The Pebblebed Commons-A background paper

Context

The East Devon Pebblebed Commons are mostly owned by the Clinton Devon Estates and managed by the Pebblebed Heaths Conservation Trust (the Trust) the RSPB and the Devon Wildlife Trust. They are nationally important for their wildlife and are much valued by local communities and visitors as a publicly accessible open landscape. Government has recently given a new statutory right of access and passed new legislation on management of common land. It has also set targets for the management of important wildlife sites including the Pebblebed Commons, coupled with increased funding for management.

In the light of these changes, the Trust and RSPB, supported by Natural England (the Government's countryside and wildlife conservation agency), has decided to undertake a major review of the management of the Pebblebed Heaths and look at all the options. An important part of this process is to seek the views of local communities and organisations together with visitors and other stakeholders in the heaths.

A recent report, 'A common purpose; a guide to agreeing management on common land' gives guidance on consultations over the future of common land. It recognises the value that communities place on their local commons and sets out principles for carrying out consultation without preconditions and in a way that genuinely seeks a consensus on a way forward, through regular communication and a shared understanding of the issues. It is hoped that this paper, by laying out the issues in as thorough and transparent way as possible will help to encourage a wide consultation with users and stakeholders in the Pebblebed Heaths

Introduction and Background

Most heathlands are derived from the clearance of woodland on light soils by Neolithic or later Bronze or Iron Age farmers. Use of the land for arable and pastoral farming, often accompanied by burning to provide fresh grazing kept the land open, but over time, this exhausted the original brown earth soils and left light, acid, freely draining ground, ideal for the growth of heather and other heathland plants. Down the centuries, continued grazing and burning, the removal of turves, bracken and scrub for fuel and animal bedding, cutting of timber and exploitation of other heathland products, prevented woodland from re-establishing. These activities also resulted in the continual removal of nutrients from the system, maintaining the poor soils and their heathland vegetation.

As such uses became uneconomic from the late nineteenth century; many heaths were abandoned or turned to other uses such as farming, forestry, mineral exploitation, or development for leisure activities. As a result heathlands have declined in area across north-west Europe and those that remain cover but a small part of their original extent.

The Pebblebed Commons were more open in the past when use by local communities and the military was much more intensive

The East Devon Pebblebed Heaths (also called the Pebblebed Commons) cover some 1400 ha and are located on the Triassic Budleigh Salterton pebble beds between the Exe and Otter Estuaries about 7 miles south east of Exeter. It has been estimated that some 640ha of the heaths have been lost since 1906. Some 1112 ha of the Pebblebed Heaths are notified as a Site of Special Scientific Interest (SSSI) for their distinctive heathland habitats and wildlife. They have also been designated as sites of European importance for their heathland habitats, birds and invertebrates. Grazing management for nature conservation on this area has been undertaken since 1989. The Pebblebed Heaths are also part of the East Devon Area of Outstanding Natural Beauty which was designated in 1963.

These heaths make up the largest block of lowland heath in Devon. They are a nationally important representative of the lowland heathlands of Britain and north-west Europe. A significant feature of the site is the diversity of heathland communities, related to the Pebblebed's large area and the range of substrates and topography. The higher and drier areas are covered with heath dominated by heather; bell heather, western gorse, bristle bent-grass and purple moor-grass.

A series of shallow valleys display distinct changes of vegetation where the dry heath gives way to wet heath with flushes on the valley sides, and to valley mire with patches of willow scrub mainly on the valley floors. Bell heather is replaced here by

Bell heather

cross-leaved heath and sedges, herbs and orchids with plants of wetter mires such as bog asphodel, sundews and pale butterwort.

There are 21 breeding dragonfly species including the nationally rare southern damselfly, as well as bog bush crickets and rare species of beetles and flies.

The Nightjar is a specialised heathland bird which catches insects in the air at night. The Pebblebed commons hold a large and important breeding population of this species

Over 70 breeding bird species have been recorded notably nightjar, hobby and Dartford warbler, all three of which are designated as rare or vulnerable species in Europe.

