
| | High ongoing costs | | ✓ | | ✓ | ✓ |
| | High initial costs | ✓ | ✓ | | | ✓ |
| | Removal of arisings required | | ✓ | | ✓ | ✓ |
| | Dramatic impact on landscape | | | ✓ | ✓ | |
| | Require other management | ✓ | ✓ | ✓ | ✓ | ✓ |

Objectives of site management

To achieve 'favourable condition' for the SSSI.

Biological Sites of Special Scientific Interest (SSSIs) are notified because of specific features either habitats, species or both. When the sum of the influences acting upon the habitat or species does not adversely affect the range and abundance of species or range and quality of habitats they are considered to be in a 'Favourable Condition'.

Conservation Objectives define what constitutes favourable condition of each feature by describing broad targets, which should be met if the feature is to be judged favourable. The following is a list of conservation objectives for lowland heathland set out by English Nature (Alonso, 2003) with the likely impact of management techniques. A combination of management techniques is often required to achieve the desirable condition.

Table 2

| Objective | Impact grazing will have | Impact other management methods have |
|---|--|---|
| No loss of habitat extent. The greatest threat to this objective is from the uncontrolled growth of scrub | Will slow the loss of habitat by the browsing of invasive plant species. Will slowly restore areas that have once been lost to successional vegetation. This would retain the landscape character for longer and be financially more sustainable in the long-term. | Maintaining extent by mowing requires considerable financial commitment and has severe affects on the landscape character. Manual scrub control by mechanical or chemical means is effective but costly and requires long term commitment. |
| Increase bare ground to 5% <i>Must be in a mosaic with vegetation</i> | Positive impact – Will create a complex mosaic with vegetation through grazing and trampling | Able to create bare ground with machinery , but not the same quality and is expensive. Very difficult to create a 'natural' mosaic with other vegetation. Burning will create a mosaic of bare ground with the vegetation but is destructive to invertebrate species. Control of burn difficult. Ideally requires follow-up grazing to stop grass regeneration. |
| Reduce area of scrub | Will slow succession once scrub has been removed. Will reduce dominance of scrub over time. Different types of stock or changing stocking numbers will affect scrub encroachment. | Manual scrub control can have a major impact on scrub encroachment. Herbicides are required ensuring regrowth does not occur. it also can be very selective, if this is desired. Costly and labour intensive. Most effective when used with grazing. |
| Dwarf shrub cover between 25-90% | Will encourage shrub cover by removing dominant grasses. | Cut and collect machines can help reduce the grass areas and therefore encourage shrub cover but is unselective and expensive, especially the disposal of arisings. Burning will maintain the sward, but is not appropriate for reasons given above. |

| Objective | Impact grazing will have | Impact other management methods have |
|---|--|--|
| European gorse <50% | <p>Browsing by certain breeds can help keep gorse at manageable levels but manual management may also be required</p> <p>Some winter grazing is required to encourage the browsing of gorse when little other vegetation is available.</p> | <p>Burning is a traditional method of gorse control and can be quite effective. However, this requires careful planning and high staffing presence. May also encourage copycat fires.</p> <p>Coppicing on a 10-12 year rotation is favourable to create a varied age structure. This also helps prevent the risks of unplanned fires.</p> |
| Presence of heather in all stages of growth | <p>Excellent positive impact. Livestock will achieve this in a way that cannot be replicated by any other means.</p> <p>Will need to carefully monitor grazing so the right balance is achieved and areas are not over grazed.</p> | <p>Rotational management using a cutting and collect machine will help create varied age structure. Access is limited to areas of easy terrain. Compaction from excessive vehicle usage will lead to erosion and excessive bare ground exposure. May encourage rabbit grazing and lead to the undesirable blanket heather form.</p> <p>Burning will eventually lead to age diversity in large, uniform areas. Fires will destroy lichen and moss communities.</p> |

