

**Malvern Hills SSSI Citation: Impact of the current tight grazing on SSSI cited plants, animals, insects and birds**

The case for more lenient grazing to give skylarks the chance to re-establish on the high hills and hang on to remaining territories on the commons was presented to the Trust Land Management committee on 9<sup>th</sup> December 2017 by Save our Malvern Skylarks Campaign representatives. The submission made and report of the meeting is [here](#). (It addressed evidence for the conditions skylarks need, the likely benefit on other species and consideration of scrub management.) The land management committee expressed interest in how more lenient grazing could impact all species, not just skylarks. In response, this initial assessment has had some additional review inputs but is of course open for more.

So far it looks like, on a species by species, habitat by habitat, assessment, lenient grazing will benefit most species and not lead to the significant loss of others including animals, birds, invertebrates and plants.

Species/Habitat	Impact of more lenient grazing	Comment
<b>Habitat summary</b> – mainly neutral as only two habitats are skylark territory and many of the rarest plant species are in the other specialist habitats		
Upper slopes unimproved acidic grassland.	Positive	<p>This is the high hills skylark territory. Biodiversity seems to have suffered through more intensive grazing which has increased unwelcome coarse grasses and the impact on mammals, birds brown butterflies and insect life has been negative too.</p> <p>However when grazing stopped altogether there was some loss of moss (one in particular, <i>Polytrichum juniperinum</i>) and lichen species and a steady increase in the occurrence of Bilberry in this mid slope zone on the East side of the Worcestershire Beacon. This may be an exception to the fact that significant scrub incursion on the upper slopes did not happen even when grazing ceased for 10 years from 1992.</p>
Short turf in shallow soil on ridgeline	neutral	<p>Important because contains many ephemeral plants but does not depend on grazing to keep short and would not be compromised by 20cms plus in surrounding grassland. This habitat has never needed grazing to keep it short because of the paucity of the soil. To the extent it has, rabbits have done the job. The key point is that the Spring Ephemerals on the thin soils of the ridge top are unlikely to spread further under tight grazing – see the assessment of plant species below.</p>

Base rich grassland with crested hair-grass <i>Koeleria cristata</i> and upright brome <i>Bromus erectus</i> .	Neutral?	<p>There is not much present on the Hills to any great extent. The dominant grass is <i>Bromus erectus</i> and occurs mostly on the Wenlock Limestone ridges to the west of the northern Hills. <i>K. macrantha</i> has been recorded near The Cockshut close to Hollybed Common. It is a very local grass and occurs in very few locations within the county and only one location in the Malvern Hills area.</p> <p>There may be some more base rich soils in the glacial deposits to the east of the Hills in the area of Hollybed Common.</p> <p>The top end of Hollybed Common is where the Slender Hare's-ear <i>Buplerum tenuissimum</i>. This is one of the only inland locations for this plant within the country and might be dependent on the present grazing regime for survival. This is a factor to consider.</p>
Disused quarries broken ground	Neutral	Important for rare broken-ground plant species but not in skylark territory
Lower slopes	Neutral	Important but not in skylark territory
Woodland fringes	Neutral	Important but not in skylark territory
Flushes, open water and rock faces.	Neutral	Important but not in skylark territory
Heathland	Neutral	<p>Very important and in skylark territory but only a small part the very edge of it. The reference to the clubmoss <i>Diphasiastrum x issleri</i> is now thought to have been <i>Diphasiastrum alpinum</i> (Maskew, R. The Flora of Worcestershire 2014. Page 118). This was only in a small area of Heather <i>Calluna vulgaris</i> just above the south side of British Camp reservoir. This plant has not been seen at this location since 1997 and looks to have been swamped by the growth of Red Stemmed Feather Moss, <i>Pleurozium schreberi</i> and bracken despite conservation attempts. Heather is mainly south of the Herefordshire Beacon. Bilberry on the Worcestershire Beacon.</p>
Mesomesotrophic grasslands (meaning of moderate fertility)	Expected Positive	<p>This describes Castlemorton and Hollybed Commons which hold important skylark territories in land that has less grazing pressure. The management plan states "Frequent grazing on improved and semi-improved land, dominantly on Castlemorton and Hollybed Commons, has created a sward of common hardy grasses including Crested Dog's Tail <i>Cynosurus cristatus</i>, ryegrass species and herbs including White Clover <i>Trifolium repens</i> and Daisy <i>Bellis perennis</i> (MG6 <i>Lolium perenne</i>-<i>Cynosurus cristatus</i>). However, in places of least agricultural improvement, but not necessarily less grazing pressure, more species-rich variations are found." Scrub control is important for grassland species obviously but seems most likely that a 20cms grazing regime would benefit most insect, bird and plant life.</p>

