



Management of Acid Grassland



Acid heathland/grassland mosaic at Hothfield Heathlands © Kent Wildlife Trust

This leaflet is designed to give owners of acid grassland some general recommendations on how to manage their land and assumes that the primary objective is to manage the land for nature conservation purposes. Other advice sheets are available and are listed in the Further Reading section.

Acid grassland in Kent

Species-rich acid grassland is mainly found on the Greensand Ridge, in the High Weald and in parts of the Blean, Dartford and Dungeness areas, although occasional patches occur on sands and gravels overlying the chalk in the Downs. It is a particularly rare habitat, of which only 512 hectares are left in Kent (ARCH Kent Habitat Survey 2012) and it is listed as a Priority Habitat in the Kent Biodiversity Action Plan. It tends to be associated with parkland, old pastures and commons, and it is often found in mosaics with heathland and woodlands.

Up until the Second World War, traditional grazing practices ensured that grasslands were grazed in a low intensity, wildlife-friendly manner, resulting in habitats which were botanically very diverse.

From the 1940s onwards, more efficient farming techniques such as better drainage and chemical inputs, together with farming subsidies, all contributed to change the way our grasslands were used: many areas were either 'improved', ploughed up for crops, or left ungrazed and gradually taken over by scrub and woodland. Other areas were lost to development, quarrying, road construction and tree planting. Since then, traditionally managed, wildflower-rich grasslands have declined nationally by 97%; their disappearance is thought to have led to the drastic decline of many species including bumblebees, farmland birds and wildflowers. It is therefore important that land managers and conservationists across Kent work to re-establish a network of acid grassland.

This advice sheet contains information about the following topics:

- the importance of this habitat in Kent
- species associated with this habitat
- choosing a management regime for your site
- increasing the plant diversity of the site
- choosing livestock and finding a suitable grazer
- protected species
- dealing with ragwort and other problem plants
- dealing with scrub
- references and further reading
- further advice



Betony © I.Rickards



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Knole Park © C.Blackburn



Comma butterfly on devil's-bit scabious © I.Rickards



Keeled skimmer dragonfly © Kent Wildlife Trust



Female adder © Dr Lee Brady

Species associated with acid grassland

Acid grassland occurs on free-draining, nutrient-poor soils such as sandstones and gravels. The diversity of plant and animal species found tends to be lower than on other grasslands, but these species are more specialised and able to cope with a low soil pH of between 3.5 and 6.0 and a usually short, open vegetation structure. Acid grassland often occurs in a mosaic with other habitats such as heathland, bog, or along woodland rides. The wildflower species listed below provide a rough guide as to plants which are indicative of unimproved, species-rich acid grassland, but botanical diversity will depend on many factors including past management, drainage, aspect and stocking density.

Species of grass most commonly found include sheep's fescue, common bent grass, heath-grass, wavy hair-grass and purple moor-grass.



Wavy hair-grass © I.Rickards

Wildflower species found on acid grassland in Kent: bell heather, betony, bilberry, bird's-foot trefoil, biting stonecrop, bitter-vetch, blue fleabane, broom, buck's-horn plantain, chamomile, clustered clover, common centaury, common dog-violet, common rockrose, common stork's-bill, devil's-bit scabious, dwarf gorse, European gorse, harebell, heath bedstraw, heath speedwell, heather, heath spotted-orchid, lady's bedstraw, lousewort, milkworts, mouse-ear hawkweed, parsley-piert, pignut, rough/lesser hawkbit, saw-wort, sheep's-bit, sheep's sorrel, shepherd's-cress, slender bird's-foot trefoil, thymes, tormentil, violets, wild strawberry, wood anemone, wood sage.

Lichens, mosses and fungi such as wax cap are also associated with this habitat. Often areas of acid grassland can look very short and "devoid" of wildlife; however many of these patches are rich with moss and lichens, so make sure these areas are protected too.



Devil's-bit scabious © I.Rickards

Ground-nesting birds such as skylarks and meadow pipits will use this habitat unless it is too heavily grazed or is dominated by trees and tall scrub; softer, wetter acid grassland can provide a source of invertebrates which are essential food for rearing chicks.

Reptiles such as adder and viviparous lizard are frequently found in this habitat and like to bask on the open, warm ground (areas with short vegetation and patches of bare ground warm up faster than taller grassland areas); however, they rely on nearby cover, such as scrub, for shelter from predators.

Many species of invertebrate lay their eggs on certain species of grass or wildflower and overwinter in tussocks; areas of bare sand and soil are particularly important as solitary bees and wasps make use of the loose, sandy soil to create burrows and lay their eggs.

Where ponds occur, a particular set of species has evolved to cope with the acidity of the water, such as keeled skimmer dragonfly, which breeds only in acid ponds.

Choosing a management regime for your site

Under-grazing, or no grazing or mowing at all, results in grassland becoming dominated by coarse grasses and scrub, with the eventual loss of the characteristic acid grassland species.



Meadow pipit © Amy Lewis



Lousewort © I.Rickards



Harebells © J.Shorter

Management of these grasslands is therefore very important to maintain their species diversity.

If you have the option to get the site grazed, then this is preferable to not grazing the site at all: livestock tends to use parts of a site in different ways and so creates patches of taller and shorter vegetation. Mowing is a good artificial alternative but will create a very uniform sward. Remember to factor in rabbit grazing into your plans to manage the site – it may be that you do not need livestock. If dwarf shrubs such as heather are present, then ensure that you rotate the cutting / grazing so as to allow stands of different ages to develop.

