Bicton Common – Background paper

This background paper outlines proposals for a minor change in the fencing scheme on the Pebblebed Commons which was approved by the Planning Inspectorate in June 2012. The proposal only affects Bicton Common where the approved scheme was for perimeter fencing around the northern, western and eastern sides of the Common but with cattle grids on the road adjoining part of the southern boundary, allowing grazing animals to cross onto East Budleigh Common. The proposed change is for the approved fence on the southern edge of Bicton Common to be extended by some 330 metres so that Bicton Common will become a self -contained unit for grazing purposes (see the map in this paper for proposal). The proposal does not in any way prevent the installation of cattle grids and the joining of the Commons as originally proposed at some time in the future.

The East Devon Pebblebed Heaths are the largest block of lowland heathland in Devon and are nationally important for their plant communities, birds and invertebrates. Lowland heathland itself is internationally scarce and only occurs on suitable soils on the Atlantic fringes of NW Europe. The climate here is especially suited to heathland and the UK supports some 20% of the remaining European heaths. Losses of heathland in the past two centuries have been massive across all of its natural range, through agricultural change, conifer planting, development pressures and neglect.

The heaths are owned by Clinton Devon Estates and managed by a charitable trust, the East Devon Pebblebeds Conservation Trust (the Conservation Trust). They have been given international and national designations for their important wildlife and are also highly valued by local communities and visitors to the area as an open space used for recreation and enjoyment by the public. Access to the heaths is a public right enshrined in the Countryside and Rights of Way Act and neither the previous proposals nor the changes outlined here have any effect on the public rights of access to the Commons.

The fencing scheme as approved under the previous application was to fence areas of the commons with permanent perimeter fencing to facilitate grazing. For many years conservation grazing has taken place on the Commons, using temporary fencing, with other management aimed at preventing the spread of scrub and woodland onto the open heaths, mowing areas to suppress bracken and creating small areas of bare ground to reduce nutrients and re-start succession to heath.

The main threats to the survival of these heaths is the gradual spread of woodland and a rise in soil nutrient levels due to nitrogen inputs from the atmosphere. Heathland is a cultural landscape, created during prehistoric times by the clearance of woodland. Following the conversion of woodland to heathland, the heaths were kept open down the centuries by intensive uses, including continued grazing and burning, removal of turves, bracken and scrub for fuel and animal bedding, cutting of timber and exploitation of other heathland products. These activities prevented woodland from re-establishing and also resulted in the continual removal of nutrients from the system, maintaining the nutrient-poor soils and their characteristic heathland vegetation.

Local communities used to rely heavily on the heaths for a livelihood, but sadly, these uses declined and largely died out as peasant economies disappeared and changes in agriculture and the availability of cheap fuel brought most traditional heathland management to an end by the beginning of the 20th century. The heaths became neglected and many reverted to woodland and scrub. Abandonment and conversion of heathland commons to other uses, has meant that more than 80% of heathlands across southern Britain have now been lost. Management today is aimed at maintaining the open heaths and their special wildlife by a combination of tree and scrub clearance, burning, mowing and grazing.

The other problem the heaths have faced in recent years is airborne nitrogen arising from the burning of fossil fuels in industry, road traffic, shipping, aviation and agriculture and this poses one of the greatest threats to heathland in Europe. Many heathland plants can only survive and compete successfully on acid soils with low nitrogen availability. The addition of nutrients in rain or dust particles increases the nitrogen in the vegetation, leaf litter and upper soil layers, and this builds up over time. Heather can initially benefit from inputs of nitrogen, but this also causes more rapid ageing of the plants and greater susceptibility to drought, frost and insect attack. Where the heather is weakened or is not rejuvenated by management then grasses gain a competitive advantage both from the higher nutrient levels and from the increase in light. This triggers a conversion from heather to grass or bracken-dominated vegetation with the loss of many wildlife and plant species dependent on heather- dominated heaths. On the drier heath, bristle bent, and other grasses can come to dominate, while on damper ground, purple moor-grass takes over. Higher nutrient levels can also be signalled by increases in bramble and the spread of bracken.

