



*Breckland - Deadman's Grave (Ben Heather),  
Cuckoo (Neil Rolph), Blaxhall Common (Steve Aylward).*

# Lowland Acid Grasslands and Heathlands

Suffolk heathlands are made up of a matrix of dry acid grassland with dwarf shrub layer plus additional features such as scattered trees and scrub, areas of bare ground, bracken, areas of acid grassland, lichens, gorse and wet heaths.

Occurs on nutrient-poor, free-draining soils with pH ranging from 4 to 5.5 overlying deposits such as sands and gravels.

# IMPORTANCE FOR WILDLIFE

Birds of conservation concern breed or winter in these habitats. There are a significant number of rare and scarce plants such as Clustered Clover, Suffocated Clover, Mossy Stonecrop and, in the Breckland area, Spring and Breckland Speedwells. They are rich in mosses and lichens and the low nutrient status encourages rare fungi such as Nail fungus and Waxcaps. The tussocky vegetation and bare ground support a wide range of invertebrates such as grasshoppers, solitary wasps and butterflies. If the habitat is grazed, there may also be dung associated species such as fly larvae and dung beetles.



## IMPORTANT ASSOCIATED SPECIES

### Birds

Hedge Accentor (Dunnock) *Prunella modularis*  
Common Grasshopper Warbler  
*Locustella naevia*  
Common Cuckoo *Cuculus canorus*  
Lesser Redpoll *Carduelis cabaret*  
Tree Pipit *Anthus trivialis*  
Nightjar *Caprimulgus europaeus*  
Stone Curlew *Burhinus oedicephalus*  
Woodlark *Lullula arborea*  
Linnet *Carduelis cannabina*  
Skylark *Alauda arvensis*  
Yellowhammer *Emberiza citrinella*

### Reptiles and Amphibians

Common Lizard *Zootoca vivipara*  
Grass Snake *Natrix natrix*  
Slow worm *Anguis fragilis*  
Common Toad *Bufo bufo*  
Natterjack Toad *Bufo calamita*

### Bees and Wasps

Brown-Banded Carder Bee *Bombus humilis*  
Moss Carder Bee *Bombus muscorum*  
Red-shanked Carder-bee *Bombus ruderarius*  
Weevil Hunting Wasp *Cerceris quadricincta*  
5-Banded Tailed Digger Wasp  
*Cerceris quinquefasciata*

### Beetles

Wormwood Moonshiner *Amara fusca*  
Brush-thighed Seed-eater *Harpalus froelichii*  
Set-aside Downy-Back *Ophonus laticollis*

### Butterflies

Small Heath (acid grassland)  
*Coenonympha pamphilus*  
Grayling *Hipparchia semele*  
Dingy Skipper *Erynnis tages*  
Silver Studded Blue *Plebejus argus*

### Moths

Dingy Mocha *Cyclophora pendularia*  
Bordered Gothic *Heliophobus reticulata*  
Lunar Yellow Underwing *Noctua orbona*  
Pale Shining Brown *Polia bombycina*  
Grey Dagger *Acronicta psi*\*\*  
Knot Grass *Acronicta rumicis*\*\*  
Flounced Chestnut *Agrochola helvola*\*\*  
Brown-spot Pinion *Agrochola litura*\*\*  
Beaded Chestnut *Agrochola lychnidis*\*\*  
Ear Moth *Amphipoea oculata*\*\*  
Mouse Moth *Amphipyra tragopoginis*\*\*  
Deep-brown Dart *Aporophyla luteola*\*\*  
Garden Tiger *Arctia caja*\*\*  
Dark Brocade *Blepharita adusta*\*\*  
Minor Shoulder Knot *Brachyolomia viminalis*\*\*  
Mottled Rustic *Caradrina morpheus*\*\*  
Streak *Chesias legatella*\*\*  
Broom-tip *Chesias rufata*\*\*  
Latticed Heath *Chiasmia clathrata*\*\*  
Small Square-spot *Diarsia rubi*\*\*  
Small Phoenix *Ecliptopera silaceata*\*\*  
Autumnal Rustic *Eugnorisma glareosa*\*\*  
White-line Dart *Euxoa tritici*\*\*  
Ghost Moth *Hepialus humuli*\*\*  
Rustic *Hoplodrina blanda*\*\*  
Rosy Rustic *Hydraecia micacea*\*\*  
Brindled Beauty *Lycia hirtaria*\*\*  
Lackey *Malacosoma neustria*\*\*  
Dot Moth *Melanchnra persicariae*\*\*  
Broom Moth *Melanchnra pisi*\*\*  
Rosy Minor *Mesoligia literosa*\*\*  
Shoulder-striped Wainscot *Mythimna comma*\*\*  
Powdered Quaker *Orthosia gracilis*\*\*  
Mullein Wave *Scopula marginipunctata*\*\*  
White Ermine *Spilosoma lubricipeda*\*\*  
Buff Ermine *Spilosoma luteum*\*\*  
Anomalous *Stilbia anomala*\*\*