These heaths were first occupied during prehistoric times, and have a wealth of archaeological features. Down the centuries they have been subject to the traditional uses of grazing (often associated with burning) turf cutting and mineral extraction and have also been used by the military since Napoleonic times. They have been open to the public since 1930 and public rights of access were ensured in perpetuity by the Countryside and Rights of Way Act 2000 (CRoW Act). The heaths are registered as commons and under the Commons Act 2006 consents are needed for any structures such as fences, buildings or surfacing of car parks. The Commons are a much valued open space for dog walkers, horse riders, mountain bikers, model aircraft flyers and others. They are also used by the Royal Marine Commandos who have a lease over part of Woodbury Common for a grenade range and a licence over the rest of the Commons for training, mostly on foot and without live ammunition.

Most of the heaths have been under a single ownership for many centuries and are now managed by the Pebblebed Heaths Conservation Trust (the Trust), with some areas leased or owned by the RSPB. (Other areas are privately owned and managed by the Devon Wildlife Trust).

To maintain their conservation interest, the Pebblebed Heaths need continual management, to keep pace with the encroachment of trees, scrub and bracken. Annual inputs of atmospheric nutrients, particularly nitrogen, cause deterioration of the heathland vegetation and help to drive a conversion from heathland to grassland. In damp and wet heath the grass which comes to dominate is purple moor grass, which now covers large areas of the Commons.
The accumulated nutrients can be reduced by controlled burning or mowing, or removed by turf stripping, but too frequent mowing or burning encourages grasses at the expense of heather and turf stripping can damage archaeology. Grazing is usually less effective at removing accumulated nutrients but can help to reduce annual increments and diversify the vegetation structure.

The Pebblebed Heathland managers have used a combination of all these managements depending on circumstances on particular sites.
Wild fires have also been a major problem in the past. Human use appears to be increasing and could pose problems from disturbance, erosion and other effects in the future.

Cyclists enjoying the open landscapes of the Pebblebed Commons

In 2007 the heaths were accepted into the Higher Level Stewardship funding scheme, which will run until 2017. The scheme is administered by Natural England, the Government's conservation agency, and payments are made to ensure the heaths are managed to maintain and enhance the heathland plant communities and special bird and invertebrate populations. Natural England has carried out assessments of the condition of the heaths and concluded that they are mostly in an unfavourable condition for their wildlife due to a lack of management in the past and the growth of scrub and bracken and spread of grass, but that they are now recovering because of the management undertaken during recent years.

Natural England has set out a range of criteria for achieving favourable condition of the lowland heathland and management is directed towards achieving these. This requires:

- Ongoing control and management of woodland, scrub, gorse and creation of bare ground

- Management of plant communities to achieve a mosaic of different ages and heights across the vegetation types of the heaths for the benefit of the associated flora and fauna
- Control of grasses spreading at the expense of the dry and wet heath and mire communities

Management of these important open spaces for people is also needed and includes:

- Providing a range of facilities to improve people's enjoyment and appreciation of the heaths
- Managing visitor pressures to minimise the impact on wildlife and the environment.

Choices need to be made about what management techniques to use in the future and where. It should be emphasised though, that while any decisions may set some short and medium term objectives and prescriptions, they will not be set in stone. The Trust and RSPB see the management of the heaths as being an evolving process with changes taking place to reflect the needs of the local community and visitors and the conservation of the wildlife as these too develop.
This paper includes an examination of the management problems and suggests solutions, presented as a range of options with their advantages and disadvantages, for consultation.

Grazing has been re- introduced within seasonal enclosures on the Commons to manage the wet heath and mires in recent years, helping to maintain the populations of the rare southern damselfly

A fuller report considers the background and main issues affecting the site and examines the need for management of the heaths and associated habitats, for wildlife and people. The available options are then described in more detail including mowing, burning, scraping and the implications of continuing and extending grazing. This report and a shorter version are available on the Trust page of the website www.clintondevon.co.uk/.

Options appraisal

The main mechanisms for managing lowland heath are turf cutting, surface scraping, mowing, burning, herbicide spraying/bruising/cutting (for controlling bracken), grazing and removal of encroaching trees and scrub. Management for visitors includes provision of facilities (e.g. car parks, viewing points, seats), provision of information (e.g. notice boards, maps, leaflets, talks, guided walks), and provision and maintenance of routes (e.g. paths, bridleways, boardwalks, bridges). Estate and forest management includes felling, planting and maintenance of plantations and other woodland, maintenance and repair of scheduled monuments and other features, provision and maintenance of fire breaks, removal of fly tipped material, dumped cars and litter, and maintenance of structures such as gates and stiles.