**Plants** – Of the 56 cited species only 9 (shaded green below) occur in the high hills Deschampsia flexuosa habitat. Almost all are neutral and most of the richest habitats with the most valuable species are not in skylark territory eg they are on the disturbed quarry areas and on the thin soil ridgeline. Some need to be controlled anyway like gorse and bracken and it is questionable which of the others would suffer through more lenient grazing – possibly heath bedstraw, heather and bilberry only. Grazing may actually benefit invasive species including gorse and bracken which the current regime is not controlling.

The crux of the issue is that the very important rocky thin soil ridge plants including spring ephemerals grow next to Deschampsia Flexuosa skylark territory. However the rare Spring Ephemerals have not and cannot be expected to spread to the richer deeper soils of the adjacent Deschampsia flexuosa even if it were grazed extremely tightly. Very intensive grazing in the Lake District has reduced not increased diversity in this way.

For example a colony of harebell has grown in short turf next to the roundel at the top of the Dingle for 30 years. This included during 10 years of no grazing on the adjacent Deschampsia as well as recent years of increasing grazing intensity. It has not spread in shorter sward. Current tight grazing does not look set to create a blossoming of rare ridge plants on the edge of Skylark territory. This is critical in the argument for more lenient grazing.

sheep's-fescue <i>Festuca ovina</i>		Upper slopes – a common grass
common bent <i>Agrostis capillaris</i>		Upper slopes – common grass
wavy hair-grass <i>Deschampsia flexuosa</i>		Dominant in upper slopes skylark territory
sheep's sorrel <i>Rumex acetosella</i>		
heath bedstraw <i>Galium saxatile</i>		Characteristic herb in upper slopes
harebell <i>Campanula rotundifolia</i>		Characteristic herb in upper slopes – only in thin soil patches – not grazed areas
crested hair-grass <i>Koeleria cristata</i>		Base rich grassland – mainly on lower slopes below skylark wavy-hair grass habitat
upright brome <i>Bromus erectus</i>		Associated with crested hair grass
wild thyme <i>Thymus praecox</i> ssp. <i>Arcticus</i>		Associated with crested hair grass
lady's bedstraw <i>Galium verum</i>		Associated with crested hair grass
mouse-ear hawkweed <i>Hieracium pilosella</i>		Associated with crested hair grass
upright chickweed <i>Moenchia erecta</i>		Nationally restricted short turf summit ridge south of Herefordshire Beacon – not grazed but kept short by paucity of soil cover
Spring cinquefoil <i>Potentilla tabernaemontani</i>		localised occurring only where the soil conditions are less acidic – so not in wavy-hair grass area
bird's-foot <i>Ornithopus perpusillus</i>		Locally uncommon – dry short turf
knotted clover <i>Trifolium striatum</i>		Locally uncommon – well drained dry soils – not wavy-hair grass habitat
little mouse-ear <i>Cerastium semidecandrum</i>		Locally uncommon - Common in dry open habitats, especially on calcareous or sandy soils – not wavy-hair grass habitat
fenugreek <i>Trifolium ornithopodioides</i>		Recently disturbed – quarries spoil heaps
buck's-born plantain <i>Plantago coronopus</i>		
Common stork's-bill <i>Erodium cicutarium</i>		Recently disturbed – quarries spoil heaps