| Objective | Impact grazing will have | Impact other management methods have |
|--|---|---|
| <p>Vegetation composition: graminoids</p> <p>At least 3 species present <i>Molina</i>, <i>Deschamsia</i> <i>Flexuosa</i> and <i>Nardia stricta</i></p> <p>To be no more than <i>Occasional</i> with < 25% cover</p> | <p>Excellent positive impact Grazing will maintain and improve the diversity of the heath whilst removing the dominant vigorous grass species. Will get into the wetter and more inaccessible areas where machinery fails. Stocking densities and type of stock can be altered for specific management requirements. Must be used as a follow up for the majority of the other options.</p> | <p>Cutting and collecting will maintain but not overly improve the open sward. A forage harvester must be used to remove any cuttings to reduce the nutrients and therefore encourage greater plant diversity. It will not be good at getting into the wet areas where grass growth is most predominant or areas where access is difficult. May also lead to compaction and bare ground problems. Costly. Appropriate burning will remove enough vegetation to open the sward, but should be followed by grazing to prevent the grasses from becoming dominant.</p> |
| <p>Vegetation composition Desirable forbs</p> <p>At least 2 species <i>occasional</i></p> | <p>Positive affect.</p> <p>A studies show that there grazing creates a greater diversity for all vascular plants in the grazed areas, Similar effects to graminoids leading to good forb diversity but caution required to avoid over grazing.</p> | <p>Turf scraping and mowing would have similar affect as above and may encourage a greater number of forbs, but would need follow up grazing.</p> |

To maintain the proposed Special Protection Area in favourable condition.

Hazeley Heath is part of the Thames Basin Heaths proposed Special Protection Area (pSPA) that supports populations of rare and vulnerable heathland birds listed in Annex 1 to the EC Directive 79/409 commonly referred to as the “Birds Directive”. This has led to various conservation objectives being set for the component SSSIs for the European interest within each unit. The Conservation Objectives for the European interest on Hazeley Heath are as follows:

“to maintain¹, in favourable condition, the habitats for the populations of Annex 1 bird species² of European importance, with particular reference to:

- ***Lowland Heathland***

¹ maintenance implies restoration if the feature is not currently in favourable condition.

² Nightjar and woodlark

For the purposes of this report we will also give consideration to Dartford warblers, the other Annex 1 species presently breeding at this site although they are not mentioned in the original citation for this component.

Generally, the management of heathlands by grazing is commonly thought of having little direct or indirect negative effects on Annex 1 bird species, indeed because the habitat requirements for the favourable condition of the pSPA are very similarly linked to the ones mentioned for the SSSI, grazing could be seen to be the only positive way of managing lowland heathland for these species. The leading organisation in this field the Royal Society for the Protection of Birds (RSPB) mirror this view in the following statement:

“The RSPB views low intensity grazing as positive management for heathland with rare breeding bird interest, and would encourage it in principle in most if not all cases. We graze most of the 2,000 ha of lowland heathland we own/manage. We consider the risk through trampling of nests, or damage to feeding and nesting habitat to be minimal, whereas the benefits are considered to significantly outweigh these slight risks”. (N Symes RSPB Heathland Ecologist).

Disturbances from grazing animals on these ground-nesting birds (as mentioned above) are deemed to be slight and acceptable when compared to the benefits arisen from a good grazing regime. Little evidence has been seen on the direct destruction of nests, eggs and young of these birds from grazing animals, it is thought that the adults will actively drive off intruding livestock before they reach the nests and the more mobile young birds are believed to simply move away from intruders. Having said that, there are always going to be cases of nest and young destruction with large animals on site although far greater losses are through predation and disturbance from cats and dogs.

Indirectly, grazing will have a varying affect on the vegetation diversity of the heathland. This will affect the heathland birds in a variety of ways, for example, the greater availability of bare ground will provide more nesting sites

for woodlark. However, over grazing will have an affect on the shrub layer and will possibly have an adverse affect on Dartford warblers, which require dwarf shrubs for foraging.

Clearly grazing will have a direct impact on all the Annex 1 birds. To best show what these impacts are and the benefits and risks are clearly identified, each species will be assessed in the following paragraphs.

Dartford warbler

Dartford warblers favour open mature dry heath mixed lightly with low dense gorse that will provide winter shelter and maximum foraging opportunities.

Positive impacts of grazing:

- Long-term grazing will reduce the regeneration of invasive scrub species, which could dominate the heathland.
- Low dense gorse will result from grazing, particularly with winter grazing.

Negative impacts:

- Little, though the scrub and gorse could become over grazed with very high stocking levels.