Grazing - the preferred option:

- for established acid grassland (where the scrub and rough grasses are under control), exclude livestock from early March to July and then graze later in the year (August – December), depending on how wet the land is. Aim for a sward height of under 5cm/2 inches but allow



Grazing by rabbits may mean that you do not need to do any grazing or cutting © Richard Burkmar

some tussocks and taller grass to remain. This regime will allow most plants to set seed and invertebrates to complete their lifecycles. Do not overgraze.

- grazing in April/May can be important for control of scrub since this is the period when the livestock are most likely to tackle birch and other woody growth
- light grazing from July into the autumn will help to reduce dominance of some of the rank grasses (purple moor grass) and soft/hard rush.



Rushes may need to be controlled by grazing © Kent Wildlife Trust

Mowing (if grazing is not available):

- cut once a year in September; the later you leave the cut, the more plants will get a chance to set seed. This is particularly important if there is no grazing by livestock or rabbits taking place (or not enough). If possible, remove the cuttings since any dead vegetation (or 'thatch') will smother seeds trying to germinate and will also allow nutrients to build up on site. Do not add fertilizer.
- if there are problems with aggressive vegetation (ie. purple moor grass, birch) then cutting earlier in the year would be beneficial (July-August). If it is practical

to do so, cutting different parts of the grassland at different times of the year will create a more diverse mosaic.

Re-creating acid grassland

It is possible to re-create acid grassland from cultivated land, although this is most likely to work where the soils are thin and low in nutrient. Other factors such as weed burden, availability of local seed sources, current species composition, aspect, choice of seed mix and drainage will all affect the outcome. Further advice should be sought from Kent Wildlife Trust if this is an option you would like to consider.

Increasing the number of plant species

Grassland which has been agriculturally 'improved' over the decades can slowly have nutrient removed through grazing. Numbers of plant species may be very low and it will take several years for seed to come in from adjacent land, assuming that you have species-rich acid grassland nearby. Where possible, it is always preferable to allow seed to come in naturally or by spreading some green hay (fresh cuttings) from species-rich acid grassland. However, it is possible to increase the number of plant species by introducing seed or young plants from a local source. The seed source must be of local provenance to ensure that the seed is of a local genetic strain and therefore well-adapted to the environment (see Further Reading). For small areas, buying single species seed packs is often cheaper than buying mixes.



Bracken and birch encroaching on acid grassland © Kent Wildlife Trust

Choosing livestock and finding a suitable grazer

It is worth considering using traditional breeds which tend to cope better than modern breeds with the lower nutritional value of species-rich grassland and – in the case of some breeds – will tackle scrub and young saplings. For further information about keeping livestock and finding graziers, please read our leaflet *A brief guide to choosing livestock for conservation grazing*.

Protected species

Some protected species such as breeding birds and reptiles may use the site and you will need to take their needs into consideration. If such species are likely to be present seek advice from Natural England prior to commencement of works: <http://www.naturalengland.org.uk/ourwork/regulation/wildlife/species/>

Dealing with ragwort and other problem species

A major contributing factor to the presence of weeds is the presence of disturbed ground. This often arises from overgrazing, poaching, bonfire sites, and stock feeding areas. Also, if a site has been reseeded in the past and contains a weed species, this can persist for a long time in the 'seedbank'

(for example, ragwort seed can remain dormant for up to 20 years). If you are having problems with weeds, please see Further Reading.

Dealing with scrub

If the site has not been grazed or cut for a while, scrub such as gorse, bracken and birch can start to take over. Scrub does provide habitat for wildlife so you should ensure that you leave some blocks scattered about, at least around the edges, as they provide nesting sites for breeding birds, shelter for invertebrates and reptiles, and berries for migrating and over-wintering birds. For further advice on how to manage scrub, please read our leaflet *Scrub, its value for wildlife and how to manage it*.

Bracken can take over a site if left unchecked. However, it is poisonous to livestock and they will avoid eating it unless nothing else is available. It can be controlled through cutting two or three times a year (in June, July and August) or bruising/crushing the stems. For more information, please see Further Reading. Young birch saplings can be pulled out; older ones need to be cut and the stumps treated with herbicide in the autumn or winter: only someone with a Pesticides Certificate should do this.

Further reading and references

Kent Wildlife Trust

Land Management Advice Series

Control of ragwort, thistles and other problem plants;

A brief guide to choosing livestock for conservation grazing;

Scrub, its value for wildlife

and how to manage it;

Management of small pastures.

The Grazing Animals Project (G.A.P.)

Downloadable publications and the G.A.P. discussion forum (Nibblers)

cover a whole range of conservation grazing topics: http://www.grazinganimalsproject.org.uk/nibblers_archive.html

Natural England available to download from www.naturalengland.org.uk

- Technical Information Notes SIN011, TIN047, TIN048, on bracken management
- TIN038 & TIN060-TIN065 Seed sources and sward enhancement methods

Further information about suppliers of British wildflower seed

- Flora Locale <http://www.floralocale.org/>
- The Conservation Volunteers <http://shop.tcv.org.uk/shop/>

Obtaining further advice

For further information, please contact the Trust's Land Management Advice Service by calling 01622 662012 or by emailing info@kentwildlife.org.uk



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