Path maintenance is a regular task for the site managers

Most of these activities already take place with the site managers and their staff and contractors carrying out annual work programmes across the heaths, some of which is repeat work on rotation in areas previously managed. Much of this management is essential maintenance work, with substantial annual input, leaving limited resources for major new initiatives.
Many of these actions involve choosing priorities and making choices about the levels of activity necessary to achieve objectives. Broad objectives for wildlife conservation are clear, to achieve and maintain favourable condition for the features for which the site has been designated. However, objectives for visitors are often less clear as they involve judgements about the level of services to provide within the resources available.

There follows an appraisal of the options for continuing with existing management levels, or increasing or reducing these. More detailed descriptions and qualifications are included in the main report with further detail in the Appendices. The Heaths are designated as a Special Area of Conservation (SAC) and a Special Protection Area (SPA). These are both European designations for scarce and vulnerable habitats and bird species. They are also an SSSI under national legislation.

Under the CRoW Act such sites must be managed to restore and maintain favourable condition. Without appropriate management, the wildlife interest on the Pebblebed Heaths will deteriorate. Apart from being contrary to the objectives of the PHCT and RSPB as site managers, this could trigger greater involvement by Natural England to safeguard the future of the European site. For the conservation bodies, as managers of the heaths, to do nothing is therefore not an option.

Options appraisal

Options	Pros	Cons
Tree and scrub clearance		
Carry out landscape assessment of options	Will inform options on extent of clearance on heaths and management of adjoining woodlands and plantations. Would help to justify and explain chosen options to the public	Could delay formulation of future work programmes Could produce conflicting objectives between conservation work and landscapes
Maintain existing balance of trees/heath	No increase in existing resources In accordance with existing work programmes No additional assessments needed Existing levels accepted by public	May not recognise and address long term trends in encroachment rates May not fully exploit opportunities for heathland restoration
Continue to work towards HLS/NE targets for % cover of trees/scrub on the heaths	Attracts funding Improvement in NE condition assessment	Targets may be revised in future if, in hindsight they prove to be too little or too much
Increase tree cover on heaths for landscape/amenity	Could balance public perceptions of tree clearance elsewhere Could have wildlife conservation benefits, e.g. invertebrates and nightjar foraging, depending on tree species Could be part of overall landscape plan	Would require careful assessment of conservation, landscape and amenity effects Could increase regeneration rates of trees elsewhere on site through seed dispersal
Extend heath/acid grassland by clearing some plantations	Would restore areas of former heathland and increase heathland resource Could improve wildlife links between adjoining heaths Some plantations could be converted to sacrifice areas for public close to car parks (e.g. disturbance, dog mess) Could be part of overall landscape plan	Could reduce area of commercially valuable forestry Might require environmental impact assessment under regulations Might require some initial reseeding Could result in increased management to prevent reversion to woodland or gorse
Convert some plantations to broad leaved	Would be benefits to wildlife depending on species planted Could benefit visitor experience Could be part of overall landscape plan Would improve nightjar foraging habitat	Could affect medium to long term forest plans and income/cost projections Limited choice of broadleaves on acid soils
Gorse management		
Maintain existing proportion of area covered by gorse	No increase in existing resources In accordance with existing work programmes No additional assessments needed Existing levels accepted by public	May not provide optimum conditions for Dartford warbler
Increase gorse stands for Dartford warbler	Could allow increase in Dartford warbler distribution and breeding population	Could be labour intensive Dartford warblers already well distributed over most of heathlands so might not be priority
Increase gorse coppicing programme	Coppiced gorse at various stages provides foraging, nesting and winter cover for Dartford warblers and stonechats Improved winter survival could be more important than wider distribution	Requires generally small, scattered areas so increases machinery travel across heaths Could open up areas to people and dogs Material should be removed to avoid increasing nutrients
Break up large gorse thickets and remove roadside gorse	Large thickets not optimum for Dartford warblers Removal of roadside gorse will reduce use by Dartford warblers and reduce road kills of birds Roadside gorse could hide any fences that might be proposed	Large thickets in strategic positions may deter people and dogs from sensitive areas Roadside gorse conceals grazing animals from motorists and vice versa if grazing with cattle grids was proposed
Bracken management		
Maintain existing proportion of area	No increase in existing resources	Little evidence on long term trends, could result in slow