The RSPB's view:

“there is likely to be no impact with light grazing pressure as there is little incentive for livestock to enter the Calluna dominated mature dry heath, and if they do it is likely to be only for short periods. Our experience in Dorset with cattle, ponies and sheep leads us to believe that there is no issue”. (N Symes RSPB Heathland Ecologist)

Other management techniques:

- Invasive scrub can be cut and treated with an approved herbicide to prevent its spread.
- Gorse can be coppiced annually in rotation to prevent it becoming leggy though this would not replicate the type of gorse associated with a good grazing regime.

Woodlark

A summer visitor to the heathlands, requires bare ground and a short sward for feeding. Nests close to paths and firebreaks and among tussocks.

Positive impacts of grazing:

- Increases the area of short sward and bare ground needed for foraging.
- Produces a mosaic of short and long swards needed for breeding.
- Dunging increases the levels of invertebrate prey.

Negative impacts:

- None, though nests may be disturbed if high stocking levels are used in nesting season.

The RSPB's view:

“Woodlarks use areas of bare ground that are being colonised by pioneer heath or grasses, for example areas that have had the litter stripped during restoration from dense tree scrub. Grazing is likely to provide the most sustainable suitable heathland for woodlarks, particularly in association with heather management”. (N Symes, J Day (2003) *RSPB, A practical guide to the restoration and management of lowland heathland*)

Other management techniques:

- Winter mowing to provide a mosaic of small patches.
- Firebreaks will provide feeding areas.
- Controlled burning in the winter will provide short swards.

All these management techniques should ideally be in conjunction with grazing to maintain the correct mosaics needed and for the management to be sustainable in the long-term.

Similarly, a grazing regime will require some manual heather management from time to time though not as frequently as needed if grazing is not part of the site's long-term management.

Nightjar

Nests on dry heath on patches of bare ground. Forages for up to 5 km from nest on surrounding farms or uncultivated land.

Positive impacts:

- Grazing vital to create bare patches that are not part of pathways or other areas prone to disturbance for nest sites.
- Dunging increases the levels of invertebrate prey within the heathland, this is even more necessary if the surrounding land is or is likely to become unsuitable for feeding nightjars.
- Grazing will create a greater diversity of habitat types and therefore increases the levels of invertebrate fauna needed.

Negative impacts:

- None, though nests may be disturbed if high stocking levels are used in nesting season.

The RSPB's view:

“grazed heathland usually has more diversity than ungrazed heath, and the available invertebrate prey density may be increased”. (N Symes, J Day (2003) *RSPB A practical guide to the restoration and management of lowland heathland*)

Other management techniques:

- Woodland felling or creating deep scallops around the woodland edge.
- Mechanical creation of bare ground

- Mowing to increase variety within the heather sward

Summary

Grazing appears to be the most suitable way of achieving favourable condition for both the SSSI and the pSPA. Ideally a mixture of cattle with ponies would be suitable for the requirements of the habitats within Hazeley Heath. To achieve a good gorse condition for Dartford warblers the ponies could be left to graze at low stocking levels over the winter were they would browse the gorse to the appropriate condition. Ponies, however, may cause problems for the many horse riders that use the site and the landowner may not permit their use. In this case seasonal cattle grazing with gorse coppicing should achieve a similar effect.

There would always be a need to do some low level scrub control, heather management, scrapes and coppicing but at a much lower frequency and scale than if grazing is not used. These management techniques should be part of a grazing programme and will not achieve favourable condition on their own but will only go towards slowing the current decline.

Overall the affects of a good grazing regime can be summarised as follows:

- a) A reduction in the cover of dominant grass species.
- b) The creation of a greater structural diversity of the shrub communities in a way that cannot be replicated mechanically.
- c) The creation bare ground in a complex mosaic with the shrub layer.
- d) The increase of floral diversity by removing competition from more aggressive plant species, by distributing the seeds through their dung to other sites suitable for colonisation and reducing nutrient levels.
- e) A reduction in the speed of succession, allowing for greater durations of specialist species and their associated habitats.
- f) An increase in invertebrate diversity and densities by improving habitat diversity and from dunging.
- g) A halt and even reverse of the present habitat loss in a sensitive and sustainable manner.

Proposals

The introduction of grazing to Hazeley Heath will have great benefits to the ecology of the site and will go a long way to attaining 'favourable condition'. To assess the costs of the implementation of a grazing regime, both financially and in other terms, detailed proposals are required.

