

Views About Management



A statement of English Nature's views about the management of Whernside Site of Special Scientific Interest (SSSI).

This statement represents English Nature's views about the management of the SSSI for nature conservation. This statement sets out, in principle, our views on how the site's special conservation interest can be conserved and enhanced. English Nature has a duty to notify the owners and occupiers of the SSSI of its views about the management of the land.

Not all of the management principles will be equally appropriate to all parts of the SSSI. Also, there may be other management activities, additional to our current views, which can be beneficial to the conservation and enhancement of the features of interest.

The management views set out below do not constitute consent for any operation. English Nature's written consent is still required before carrying out any operation likely to damage the features of special interest (see your SSSI notification papers for a list of these operations). English Nature welcomes consultation with owners, occupiers and users of the SSSI to ensure that the management of this site conserves and enhances the features of interest, and to ensure that all necessary prior consents are obtained.

Management Principles

Caves

Caves represent a very important scientific resource for a number of reasons. Caves themselves provide important information on environment, climate and landscape development over the last several million years. Caves often contain sediments deposited by underground rivers that are also important in the study of environment and climate change in the recent geological past. Some caves contain animal bones where the animals once used the caves for shelter. On the surface, these bones and sediments would not have been preserved but would have been destroyed by weathering and erosion. Bones and artefacts from our early ancestors are also preserved in caves. Cave formations, such as stalactites and stalagmites, are important for a range of studies, including scientific dating, and are also of great aesthetic value. In addition, caves are an important habitat for bats and invertebrates.

Caves are sensitive systems which often suffer significant pressure from human activities, both above and below ground. It is important to manage the overlying land and catchment in a manner which takes account of potential consequences on the caves. Groundwater pollution from fertiliser, spreading of agricultural or industrial waste on land and dumping of rubbish or other waste in swallow holes or cavities are serious problems in some caves. Activities, such as pumping groundwater or

diverting water courses, can affect the groundwater regime through cave systems and have serious effects on the dynamics of the system.

Blocking of cave entrances can also have serious repercussions below ground in altering air flow with consequent effects on underground climate. For example, the growth of stalactites and stalagmites is dependent on water composition, air temperature and humidity. These are easily perturbed so that growth is altered or ceases. Activities that may vary the amount of light available within the cave should also be considered carefully. Quarrying can result in partial or complete destruction of caves, or can disrupt their underground or surface catchment.

Direct pressures underground can arise from irresponsible caving. Problems associated with caving include inadvertent physical damage to cave features such as cave formations (flowstone, stalactites and stalagmites) and cave sediments, destruction of cave sediment deposits through irresponsible cave exploration, pollution and removal of cave formations or other minerals by collectors. The National Caving Association's guidelines on responsible caving are supported by English Nature and provide important information on caving and conservation.

Positive management of caves may require good access management which is often best undertaken by responsible local caving clubs and associations. Gating can be a solution to controlling access to sensitive caves, with access maintained by responsible caving groups.

The disturbance or removal of any geological material from caves can be damaging to the features that make this cave special. A precautionary approach should be adopted before removing or allowing any material to be removed from caves or before permitting any underground activities, such as digging of cave sediments, which could cause permanent loss or damage.

Limestone pavements

Limestone pavements are level or gently sloping bare limestone surfaces with complex patterns of deep crevices (grikes) and blocks of limestone (clints). They support unusual plant and invertebrate assemblages. They are also a record of the ice ages and earth history over the past 10,000 years. The three main types of pavement are open pavements, wooded pavements and scrubby pavements.

The characteristic plant communities of open pavements are often sparse and are largely the result of a long history of grazing. The plants are generally restricted to deep and narrow grikes that provide a refuge from grazing, although there may be a few scattered trees. The grikes also provide sheltered, humid conditions important for a variety of invertebrates. Management should aim to maintain open conditions but should ensure grazing levels are light enough for plants to flower, set seed and spill out onto the clint tops. If the plants are confined to the grikes only, grazing levels are probably too high - plants and flowers need to poke up out of the grikes and onto the rock surface. Some areas can be left ungrazed to increase the diversity of the limestone pavement resource as a whole. Cattle are often the preferred stock, as they tend not to venture onto the pavement surface and hence the pavement remains little grazed. The precise timing and intensity of grazing will vary both between and within

sites, according to local conditions and requirements, such as type or availability of stock – on some sites sheep grazing may be a more likely practice. High rabbit populations may also impact on the vegetation and control may be necessary.