covered by of bracken	In accordance with existing work programmes No additional assessments needed Existing control levels accepted by public	increase in bracken cover
Increase programme of bracken control	Possible withdrawal of Asulam could mean an enhanced programme of control for three years would be a once only opportunity of control by spraying Less bracken could reduce ticks and likelihood of tick infestation of domestic stock and pets and Lyme disease in humans	Major aerial spraying programme could be unpopular with public Little advantage if not followed up in later years Bracken cutting or bruising seen as more environmentally acceptable by public
Chemical control of purple moor grass		
Start control programme		Untested technique on lowland heaths, with unknown side effects. Needs lengthy experimental testing
Conservation mowing		
Maintain existing programmes	Maintains proportion of pioneer heather within dwarf shrub mosaic No increase in existing resources In accordance with existing work programmes Can guide or improve access and fire breaks Single mowing reduces some accumulated nutrients if mowings removed from site. Mowing widely accepted as a normal habitat management technique by public	Existing heather rotation probably needs expansion Cannot be used on broken, rough or wet ground or among tree stumps Trends in percentage areas of pioneer, building, mature and degenerate heather unclear as guide to adequacy of existing programme Can open up sensitive areas for people and dogs and create new path systems
Extend mowing regimes	Increases mosaic distribution and size Greater benefits to associated plant and animal communities Greater opportunities for temporary extension of firebreaks	Too frequent mowing can encourage grasses Greater resource commitment
Reduce mowing regimes	Lower commitment of resources Reduces machinery use on heaths	Reduces mosaics and habitat niches for wildlife Accumulation of older heather communities stores problems for the future
Surface scraping		
Maintain existing programmes	Removes nutrients and creates bare ground habitat for invertebrates Surface only, leaves lower archaeological record intact Can remove substantial parts of bracken rhizome systems	Existing provision of bare ground probably not enough Can open access for people and dogs in sensitive areas Can be seen as unsightly in the short term Cannot be used on broken, rough or wet ground or among tree stumps May need survey for archaeological surface features which could be damaged Creates spoil for spreading or disposal
Extend existing programmes	Increases bare ground provision	Increases spoil disposal
Reduce existing programmes	Reduces spoil disposal	Reduces bare ground provision
Turf stripping		
	Removes most accumulated nutrients Creates bare ground for annual plants, lower plants such as mosses and invertebrates	Can damage archaeological features on and under ground surface Can leave unsightly areas in medium term Cannot be used on broken, rough or wet ground or among tree stumps Can create large quantities of material for disposal Future turf stripping would need archaeological survey
Controlled burning		
Maintain existing programmes	Maintains existing proportion of pioneer heather within dwarf shrub	Existing heather rotation from burning (and mowing)