Permanent fencing of the site is the obvious, but not the only option for the introduction of livestock. The following options have also been considered:

Options for introducing grazing

Tethering: Livestock are individually tethered to a post which is moved around the site. This is a very cheap option which allows the targeting of particular areas. Grazing pressure tends to be great and does not mirror the natural movement of livestock. Tethered animals may be at risk from dogs and may not have an

available water supply. This technique is not suitable for large areas or within scrub.

Temporary electric fencing: Certain areas are fenced with electric fencing which can be moved around the site to target specific areas. This method of control is usually only suitable for internal fencing, so a ring fence may still be required. Initial costs are high, the system is prone to vandalism and it is labour intensive over a long period. Electric fencing would require permission from the Secretary of State for the Environment.

Herding: Livestock are herded across the site by a herdsman. Specific areas can be targeted. Stock are unconfined and there is a great risk of them wandering onto main roads. This is labour intensive over a long period.

Ditches and 'hahas': Stock are confined to the site by the digging of ditches and hahas. This reduces visual impact of the stock containment. Livestock are not fully contained and there may be a risk of escaping. Ditches would disrupt the hydrology of the site.

Permanent fence A ring fence around the whole site allows the free ranging of the livestock, giving a 'natural' grazing pattern. There is initially a large cost but it is more cost effective in the long term. Stock are fully confined and there is little risk of straying to the roads. Public access is partially restricted, but this can be minimised by provision of access points. Permanent fencing would require permission from the Secretary of State for the Environment.

Because of the high risk of stock getting onto the road and the long term running costs and labour requirements of the other options the use of permanent fencing is the preferred option, details of which are discussed.

Appendix I shows a map of the proposed fence along with associated access points. This map is purely a draft and the precise location of the fence and access points are open to discussion.

Proposed specifications

Fence: Wooden posts (1.1m high, every 3m) with stock mesh and two strand barbed wire. Stock mesh provides the ability to use a variety of livestock. Barbed wire is important because cattle will push on a plain wire fence and weaken it. This is especially dangerous next to busy roads.

Gates: Metal, self closing gates which will be easy to open for horse and pedestrian access. Field gates will allow access for vehicles. All gates will have a length of post and rail fencing adjacent.

Cattle grids: Metal, highways specification with associated gates for horse access

Stiles: Wooden, two step stile with protection from barbed wire.

Corral: A suitable corral will be required for penning, checking and moving livestock.

Water supply: A reliable, mains fed water supply will be required in case of drought. This will consist of buried pipe work and metal troughs.

Cost

The prices given below are approximate and subject to amendment.

Table 2

| | Number of units required | Approx unit cost | Total |
|-----------------------------------|--------------------------|------------------|-----------|
| Fence | 7400m | £4.00 | £29300 |
| Bridle gates | 15 | £365.00 | £5475 |
| Field gates | 5 | £300 | £1500 |
| Stiles | 1 | £100 | £100 |
| Cattle grids and associated gates | 11 | £5000.00 | £55000 |
| Corral | 1 | £800 | £800 |
| Water supply | 3 | £1500 | £4500 |
| Totals | | | £96675.00 |

Options for grazing regime

The impact that conservation grazing will have on the ecology of Hazeley Heath will vary considerably depending on the regime that is introduced. A number of variables are available to tailor the regime to the site. These are explained, and a proposed grazing regime is given. Although the effects of grazing heathlands have been well studied, because of the large number of variables it should be noted that the proposed regime will be subject to periodical review and amendment as the specific effects of the introduction of grazing to Hazeley Heath are better understood.

Suitable livestock are difficult to obtain in the south of England. The Hampshire Grazing Project will be able to assist with the location of appropriate grazing animals.

Variables

Different **species of livestock** graze in different ways and are suited to different environments. Ponies, sheep and cattle are often used for this type of management, but they all produce slightly different results.

The **livestock breed** is important; native, traditional breeds are often more hardy and better able to cope with the rough forage found on a heathland.

Other variables concerning the type of livestock which would need to be considered include **gender** and an **individual's background**.

The **stocking rate** will have a large impact on the effect of the grazing regime. Projects of this type tend to have very low stocking densities compared with agriculture.

Because the palatability of vegetation varies seasonally the **timing of grazing** plays an important part in managing the regime.

The regime can be varied further by establishing the **frequency** of the grazing. This may be annual, alternate years, missing one year in five etc.