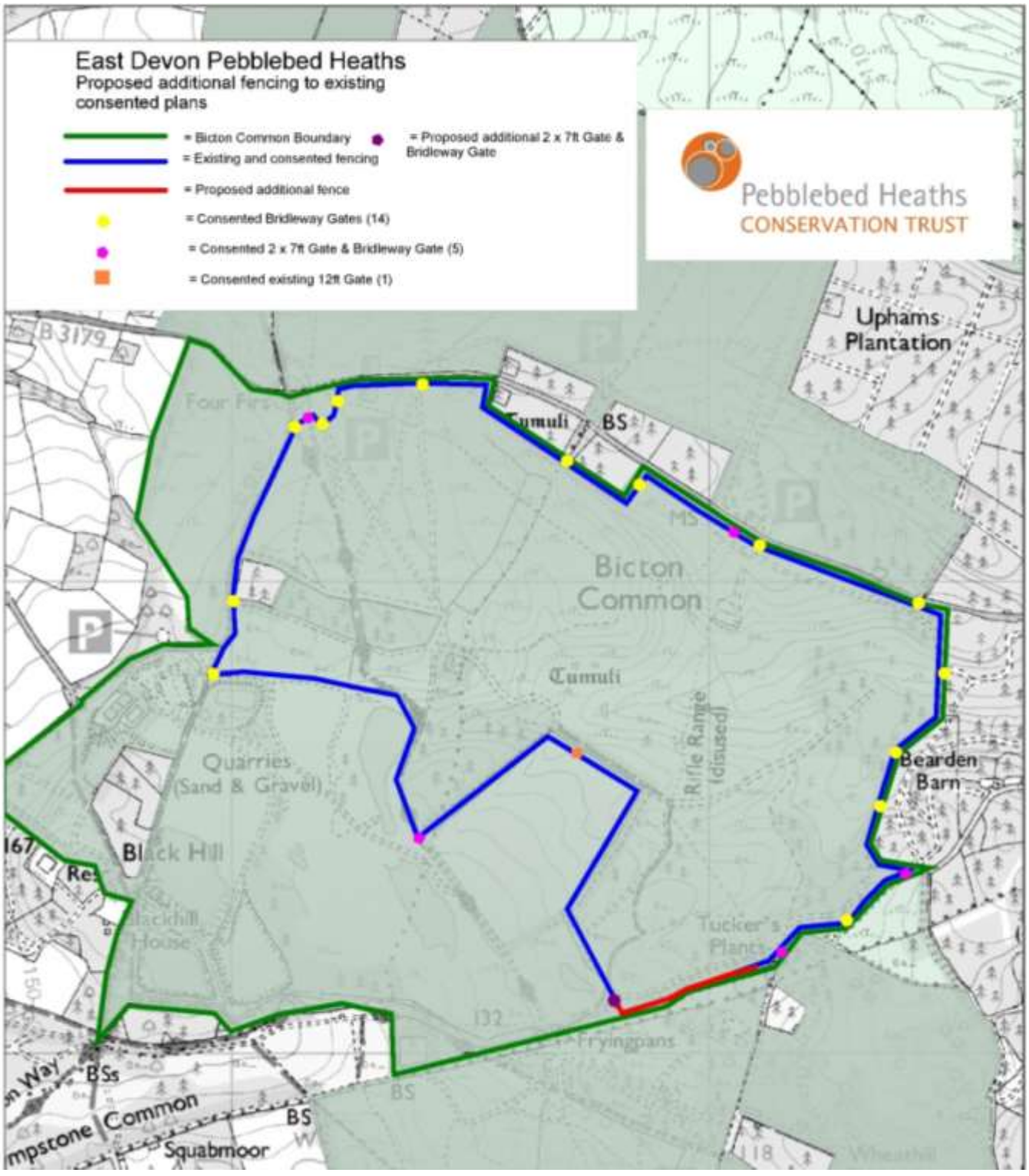
Studies have shown a decline in heather and an increase in the dominance of grasses on many heaths across Europe. Following considerable research, it has been suggested that harmful effects of nitrogen inputs (such as conversion to grass) can occur on heathlands and mires above a threshold of 10-20 kg of nitrogen deposition/hectare/year.