	mosaic No increase in existing resources In accordance with existing work programmes Accepted as part of management regime by public	probably needs expansion Can concern public for health and safety reason Leaves unsightly area short term Controlled burning might encourage arsonists Needs right weather conditions within limited burning season with wide variation in areas burned each year Careful planning of rotation can be upset by wild fires
Extend existing programme	Improve rotational areas and mosaics for associated wildlife	Labour resource intensive
Reduce existing programmes	Reduces demands on labour	Reduces benefits for wildlife Accumulation of older heather communities stores fire problems for the future
Grazing		
Maintain existing programmes	Small enclosures allow targeting of specific areas and control of stocking densities Experience shows that adequate stocking densities control purple moor grass and encroaching scrub and encourage plants and invertebrates Can be managed with existing resources	Enclosures need to comply with size limits in Commons Act, or if larger need Secretary of State approval Grazing in enclosures minimises nutrient removal Only some wetter areas currently grazed Risk to stock in enclosures from dog worrying and fires Fences around enclosures get broken regularly by Royal Marines on nightime exercises
Extend grazing to rest of heaths	Extensive grazing benefits heathland plant and animal communities Extensive grazing allows animals to behave more naturally in environment Animals would have more opportunities to escape dogs and fires Extensive grazing patterns mimic natural situation with wild herbivores Natural grazing most effective for nutrient reduction	Animals choose their own grazing areas so grazing not targeted Finding and checking animals can be labour intensive although this can be helped by tracking technology Public can be nervous in the presence of free ranging stock Would need dedicated areas for sick or injured stock and back up procedures to ensure animal welfare
Introduce shepherding for extensive grazing	Shepherded animals can be targeted at areas which will benefit most from grazing Shepherd can be good advocate for grazing Public generally enjoy seeing grazing animals on heaths	Shepherding ponies is not possible and shepherding of cattle is untried. Shepherding confined to sheep Despite shepherd and guard dogs sheep can be chased onto roads Possible interactions between guard dogs and other dogs
Perimeter fencing for extensive grazing with or without cattle grids	Animals contained and kept off roads Fences also assist in keeping children, dogs and stray horses off roads Access retained by gates at all existing access points Fence can be concealed where there is perimeter scrub Cattle grids can reduce need for fencing, and allow joining up of commons for more extensive grazing	Large capital cost initially Fence can be visible on boundaries without scrub Temporary electric fences vulnerable to damage and theft Fences require approval from Secretary of State Cattle grids unpopular with some road users Cattle grids need approvals, are costly, and with animals on roads, require speed limits and traffic calming
Sheep grazing	Sheep maintain short swards with benefits for some plants and animals Sheep are relatively easy to handle Sheep generally are very safe with people	Sheep grazing on tall, tussocky, vegetation not effective Free range sheep are very vulnerable to attack by dogs Back-up land for lambing and wintering is required Sheep do not tend to move into fringing woodland at night so nutrient reductions are small Sheep trampling has limited benefits for plants
Pony grazing	Ponies will graze tall coarse vegetation Ponies will move into wet areas to graze	Ponies can be a real nuisance around entrances and car parks if fed by the public

	Ponies have a large vegetation throughput so are effective grazers Trampling by ponies can benefit plant and animal communities Ponies can be out wintered on heathlands	Ponies, particularly stallions, can cause problems for horse riders, In hard weather ponies may need feeding for which back-up land is required
Cattle grazing	Cattle will graze tall coarse vegetation Cattle will move into wet areas to graze Trampling by cattle can benefit plant and animal communities Some traditional breeds are very docile and ignore public and dogs Will not be fed by public	Young stock can be boisterous and can alarm visitors Bulls can cause concern to visitors Can be out-wintered but need feeding and this requires back-up land. Land also needed for calving and bulling All stock need regular checking
Combination management		
	Grazing by cattle or ponies following burning or mowing can encourage dwarf shrubs Burning can clear the ground prior to surface scraping or turf stripping and assist archaeological examination Mowing provides a shorter sward for grazing by sheep Surface scraping can reduce bracken growth prior to spraying Bracken mowing or bruising can open up swards for grazing Different managements inevitable if site is to be fully managed	Sheep grazing after burning/mowing encourages grasses Needs careful explanation to public Increases staff training needs and requirement for external inputs
Management for visitors		
Maintain existing facilities	No increase in resources needed Limits visitor impacts	Current knowledge on visitor requirements and views limited Some existing facilities modest and in need of improvement Existing facilities do not sufficiently explain the substantial input by the land managers
Improve and extend existing facilities	A visitor survey could provide basic information on visiting patterns and perceived needs and views Better education and information to visitors about management of heathland and do's and don'ts of visiting reduce impacts on wildlife and Increases enjoyment of visitors Improvements to car parks, paths and bridleways reduces accident risk Raises profile of site and site owners and managers Improving facilities allows better management of visitors in relation to sensitive habitats and species Could reduce conflicts between different visitor groups Foster a better understanding between different visitor groups including more information on the benefits of site use for military training	To determine priorities will require research on visitor views and needs Requires increased resources Possible introduction of car park charges to help pay for improvements
Reduce visitor facilities	Reduces inputs of resources May reduce impacts on wildlife in some areas	Lowers profile of site owners and managers Increases risk of accidents Lowered visitor facilities could lead to site deterioration through an increase in undesirable activities Loss of public understanding and support for management