Other factors

The livestock and the fence will require **management and maintenance**. The method by which this is delivered will have to be determined.

All management practises, including grazing, have **ongoing costs**. These will have to be met.

Proposed grazing regime

| | |
|---|---|
| Livestock species Cattle | Require less maintenance than sheep and easy to handle; will not conflict with horse riders; able to graze rough, long swards in wet areas; less affected by dogs; will create varied vegetation structure including bare ground. |
| Livestock breed Traditional, native breed – subject to availability | A hardy breed which is able to cope with the rough grazing and harsher conditions. These are likely to raise interest with local people. Available breeds include highlands, dexters, belted galloways and British whites. |
| Gender and age | Mature cows or steers |
| Individual background | Livestock that have experience of grazing heathland sites are preferred. They are likely to cope better on the rough grazing and target less palatable species. Such traits can be learnt from other animals. |
| Stocking rate 0.2LU ha ⁻¹ yr ⁻¹ = Approx 20 cattle | This number should have some impact on the site, but not enough to damage it. Careful monitoring will allow the number to be fine tuned to maximise results. |
| Timing of grazing May - September | Stock will focus upon grass and herbaceous plants. Some light browsing of heather and scrub may occur. The presence of the closed landfill will supply some backup grazing in winter. |
| Frequency Annual, missing one year in five | Annual grazing will enable a significant impact on the site, the break every 5 years will allow some areas to recover. |

Proposed timetable of events for fencing Hazeley Heath

| | |
|----------------|--|
| July 2004 | Management plan to Hart DC Cabinet for endorsement |
| July 2004 | Management plan published for public consultation |
| September 2004 | 6 week consultation period over |
| September 2004 | Application to fence to DEFRA, further public consultation |
| January 2005 | Line clearance |
| April 2005 | Fence erection |
| June 2005 | Introduction of livestock |

Possible conflicts and solutions

The impact of grazing on invertebrates.

A good grazing regime will deliver a wide range of conservation benefits and provide greater habitat diversity than the other management techniques mentioned. There is, however, a risk of damage to niches utilised by invertebrates from the presence of grazing animals. To minimise this, the site manager should be aware of these risks and be able to monitor and control them as appropriate for the site.

One way of monitoring this is to follow the guidance in the English Nature's research report 'Grazing Heathland: A guide to the impact assessment for insects and reptiles'. This gives the site manager guidance on the likely impact of grazing on features important to invertebrates.

Hazeley Heath featured within this research report as a case study for this process, but this was focussed upon only a small part of the site so needs to be extended. This will allow fine tuning of the grazing regime. The effects of the grazing on the features highlighted in the study will be closely monitored to ensure that they are not being damaged and the grazing regime adjusted correspondingly. A summary of the findings from this study are given in Appendix I.

Access issues

Hazeley Heath is well used by members of the public for informal recreation. A number of public rights of way cross the heath and public access is not restricted in any way. The site is likely to be mapped as 'Open Land' by the Countryside Agency. This will lead to it being classed as 'Access Land'; giving the public full rights of access on foot.

The most popular activities on Hazeley Heath are dog walking and horse riding. The erection of permanent fencing around Hazeley Heath will impair the public's ability to access the common from any point that they wish but it is vital that the present use of the common is in no way affected. There is little evidence that members of the public do access the common from a large number of points; on the whole access is limited to a few, well used paths. All of these paths will be provided with gates so normal access will not be impaired. The northern and eastern boundaries of the Heath are already fenced with very few access points, apart from two neighbouring properties. These, of course, will be maintained. The western boundary is adjacent to a very busy road with a few access points. These will be maintained with gates. All gates will be accessible to pedestrians, cyclists and horse riders.

Access over the common will, in time, be improved as rides are opened up by mechanical and grazing management. Grazed heathlands are more accessible than ungrazed ones (B Miller, 1997).

Public perception of grazing and livestock

There are many examples of successful re-introductions of grazing for conservation management. These projects are often embraced by the local community and visitors are attracted by the presence of the animals.

Locally, a good example of this is the heathland grazing project at Elvetham Heath Local Nature Reserve. Here, the grazing project has been successfully implemented by Hart District Council during 2003. During this time the project

has been completely welcomed by the local community and has proved to be a draw to visit the site. Local schools and user groups have all commented positively on this form of management and walkers, dog walkers and parents with young children have all been visiting the site in increased numbers since the introduction of grazing. Some members of the public were concerned when the cattle were taken off in the winter and many look forward to their return in the spring.