One of the main aims of management is therefore to reduce the deposition levels that have built up from past years and to counter the annual increments that are still occurring. If the Common is not to become a mixture of closed woodland, and with heather replaced by coarse grasses and bracken, a substantial amount of management will be needed to encourage heathland plants and suppress competition from other species.

Mowing and burning alone will not address this problem as both will temporarily reduce the heather cover and encourage the spread of grasses which are better adapted than heather to recover quickly from these managements in raised nutrient conditions. Grazing animals will concentrate on the grasses which are more nutritious than heather during the growing season, and by doing so, will help to give the heather a competitive advantage.

The Proposals

Although the Conservation Trust now has consent for putting in the approved fencing scheme across much of the Commons, they have decided to approach this cautiously not only to assess the practical problems of introducing extensive grazing but also to allow the public to become accustomed to grazing animals out on the heaths. The current cost of cattle grids is prohibitive and so for the time being, the Trust has decided to leave East Budleigh Common out of the grazing scheme but with the possibility of incorporating it into the wider scheme later on when financial resources allow. The Conservation Trust would therefore like to fence the 330m gap on the southern boundary of Bicton Common to create a single grazing unit on Bicton and Woodbury Commons extending to some 107 hectares. As part of the new fencing, two seven foot gates for access by machinery and a five foot bridleway gate for horse riders, cyclists and pedestrians is proposed in the south-west corner (see the map below for details).



History and land use


Early photograph of Woodbury Common

Military use goes back to the Napoleonic wars and Bicton and East Budleigh Commons were heavily used during the WWII by British and American forces. The Commons are still used for training by the Royal Marines. However, human use of the heaths goes back to prehistoric times when barrows and cairns were built on the heaths, and later, an iron age fort was constructed at Woodbury castle. The Romans built roads through the areas and many of the Parish boundaries date from Saxon times. Other features dating from various times include quarries, boundary banks, ridge and furrow and planted mounds. Today the Pebblebed Commons are a popular destination for local walkers and dog walkers, while others come to see or study the wildlife, ride horses or cycle on the bridleways or just enjoy the peace and quiet and the fine views of this great cultural landscape, within close reach of Exeter, Exmouth and the sea.

Wildlife

The Pebblebed Commons were designated as a Site of Special Scientific Interest (SSSI) as early as 1952 when its heathland vegetation and plant species, birds and invertebrates were noted for their importance for nature conservation. A number of scarce plant species are found on the commons including heath violet, petty whin and royal fern, mire species such as sundews, black bog rush and white-beaked sedge and several species of orchid. There are many rare and scarce insect species, but of particular note are the southern damselflies, and the silver-studded blue butterfly. There are a number of nationally scarce species of beetles, flies and solitary wasps as well as rare crickets, ants and moths. The beauty of the landscape was also recognised by the inclusion of the Pebblebeds into the East Devon Area of Outstanding Natural Beauty.


Southern damselfly

As the protection of nature conservation sites became recognised as a priority across Europe, the Pebblebed Heaths were also recognised for their international importance by designation as a Special Protection Area for breeding nightjar and Dartford warbler and as a Special Area of Conservation for their heathland habitats, both under European legislation.


Round-leaved sundew

Management aims and methods

SSSIs are sites of national nature conservation importance and their condition is subject to regular monitoring by the government's statutory advisor, Natural England. The objective is for all SSSIs to reach and be maintained in favourable condition. Such assessments for heathland SSSIs nationally rely on these main generic criteria:

Dry heaths

- Tree and scrub cover should be less than 15% by area
- Cover by area of European gorse to be less than25%
- Bracken cover to be maintained at less than 10%
- Cover of bare ground to be 1-10% by area
- Dwarf shrub cover of at least two species of 25-90% by area
- An age mixture of 10-40% cover of pioneer, 10-40% cover of building/mature and 20-80% cover of degenerate heather and less than10% of dead ericaceous plant cover

- Cover of mosses and lichens to be maintained
- Recently burnt areas to be less than 5% by area
- At least 10% of the dry heath by area should not be burnt at any time
- Requirement for a mix of dwarf heather shrubs, grasses/sedges and other herbs and flowers, with maximum cover of exotic species less than1% and weeds such as nettles and thistles less than 1%.
- Maintain soil cover with vegetation, (but with reductions in tree, scrub and bracken cover) over archaeological features