white horehound <i>Marrubium vulgare</i>		Recently disturbed – quarries spoil heaps
Carline thistle <i>Carlina vulgaris</i>		Recently disturbed – quarries spoil heaps
Smith's pepperwort <i>Lepidium heterophyllum</i>		Recently disturbed – quarries spoil heaps
common calamint <i>Calamintha sylvatica</i> ssp. <i>Ascendens</i>		Recently disturbed – quarries spoil heaps
bracken <i>Pteridium aquilinum</i>		Lower slopes mainly
western gorse <i>Ulex gallii</i> .		The gorse on the high hills – controlled mechanically on the Malverns eg Table Hill
bluebell <i>Hyacinthoides non-scripta</i>		Bloom before bracken – lower slopes
wood anemone <i>Anemone nemorosa</i>		Bloom before bracken – lower slopes
wild strawberry <i>Fragaria vesca</i>		
common dog-violet <i>Viola riviniana</i>		Bloom before bracken – lower slopes important butterfly larvae food plant
sessile oak <i>Quercus petraea</i>		N/A
silver birch <i>Betula pendula</i>		N/A
hazel <i>Corylus avellana</i>		N/A
Ash <i>Fraxinus excelsior</i>		N/A
flushed wych elm <i>Ulmus glabra</i>		N/A
Alder <i>Alnus glutinosa</i>		N/A
Wild service-tree <i>Sorbus torminalis</i>		N/A
small-leaved lime <i>Tilia cordata</i>		N/A
large-leaved lime <i>T. platyphyllos</i>		N/A
field maple <i>Acer campestre</i>		N/A
dogwood <i>Cornus sanguinea</i>		N/A
holly <i>Ilex aquifolium</i>		N/A
and hawthorn <i>Crataegus monogyna</i>		N/A
wood-sorrel <i>Oxalis acetosella</i>		Woodland species
yellow archangel <i>Lamiasstrum galeobdolon</i>		Woodland species
Ramsons <i>Allium ursinum</i>		Woodland species
violet helleborine <i>Epipactis purpurata</i>		Woodland species
climbing corydalis <i>Corydalis claviculata</i>		Woodland species
narrow-leaved bitter-cress <i>Cardamine impatien</i>		Woodland species
heather <i>Calluna vulgaris</i>		Heathland plant grow amongst dense wavy hair-grass
bilberry <i>Vaccinium myrtillus</i>		Heathland plant grows amongst dense wavy hair-grass
clubmoss <i>Diphasiastrum x. issleri</i>		Nationally rare – one fragment of heathland (now thought to have been <i>Diphasiastrum alpinum</i> )
jointed rush <i>Juncus articulatus</i>		flushes, open water and rock faces – mainly Swinyard Hill
lousewort <i>Pedicularis sylvatica</i>		flushes, open water and rock faces – mainly Swinyard Hill

common spike-rush <i>Eleocharis palustris</i>		flushes, open water and rock faces – mainly Swinyard Hill
marsh pennywort <i>Hydrocotyle vulgaris</i>		flushes, open water and rock faces – mainly Swinyard Hill
Navelwort <i>Umbilicus rupestris</i>		grows on bare rock outcrops at the northern end of the hills
<b>Mammals – neutral or positive for 3 species cited</b>		
Doormouse	N	Coppices mainly
Polecat	N/+ve	Woods and hedgerows rough farmland
Lesser horseshoe bat	+ve	Eats Midges, small moths, caddis flies, lacewings, beetles, small wasps and spider
<b>Birds – +ve or neutral for all 13 species</b>		
Sparrowhawk	+ve	More prey
Pied Flycatcher	neutral	Woodland
Tree Pipit	+ve	More Prey
Willow warbler	+ve	More Prey, nesting sites in long grass banks
Wood warbler	neutral	Woodland – may be more prey
Meadow Pipit	+ve	Nesting and prey increase
Skylark	+ve	Nesting and Prey increase
Grasshopper warbler	+ve	Long grass/scrub essential – recorded on castlemorton common and North Hill
Ring Ouzel	Neutral/+ve	Berry and insect feeder – likely to benefit from increased insect life
Wheatear	Neutral/+ve	Associated with very short turf and rocky slopes - that is not likely to be recreated even with very tight grazing. Will benefit from increased insect life prey - grasshoppers
Snow bunting	+ve	Eats grass seeds
Peregrine	Neutral/+ve	Prey increase
Raven	Neutral/+ve	Prey increase
<b>Butterflies – neutral or positive for all 9 species</b>		
high brown fritillary	neutral	Needs bracken and grass mosaic with dog violet which is on the lower slopes. Benefits from trampling – so benefits from grazing on the lower slopes.
Pearl-bordered fritillary	neutral	Woodland clearings – needs dog violet
Wood white	Neutral/+ve	Tall rough grassland but mainly shaded and edge habitat
Wood argus	Neutral ?	
Dark green fritillary	Neutral/+ve	Prefers taller grassland
Triple-spotted pug	Neutral	Wet boggy areas – no overlap
Square spot dart	Neutral	Woodland habitat
Alder kitten	Neutral	Woodland alder and birch
Grayling	Neutral	Needs rock and bare earth and also tall grass