Wooded limestone pavements have a closed canopy of trees and shrubs covering the clints, and there is often a dense moss carpet. They have usually developed where domestic grazing is very light or absent, though deer or rabbits may be present. A key feature of wooded pavements is their open glades. Management should aim to maintain these glades which are important for plant and invertebrate species, especially butterflies. Coppicing is likely to benefit many of the species characteristic of wooded glades and should generally be maintained if it is currently practiced. It may also be appropriate to re-introduce coppicing where it has traditionally been practiced but has currently lapsed. Where wooded pavements are managed as high forest, it may be appropriate to thin or fell certain areas to open up the canopy and create glades. Species such as juniper, yew and hazel are characteristic of this habitat and should be retained in favour of alien species, such as sycamore and conifers, which may reduce the variety of species present, for example, by shading or acidification. It may also be necessary to remove shrubs, such as bramble and blackthorn, if they become too dense. If deer numbers are causing damage to the habitat it may be necessary to exclude them with fencing or other means of control.

Scrubby limestone pavement contains some of the features of interest of both open and wooded limestone pavement. These areas are valuable in their own right, especially when dominated by native species such as hazel and juniper, and should be retained rather than changed into either open or wooded pavement. Invasive species, including, for example, bramble, blackthorn and gorse, should be removed where they are shading out the native pavement flora. Where woodland cover threatens to dominate, coppice management or the reintroduction of low levels of domestic stock should be considered.

As limestone pavements have taken such a long time to develop, if they are damaged they will never re-form. Stone must not be removed or disturbed and grikes must not be infilled with spoil. Surrounding watercourses and drainage should not be interfered with, nor should water abstraction take place.

Supplementary stock feeding on the surface of the pavement would destroy the natural vegetation and must be avoided.

Scree and ledges

The thin soils and physical structure of scree and ledges can support rare plant and animal communities not found elsewhere. Many plants use scree and ledges as a shelter from extremes of climate, from competition with more dominant plants found in the surrounding landscape, and as a refuge from grazing. A number of birds of conservation importance, such as peregrine falcon, also use rock ledges as safe nesting sites.

The key management principle on scree and ledge habitats is the control of grazing stock. Low levels of grazing can be beneficial in certain circumstances - light grazing can prevent invasive scrub from shading out the less vigorous plants. Where scree is

grazed in this way, calculation of the appropriate stocking density for managing the conservation interest of the surrounding habitat should be based on the area of the overall grazing habitat available excluding the area of scree. Where species or communities of conservation interest are restricted to areas of rock and scree by heavy grazing, it may be necessary to consider reducing stock levels on the surrounding land to allow grazing intolerant species to spread from their scree refuges. Alternatively, fencing-off some areas to control stock may be necessary if it is not possible to reduce stock numbers. Heavy grazing can also disturb screes, reducing their suitability for a variety of insects that shelter beneath loose stones.

Species that are associated with scree and crags may require protection from damage and disturbance caused by walkers and rock climbers. Scree is highly unstable and the fragile plant communities that develop within it are easily damaged by frequent trampling. Wherever possible, new footpaths should be routed around scree rather than through it. The routes used by climbers and the time of year they use them may require careful management where cliff-nesting birds are known to be present. Disturbing and removing stone from ledges and scree can also be very damaging to the species they support and should be avoided.

Upland acid grassland

Upland acid grasslands develop on nutrient-poor, acidic soils and are a natural component of the uplands. When found in a mosaic with other habitats, such as dwarf shrub heath and mire communities, acid grasslands can be an important addition to the diversity, structure and function of the upland landscape. More commonly they occur as extensive areas covering large areas of the uplands as a result of heavy grazing on dwarf shrubs, including heathers.

Where the objective of management is to retain acid grassland as part of the upland mosaic, active management is required. If neglected, the build up of dead plant material may suppress less vigorous species and reduce the species and structural diversity of the site. Traditionally, acid grasslands are managed by grazing. However, the precise timing and intensity of grazing will depend on local conditions and requirements, such as the need to avoid trampling ground-nesting birds. Especially, if part of a mosaic, the grazing impacts on adjoining habitats such as heath, bog, flushes and limestone grassland needs to be taken into account.