Wet heaths

- Presence of heather species in all stages of growth
- Cover of bare ground to be 1-10% by area
- If naturally present more than10% cover of *Sphagnum* moss spp, and more than 5% cover of lichens
- Purple moor grass to be no more than occasional
- European gorse cover less than10%
- Heather cover of at least two species of 25-90% by area
- Requirement for a mix of heathers, grasses/sedges and other herbs, with maximum cover of exotic species less than1% and weeds such as rushes and thistles less than1%.
- Tree and scrub cover should be less than 10% by area
- Trampling/paths less than1%, and no silt or leachate or artificial drains

Currently Bicton Common is in unfavourable recovering condition with areas of even aged heather and a large area of purple moor grass.

The Pebblebed heaths are a cultural landscape of open, largely heather-covered land which has been maintained for centuries by cutting, burning, grazing and other human activities. The encroachment of scrub and trees onto the open heath, as well as domination by coarse grasses need constant attention; both can result in a build up of leaf litter that further suppresses heathland vegetation. These changes are particular problems nowadays, since the traditional management practices that created and maintained heathlands over many centuries have largely ceased.

Tree and scrub clearance

The cutting and removal of birch, oak and other scrub species will help retain the open heathland and grassland and prevent succession to woodland. Some follow-up management by stump treatment or grazing may be required for broad-leaved trees and shrubs. Tree and scrub removal must be sensitively done to retain sufficient scattered trees and scrub to enhance the biodiversity and landscape value of the common.

European gorse is a valuable breeding habitat and year-round foraging habitat for a number of birds including stonechats, linnets and Dartford warblers. Stands of gorse scattered across the heath will provide maximum territorial and feeding opportunities and is best maintained on a 10-12 year cutting cycle. Bracken will need to be cut or sprayed to prevent it swamping more desirable plant communities.

Mowing

Frequent mowing creates an even sward and can encourage grass dominance over dwarf shrubs such as heather. This is because grasses are better adapted to regular cutting or grazing than dwarf shrubs. Mowing removes the standing vegetation but leaves the lower parts of the vegetation and leaf litter layer intact, so the effect on the accumulated nutrient stores is modest. On acid grassland mowing can maintain a short sward and benefit low-growing plants that would be shaded out by tall growth. Generally mowing is a useful restoration measure, with subsequent maintenance through grazing, and it can be valuable in promoting age diversity in heather; it can also be a useful way of maintaining low vegetation for firebreaks.

Mown material must be removed off site to reduce nutrients, and it can be difficult and costly to find suitable disposal sites for large amounts of cut material. It can in some instances provide a seed source for restoration of heather. In one study of mowing the amount of nitrogen removed from the system was equivalent to about five years of atmospheric input.

Mowing uses machinery, which is less sustainable than burning. It also risks the possibility of soil compaction and possible erosion or damage to archaeological sites. On some parts of the Common, mowing and the removal of cuttings would be impractical because of the wet or uneven ground.

Burning

Controlled burning is used to break up even-aged heather areas and re-start the heather growth cycle for the benefit of associated wildlife. It can remove some of the accumulated nutrients from the heath, but can encourage grasses and bracken if carried out too often. Planned burning usually takes place in late winter and covers small areas within firebreaks that have been mown beforehand. Burning slows nitrogen build-up; it does not stop it. After burning, watercourses can be affected by nutrients and fires can also increase soil acidity. Burning by itself can increase the dominance of grasses and reduce the frequency and dominance of heather.

Burning of grassland areas has limited benefits unless followed by grazing. On heathlands wild fires can provide some diversity, but unplanned wildfires all too often happen in spring and summer, are often extensive and very damaging to wildlife. A planned, rotational burning programme followed by grazing may reduce this risk.

Results of burning can be variable; burning of old stands of heather can reduce diversity and fires can cause damage to moss and lichen communities. The presence of the roads and power-lines restricts areas of potential burning and there could be health and safety issues and concerns that controlled winter burns might encourage arsonists at other times. Nevertheless, burning on rotation is a traditional form of heathland management, undertaken to provide a flush of fresh growth for grazing animals. This is still the practice in upland areas and in the New Forest.