## Source Notes

Species list extracted from the Malvern Hills SSSI citation

### Biology

The Malvern Hills support the largest expanse of upland grassland in Hereford and Worcester and Gloucestershire. Most of the upper slopes are covered by unimproved acidic grassland. The dominant grasses are sheep's-fescue *Festuca ovina* and common bent *Agrostis capillaris* with wavy hair-grass *Deschampsia flexuosa*. Characteristic herbs include sheep's sorrel *Rumex acetosella*, heath bedstraw *Galium saxatile* and harebell *Campanula rotundifolia*. In places a base rich grassland occurs with crested hair-grass *Koeleria cristata* and upright brome *Bromus erectus*. This type of grassland contains a wider range of herbs which include wild thyme *Thymus praecox* ssp. *arcticus*, lady's bedstraw *Galium verum* and mouse-ear hawkweed *Hieracium pilosella*. These grasslands contain a number of uncommon plants. The nationally restricted upright chickweed *Moenchia erecta* is widespread in short turf along the summit ridge south of the Herefordshire Beacon. Spring cinquefoil *Potentilla tabernaemontani*, another nationally restricted species, is more localised occurring only where the soil conditions are less acidic. Other locally uncommon species include bird's-foot *Ornithopus perpusillus*, knotted clover *Trifolium striatum* and little mouse-ear *Cerastium semidecandrum*.

A similar vegetation has developed in the numerous disused quarries and in the vicinity of British Camp Reservoir. Here the soils are of more recent origin having developed on sites which have been disturbed in the recent past. A number of uncommon plants occur in these areas. Short turf communities include the nationally restricted fenugreek *Trifolium ornithopodioides* together with buck's-born plantain *Plantago coronopus* and common stork's-bill *Erodium cicutarium*. Vegetated spoil heaps support the nationally restricted white horehound *Marrubium vulgare* and several locally uncommon species such as carline thistle *Carlina vulgaris*, Smith's pepperwort *Lepidium heterophyllum* and common calamint *Calamintha sylvatica* ssp. *ascendens*.

The lower slopes are dominated by bracken *Pteridium aquilinum* and western gorse *Ulex gallii*. The flora under the bracken contains many early flowering species more typical of woodland which bloom before the fronds unfurl. These include bluebell *Hyacinthoides non-scripta*, wood anemone *Anemone nemorosa*, wild strawberry *Fragaria vesca* and common dog-violet *Viola riviniana*. The violet is particularly important as it is the food plant for the larvae of several butterfly species.

Woodland fringes the hills at the northern end and occurs in more extensive blocks further south. Much of the woodland at the southern end is ancient semi-natural and is largely dominated by sessile oak *Quercus petraea*. Several nationally restricted types of woodland occur which are dominated by sessile oak. Where the soils are dry the associated species include silver birch *Betula pendula* and hazel *Corylus avellana*. In moister, richer soils ash *Fraxinus excelsior* is the associate. In places where the ground is flushed wych elm *Ulmus glabra* occurs with the sessile oak. Alder *Alnus glutinosa* is dominant along streams and more extensively in News Wood. Other less common trees on the Malverns include wild service-tree *Sorbus torminalis*, small-leaved lime *Tilia cordata* and the nationally restricted large-leaved lime *T. platyphyllos*.

Within the oak woods hazel is the main species in the shrub layer together with field maple *Acer campestre*, dogwood *Cornus sanguinea*, holly *Ilex aquifolium* and hawthorn *Crataegus monogyna*. The ground flora contains a range of typical woodland species such as wood-sorrel *Oxalis acetosella*, yellow archangel *Lamiastrum galeobdolon* and ramsons *Allium ursinum* as well as a number of more local species such as violet helleborine *Epipactis purpurata*, climbing corydalis *Corydalis claviculata* and the nationally restricted narrow-leaved bitter-cress *Cardamine impatiens*.

A few areas of heathland exist. This is an important habitat as it is very scarce in Hereford and Worcester and Gloucestershire. Most areas are of the grass-heath type where dwarf shrubs such as heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus* grow amongst dense wavy hair-grass with *Cladonia* lichens, and mosses. Bilberry is particularly abundant on the Worcestershire Beacon. The nationally rare clubmoss *Diphasiastrum x. issleri* occurs on one fragment of heathland. This is the only extant population of this plant in England

and Wales and the only known locality in lowland Britain.