On other areas of upland acid grasslands the objective of management may be to restore the dwarf shrub vegetation characteristic of upland heath. Where this is the case, a reduction in grazing pressure is likely to be required. Indeed, it may be necessary to remove grazing altogether for an initial period and it will usually be appropriate to avoid winter grazing in the long-term. The ability of dwarf shrub heath to recover depends on a number of factors, particularly whether or not heather and other dwarf shrubs are still present in the grass sward, and at what frequency. If there is some heather present, then grazing should be removed from these areas first. The soil under grassy areas previously dominated by heather may contain a large and viable seedbank, so light disturbance of the ground surface may be a useful technique for restoring areas that have only been recently replaced by grassland. Different types of upland heath may require different management techniques to restore them, for example, to recreate wet heath, water levels may need to be raised.

Occasional management of invasive scrub and bracken may be necessary on some sites, although these habitats can also be of wildlife interest in their own right.

Dry upland heath

Dry upland heath develops in nutrient-poor, acidic conditions and is dominated by dwarf shrubs, especially heather. Upland heaths can support a rich variety of plants and animals, including many rare and scarce species of plants, birds and invertebrates. The physical structure of the vegetation is one of the reasons for this; a good mixture of large, old dwarf shrubs along with patches of shorter vegetation will provide feeding, breeding and sheltering areas needed by birds, insects and other plant species.

Dry upland heaths have a long history of active management. Grazing is a very important form of management but must be carefully managed. The numbers and types of grazing animals present as well as the duration and time of year of grazing are all important in determining the value of the vegetation to wildlife. Too little grazing could, in the long term lead to excessive domination of trees and shrubs. Too much grazing (especially in the autumn and winter whilst plants are not actively growing) leads to loss of dwarf shrubs and domination by grasses and rushes. Increasing altitude and wetness reduces the ability of moorland vegetation to cope with grazing pressure. Supplementary feeding can also have a significant effect on vegetation and cause damage.

On sites where grazing has been heavy in the past, a period of no grazing, or very low grazing levels can be beneficial as it allows dwarf shrub plants that have been suppressed to recover in size and vigour.

Burning has both advantages and disadvantages which should be carefully weighed up on a site by site basis, in discussion with English Nature. Burning can be helpful in influencing how grazing animals distribute themselves across the site, for the provision of firebreaks (to control possible wildfires) and some species may benefit from the breaking up of large stands of even-aged heather. However, burning can also be damaging and reduce structural diversity. Some plant species are sensitive to burning and could be lost and excessive burning could result in insufficient cover of the mature heather needed by some nesting birds (e.g. Merlin). Burnt sites, especially with thin soils and steep slopes can be vulnerable to soil erosion. Burning can also encourage bracken or gorse invasion (which benefit from the nutrients released from the ash).

If burning is carried out, it should only be undertaken during the winter and should follow an appropriate burning rotation in order to create a mosaic of habitats with vegetation of different ages, composition and structure, which in turn supports a wide diversity of species. Areas with particularly sensitive species or habitats should be identified and avoided. Burning should not be carried out unless a suitable grazing regime is in place because heavy grazing of land that has recently been burnt (especially in winter) can prevent regeneration of the dwarf shrubs and lead to a rapid conversion of the site to grassland.

Cutting is a possible alternative to burning on dry heath. If cutting is used, care must be taken to remove the resultant litter, or germination of seedlings will be inhibited. Cutting can be usefully employed to create firebreaks. However, care must be taken when using the machinery required for cutting as this can be damaging to fragile peat soils, in particular those of wet heaths and the use of machinery should be avoided where possible on wetter areas.

Blanket bogs

Blanket bogs are a peatland habitat confined to cool, wet climates. Peat forms where certain plants decompose very slowly under waterlogged conditions. In ideal circumstances, the peat develops over large expanses of uplands, effectively 'blanketing' them. The wet, nutrient-poor growth conditions provided by peat means that the bogs and their associated pools support unique communities of specialised plants and animals. They can also be important habitats for breeding populations of wading birds.

Many of these habitats have traditionally been managed for livestock and/or for grouse shooting. Where this management has been intensive, damage may have occurred through overgrazing, burning and drainage. However, the nutrient-poor and waterlogged conditions of blanket bogs that are not degraded and are in 'favourable' condition often means that very little management is actually needed and such sites should require little intervention. On some sites light grazing may be beneficial. This can be used to control the development of invasive vegetation on the blanket bog, especially on those sites that may have suffered from drainage and previous intensive management. However, care needs to be taken in deciding the precise timing and intensity of grazing. As a general rule, the wetter a site is, the greater the sensitivity to grazing. Light summer grazing by sheep is likely to be an acceptable regime. Heavy grazing must be avoided, as it may lead to an increase in the cover of grazing tolerant plants, such as purple moor-grass, and a consequent reduction in the extent of important moss and lichen species, and can also cause damage through trampling.