Grazing

Grazing creates structural diversity in vegetation, and enhances species-richness. Grazing and trampling by livestock reduce the dense thatch that has accumulated from previous years of growth, in the absence of management. This creates a mosaic of micro-habitats with small areas of short vegetation and open ground that can be colonised by low-growing, light-demanding plants such as sundews and *Sphagnum* mosses.

Grazing also helps in mitigating the effects of atmospheric nitrogen and phosphorus deposition through the gradual and continual removal of vegetation. It can also play a role in suppressing scrub and bracken, creating bare ground and reducing leaf litter. Generally light grazing leads to an increase in heather cover and heavy grazing can lead to the replacement of heather with grassland species.

On heathlands with purple moor-grass, the bulk of the grazing should normally take place between May and October. Where bristle bent grass is present, as this grass is winter green, grazing can take place all year. Both ponies and cattle will graze purple moor-grass, but cattle are normally taken off for the winter whereas ponies, if of a suitable breed can be left on. Because of their different digestive systems, ponies of a similar size have a considerably greater throughput of

vegetation than cattle, but both will eat a proportion of dead grass. Ponies will also browse gorse in winter. On some heaths a system has been adopted of grazing cattle in the summer and ponies all year round.

Reference to historic stocking rates is often of limited value to the modern site manager, as the effects of nitrogen deposition and, in some areas, mineralization of peat soils, has resulted in greater vegetation growth and more rapid successional processes than would have taken place in the past. Most heathland managers err on the side of caution and use low stocking rates to start with, slowly building up numbers in the light of experience and results on the vegetation.

Grazing by cattle and ponies requires careful selection of breeds. Cattle grazing takes place on many heavily-visited sites and people often enjoy seeing grazing animals in a natural environment. Despite this, some visitors are nervous about visiting areas with livestock, especially when accompanied by dogs. Traditional cattle breeds are however generally docile and ignore dogs and people. Horse riders can be wary of free-grazing ponies, and riders and their mounts have special requirements where there are gates. As a general rule bulls, young cattle, cows with young calves (less than three months old) and stallions are not suitable on sites visited by the public.

Traditional breeds are generally used on heathland as they are better adapted to grazing rougher vegetation, hardy and docile, and tolerant of dogs. The Conservation Trust has much experience of grazing with Devon Red cattle and these have successfully been grazing on the Commons for a number of years.

For grazing to be a practical choice of heathland management, effective containment of livestock would be necessary. Temporary fenced enclosures are limited to 10ha or 10% by area of a common unit and may only be in place for six months in any twelve. More natural behaviour by grazing animals can be achieved with perimeter fencing, as animals can choose which areas to graze or which vegetation to eat depending on season and availability of forage, and which areas to lie up in at night.

There is therefore a range of management techniques available to the heathland manager, including cutting, mowing, burning and grazing, or a combination of these. Each technique, at least on sites where nature conservation is the objective of management, seeks to replicate the effect of systems that often operated for centuries, albeit for a different purpose and usually closely linked to the rural economy and making a livelihood. In today's context each technique has advantages and disadvantages in relation to nutrient removal, prevention of succession to woodland, creation of structural diversity and species biodiversity, financial costs, landscape considerations and public perceptions of the site. A balance between all these considerations needs to be struck which meets the need to reach and maintain favourable condition for the site, whilst attracting a wide measure of public understanding and support.

The East Devon Pebblebeds Conservation Trust is holding a drop-in day on 24th August at the East Budleigh and Bicton Village Hall (High Street, East Budleigh, EX9 7EQ) from 10am to 4pm and is keen to obtain your views on the fencing proposal as well as other management and public access issues on the Commons. Please come along and meet our staff and consultants, make your views known or seek further information. An additional opportunity is available to discuss the issues in Four Firs car park (north east corner of Bicton Common on the junction of the B3180 and the B3179) between 10am and 4pm on Wednesday 28th August. We would also be happy to receive your views in writing to Sam Bridgewater, Nature Conservation Manager, Rolle Estate Office, Bicton Arena, East Budleigh, Budleigh Salterton, Devon, EX9 7BL or e-mail to: sam.bridgewater@clintondevon.com.

Pebblebed Heaths
CONSERVATION TRUST