Many public rights of way pass through grazed land and many country parks are grazed with few or no incidents involving livestock. Queen Elizabeth Country Park in Petersfield, Hampshire regularly attracts more than 150,000 visitors who inevitably pass through land with a mixture of cattle and sheep grazing. The Senior Ranger could not recall a single recorded incident concerning grazing animals and the public in the 12 years that he has been involved with the site.

Despite these positive grazing projects there still may be misconceptions that there is a danger from grazing livestock and there may be occasional incidents. Generally these occur when uncontrolled dogs threaten livestock, the livestock has no mechanism for escape and they have young to protect. This should not be an issue at Hazeley heath where there will be very low stocking densities and plenty of open ground for the livestock to avoid human interaction. The provision of good site information in the form of notice boards and signs will be used to inform users why and when the stock is present. This will also inform people of their responsibilities as users of the site and give contact information.

Publicising the benefits of grazing

Over the last few years there has been much done to raise the public awareness of the importance of heathlands, the risks to them and the possible management options, including grazing, required to ensure their future.

Funded by the Heritage Lottery Fund and part of English Nature's 'Tomorrows Heathland Heritage' programme, the Hampshire Heathland Project is led by Hampshire County Council and is a partnership between a number of local and national organisations. The Project aims to restore a large proportion of the heathland in Hampshire and implement a number of conservation grazing projects. The promotion of the importance of heathlands and the benefits of grazing is also part of the Project's aims.

More locally, Hart District Council has also been promoting the importance of heathlands. Much of this effort has been concentrated to the local community around Hazeley Heath with discussions concerning the future of the site at both Mattingley and Hartley Wintney Parish Council meetings, the production of a newsletter for over 400 local inhabitants, various talks and guided walks and meetings with key residents. Letters have been written to commoners asking whether they may want to exercise their commoners' rights in the future. All those who replied stated that they would.

More walks, talks, school visits, displays and articles are intended for the future. An article about heathland grazing has been produced for the Hart District Council Newsletter, which is posted to every property in the District.

This, along with the recent launch of the Hart District Council Countryside website insures that all present and future information can be reached by all.

Funding

The proposed fencing will be expensive to erect and there will be ongoing costs to maintain the fence and deliver the grazing.

English Nature's 'Wildlife Enhancement Scheme' (WES) is available to owners of 'Sites of Special Scientific Interest' (SSSIs) to pay for capital restoration work such as scrub management and fencing works. The two major owners of Hazeley Heath have a WES agreement in place with English Nature. This will pay for initial costs of the fencing and the installation of the water supply.

Ongoing costs will have to be met by other means. Hart District Council will have reduced costs from other management works such as mowing which can be used to maintain fencing. It is likely that local graziers will not require payment for using their livestock as the forage is of relatively good quality. A 'Countryside Stewardship Scheme' from DEFRA may be put in place which will assist with the maintenance of site infrastructure.

Fencing common land

Because Hazeley Heath is a registered common, permission from the Secretary of State for the Environment is required to fence the site. The intention to erect a fence will be advertised locally and comments sought. This process can take a considerable length of time so should be begun as soon as it is decided to go ahead with the fencing. This decision will be made by the landowners; the Timpany Trust and Hart District Council. Hazeley Heath is divided into two common land units (CL100 and CL49) but these should be fenced jointly as one compartment. Internal fences are less likely to be approved, so a perimeter fence is proposed wherever possible.

Fire risk

Unplanned fires are a major risk to the heathland, its users, surrounding landowners and livestock. The re-introduction of a grazing regime will go some way to prevent the risk of unplanned fires by removing the build-up of flammable materials left by deciduous grasses. Further protection of the heath from fires can be implemented by the cutting of firebreaks as part of the heather management programme and the production of a fire safety plan with the local fire brigade. Firebreaks will be maintained to some extent by grazing animals.

If areas of heathland which have been subject to fire damage are not followed up with grazing the heathland can quickly become dominated by deciduous grasses escalating the risk of future large-scale burns and making the condition of the site less favourable.

The proposed fencing includes access points for fire fighting.

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