Burning blanket bog can also reduce its conservation value by reducing the diversity of plant and animal species present on the bog, and should not be introduced on high quality blanket bog. On peat, burning can gradually lead to an increase in the cover of heather to the exclusion of other plant species. Certainly, sensitive areas, such as those that contain pools should not be burnt, as it can be very damaging to the invertebrate and amphibian populations that they support. Burning can also damage the peat soils themselves and can prevent the formation of new peat. This can result in peat erosion and the loss of peat by wind or water. In areas where the risk of accidental fires is high, firebreaks can be cut, providing care is taken when using the necessary machinery to avoid damage to the underlying peat.

No new drainage should be introduced to blanket bogs and deepening of any existing drains or grips should be avoided. It is likely to be necessary to block existing drains to prevent further drying out of the bog and damage to peat soils. On sites that have been degraded, it may be necessary to undertake further restoration works. It is also important to protect peat and peat-forming systems, as they can hold a significant store of carbon.

Limestone grassland

Limestone grasslands occur on shallow soils over limestone rock and can support a rich variety of plants and animals, including a number of rare plant species. A distinctive feature is the high proportion, and variety, of flowers within the grassland sward. Management plays an important role in the survival of limestone grassland habitats and is important for maintaining the characteristic species-rich sward associated with these grasslands. Without management limestone grasslands may rapidly become dominated by ranker grasses, lowering the species diversity of the site, which may eventually become dominated by scrub .

Traditionally, management of limestone grassland is achieved by grazing. The precise timing and intensity of grazing will vary both between and within sites and may need to be judged on a year by year basis. Low stocking rates can help to create a diverse mosaic of tall and short vegetation, which can support a wide range of wildlife and is especially valuable to invertebrates. Some winter grazing can help prevent the build-up of vegetation and stop scrub invasion, whilst still allowing plants to flower and set seed. More intensive grazing during the summer months can encourage the spread of the more common and competitive grass species, which are able to survive and reproduce despite being repeatedly defoliated during the growing season. Heavy grazing should be avoided as it is more likely to result in a uniformly short and less diverse sward, which is likely to be of lower nature conservation importance. Supplementary feeding can also have a significant effect on vegetation and cause damage.

Flush and spring fen

Groundwater sometimes breaks out on the surface, either as gentle seepages, which give rise to flushes, or through greater flows that are evident as springs. The plants and animals that occur in and around these habitats are dependent on the water chemistry and flow rate. Mosses, liverworts, sedges and rushes are common and often predominate, whilst several species of orchid are also associated with these communities.

The quantity and quality of the groundwater must be maintained, though the quantity is not likely to be naturally constant throughout the seasons or between wet and dry years. Groundwater is often susceptible to contamination by agricultural fertilisers, or by pollution leaking from landfill sites

Grazing is often required to keep the vegetation short and open around springs and flushes. The precise timing and intensity of grazing will vary according to local conditions and requirements but should aim to keep a relatively open sward without causing excessive poaching. Feeding of stock should take place well away from the springs (and any other sensitive habitat), and the location of structures such as animal shelters should not encourage the animals to gather in the area. This is to ensure the springs and flushes do not become enriched by nutrients from animal food or dung, or even from carcasses. Light trampling by grazing animals can be of benefit in moderation by breaking down leaf litter and by creating areas of bare soil, needed by some invertebrates and mosses and for seedling establishment.

Drainage schemes should not intercept the source of groundwater to springs or flushes, or reduce the area of surface they irrigate.

Species interest

The vascular plant flora of the site is of special interest. The species are found in the above habitats and in general the management described above will meet their needs. There may however be circumstances when specific management measures are needed to ensure the well-being of a species. In these situations the management will be discussed and agreed on a case by case basis.

All habitats

The habitats within this site are highly sensitive to inorganic fertilisers and pesticides, applications of which should be avoided both within the site itself and in adjacent surrounding areas. Herbicides may be useful in targeting certain invasive species, but should be used with extreme care. Access to this site, and any recreational activities within, may also need to be managed.