Other less extensive habitats include flushes, open water and rock faces. These support a number of plants not found elsewhere on the Malverns. The flushes occur mostly on Swinyard Hill and are dominated by jointed rush *Juncus articulatus* and include lousewort *Pedicularis sylvatica*, common spike-rush *Eleocharis palustris* and marsh pennywort *Hydrocotyle vulgaris*. Navelwort *Umbilicus rupestris* grows on bare rock outcrops at the northern end of the hills.

## Extracted from the Malvern Hills Management Plan

### Grasslands

The main ridge and upper slopes of the Hills, from End Hill to Chase End Hill, contain distinctive upland grassland communities that are dominated by acid grasslands. In general, the grasslands of the northern and central hills and Herefordshire Beacon are dominated by tussocky swards of Wavy Hair Grass *Deschampsia flexuosa* with some Tormentil *Potentilla erecta*, Sheep's Sorrel *Rumex acetosella* and Heath Bedstraw *Galium saxatile* present (NVC community: U2 *Deschampsia flexuosa*). Such a sward can be found on Sugarloaf Hill. Smaller areas of grassland that comprises of Sheep's Fescue *Festuca ovina*, Yorkshire Fog *Holcus lanatus*, Common Bent *Agrostis capillaris* (U4 *Festuca ovina*-*Agrostis capillaris*-*Galium saxatile*) can also be found here. Musk Storks-bill *Erodium moschatum* is rare in Worcestershire and a single colony is found on Beacon Road.

From Midsummer Hill southwards the acid grasslands of the upper slopes are instead dominated by grasses of the Bent family often with a large amount of lichen and moss but no Wavy Hairgrass. Other common species include Common Bent, Harebell *Campanula rotundifolia* and Cladonia spp (U1 *Festuca ovina*-*Agrostis capillaris*-*Rumex acetosella*) which makes for an intricate sward on sites including Ragged Stone Hill.

Throughout the Hills on ground of very thin, rocky soils such as the exposed hilltops, only small, hardy plants can persist. This specialised community is recognised as a subcommunity of U1. Species include Early Hair-grass *Aira praecox* and Silver Hair-grass *Aira caryophyllea* along with spring flowering ephemeral plants including the rarities Little Mouse-ear *Cerastium semicandrum*, Common Cudweed *Filago vulgaris*, Knotted Clover *Trifolium striatum*, Bird's Foot Clover *Trifolium ornithopioides*, Annual Knawel *Scleranthus annuus* and Early Forget-me-not *Myosotis ramosissima*. Certain species have a very localised presence with Shepherd's Cress *Teesdalia nudicaulis* on Worcestershire Beacon only, and the uncommon Smooth Cat's Ear *Hypochoeris glabra* restricted to Ragged Stone Hill, its numbers fluctuating greatly from year to year.

Together the upland acid grasslands cover an area of 102 hectares (9%) of the Conservators' holding. The communities U1, U2, U4 are all notified features of the Malvern Hills Site of Special Scientific Interest (SSSI).

Locally interspersed with the upland grassland communities on the northern hills are plants more typical of a heath community (H12 *Calluna vulgaris* - *Vaccenium myrtillus* / U20b *Pteridium aquilinum*-*Galium saxatile*) which contains, and is often dominated by, Bilberry *Vaccinium myrtillus*. This bilberry heath totals only 1 hectare (0.1%) but it is expanding. Common Heather *Calluna vulgaris* can be found in small patches from British Camp to Swinyard Hill. The heath community is a notified feature of the Malvern Hills Site of Special Scientific Interest (SSSI).

A single more calcareous stretch of grassland can be found on the southern hills. Located on the Warren House volcanics geology, an unusual mix of calcifuge (calcium-hating) and

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calcicole (calcium-loving) plants are present together. Many of these plants are spring ephemerals. Commoner species in this community (CG10a *Festuca ovina*-*Agrostis capillaris*) include Red Fescue *Festuca rubra*, Common Bent *Agrostis capillaris*, Wild Thyme *Thymus polytrichus* and Sheep's Fescue *Festuca ovina*. More unusual species include Common Rockrose *Helianthemum nummularium* and Early Forget-me-not *Myosotis ramosissima*. In spring, certain small patches are emblazoned with the yellow of the nationally scarce Spring Cinquefoil *Potentilla tabernaemontani*. This vegetation community covers just 2.87 hectares (0.3%).

Parts of the Hills' mid-slopes and large areas of the lowlands including the roadside verges, urban commons and Old Hills are predominantly vegetated by mesotrophic grasslands (meaning of moderate fertility). These grassland communities are more luscious and

nutrient-rich compared to the upland acid grasslands and are far more prevalent across the UK.

Frequent grazing on improved and semi-improved land, dominantly on Castlemorton and Hollybed Commons, has created a sward of common hardy grasses including Crested Dog's Tail *Cynosurus cristatus*, ryegrass species and herbs including White Clover *Trifolium repens* and Daisy *Bellis perennis* (MG6 *Lolium perenne*-*Cynosaurus cristatus*). However, in places of least agricultural improvement, but not necessarily less grazing pressure, more species-rich variations are found. More calcareous areas include Autumn Ladies Tresses *Spiranthes spiralis*, Quaking Grass *Briza media*, Upright Brome *Bromopsis erecta* and Dwarf Thistle *Cirsium acaule*, whilst in more acidic areas this includes the coastal species Fiddle Dock *Rumex pulcher*, Pale Flax *Linum bienne* and the nationally scarce Slender Hare's Ear *Bupleurum tenuissimum* in its only inland site in Britain. Castlemorton and Hollybed grasslands are a rich mosaic of different grassland communities. Petty Whin *Genista anglica* is very rare in Worcestershire and now thought to be lost from its site near Welland. MG6 communities are found on 141 hectares (12%).

Grasslands dominated by False Oat-grass *Arrhenatherum elatius* and other species indicative of high nutrients such as Common Nettle *Urtica dioica* (MG1 *Arrhenatherum elatius*) are found mostly on the lowlands although small areas can be found on the Hills even in close proximity to the ridge. Typically this community is species-poor although some subcommunities found were more species-rich with Common Knapweed *Centaurea nigra*,

Common Bird's Foot Trefoil *Lotus corniculatus* and, at the Bowling Green Meadow, Clevelode, the nationally scarce Spreading Bellflower *Campanula patula* is present. MG1 communities cover 67 hectares (5.8%) of MHC land.

Regular hay cutting has created a grassland community akin to traditional hay meadows (MG5 *Cynosurus cristatus*-*Centaurea nigra*). They include a wide variety of grasses such as Common Bent, Crested Dog's tail and a substantial proportion of herbs including Bird's Foot Trefoil, Common Knapweed and White Clover. More uncommon species are Downy Oat Grass *Helictotrichon pubescens*, Common Spotted and Southern Marsh Orchids *Dactylorhiza fuchsia* and *D. praetermissa* and their hybrid. This community covers about 15 hectares (1.3%) and makes a colourful summer display that is much appreciated by local people on sites including Malvern Common. In areas that are regularly trampled and mown, hardy species dominate in leys that comprises of Perennial Ryegrass *Lolium perenne* 24

accompanied by broad-leaved herbs such as plantains (MG7 *Lolium perenne*). In areas of even greater trampling this community grades into an open vegetation of either Scented Mayweed *Matricaria chamomilla*, Greater Plantain *Plantago major* and Annual Meadow-grass (OV21 *Poa annua*-*Plantago major*) or Perennial Ryegrass and Cock's Foot grasses (OV23 *Lolium perenne*-*Dactylis glomerata*). These three communities cover 52 hectares (4.5%) of the holding.

In the wetter areas of MHC's land, grassland is characterised by Tufted Hair Grass *Deschampsia cespitosa*, Bent grasses, and rush and sedge species (MG9 *Holcus lanatus*-*Deschampsia cespitosa*). This often grades into wetter mire communities. On the muddy margins of pools and tracks Water Purslane *Lythrum portula* can be found, a rare plant in Worcestershire. This community covers 45 hectares (4%). The final mesotrophic grassland community is a rushy pasture found on Old Hills and other permanent pastures with poor drainage (MG10 *Holcus lanatus*-*Juncus effusus*). This comprises a low sward that contains commoner coarse grasses with a moderate to high amount of Soft Rush *Juncus effusus* and herbs including Creeping Buttercup *Ranunculus repens*. It covers 1.67 hectares (0.1%).