Hedge Rustic *Tholera cespitis*\*\*  
Feathered Gothic *Tholera decimalis*\*\*  
Blood-vein *Timandra comae*\*\*  
Pale Eggar *Trichiura crataegi*\*\*  
Cinnabar *Tyria jacobaeae*\*\*  
Oak Hook-tip *Watsonalla binaria* (oak trees)\*\*  
Sallow *Xanthia icteritia*\*\*  
Dark-barred Twin-Spot Carpet  
*Xanthorhoe ferrugata*\*\*  
Heath Rustic *Xestia agathina*\*\*  
Neglected Rustic *Xestia castanea*\*\*

### Spiders

Serrated Tongue Spider *Centromerus serratus*  
Silky Gallows-spider *Diplocephalus inornatus*  
Heath Grasper *Haplodrassus dalmatensis*

### Antlion

Antlion *Euroleon nostras*\*

### Fungi

Pitted Frillwort *Fossombronia foveolata*  
Thatch Moss (acid grassland)  
*Leptodontium gemmascens*  
Veilwort (acid grassland) *Pallavicinia lyellii*

### Lichens

Starry Breck-lichen *Buellia asterella*  
(calcareous - Brecks)  
Scaly Breck-lichen *Squamaria lentigera*  
(calcareous - Brecks)  
*Toninia physaroides*  
*Toninia sedifolia*

### Plants

Field Wormwood *Artemisia campestris*  
Purple Milk-vetch *Astragalus danicus*  
Rare Spring-sedge *Carex ericetorum*  
Grape-hyacinth *Muscari neglectum*  
Spanish Catchfly *Silene otites*  
Fingered Speedwell *Veronica triphyllos*  
Spring Speedwell *Veronica verna*  
Red-tipped Cudweed *Filago lutescens*  
Tower Mustard *Arabis glabra*  
Annual Knawel *Scleranthus annuus*  
Fine-leaved Sandwort *Minuartia hybrida*

\*Suffolk Priority species

\*\*Priority - Research Only. Common and widespread, but rapidly declining.



Images: Top to bottom – Antlion (Pete Etheridge), Skylark (Chris Baines), White Ermine (Steve Roach).

## FACTORS AFFECTING HABITAT IN SUFFOLK

- Some species are susceptible to disturbance and are not compatible with public access.
- Runoff from farmland with high levels of nutrients results in vegetation changes. Taller vegetation can smother invertebrate colonies. Spray drift is also a problem where there are no buffer zones.
- Over- or under-grazing and supplementary feeding can be damaging. A reduction in the rabbit population can lead to under-grazing allowing encroachment by trees and scrub.
- Irrigation and additions of fertilisers or lime by golf clubs can lead to a change in the vegetation.
- Development, change of land use and drainage of wet areas damage habitats.
- Summer fires damage Silver-Studded Blue colonies, kill wildlife and destroy ground nests.
- Atmospheric deposition of nitrogen contributes to nutrient enrichment.
- Fragmentation and isolation, only 8% of the Sandlings heaths remain.

## HABITAT MANAGEMENT ADVICE

- Maintain structural diversity by including early successional stages, bare ground, short turf and a small amount of scrub. Banks and slopes provide warm conditions for basking and nesting areas for solitary bees and wasps; bare ground benefits reptiles. Areas of taller vegetation are also important and flower-rich areas provide pollen and nectar.
- Retain natural drainage, including wetland or seepage areas.
- Maintain light grazing to prevent bracken invasion and keep succession in check. Ensure over-grazing does not occur. If avermectin wormer is used, the animals should be kept off the site for at least 10 days after treatment.
- Cutting may not be needed as the grassland is very poor and machinery may damage the light soils. If mowing is necessary, maintain a mosaic of cut and uncut patches and remove cuttings.
- Some disturbance may be needed to maintain early successional open habitats. Traditional management in the Brecks has included ploughing and other mechanical disturbance. Use the management history of the site as a guide to current management.
- Rotational management of gorse and heather can be useful.
- Rabbits are beneficial on dry grass heath and can be encouraged in order to maintain a short sward.
- Bracken management may require management with herbicides - see NE TIN048
- Ploughing may be very damaging to heathland soil if this is not part of the traditional management. The potential presence of archaeological features should be checked before work commences.
- The management of a designated site should not be changed without consultation with Natural England.

*Common Lizard (Paul Kitchener).*



## VISION FOR SUFFOLK

1. Improve knowledge of extent and quality of lowland dry acid grasslands and heathlands.
2. Maintain the existing extent of lowland dry acid grasslands and heathlands to ensure no net loss.
3. Re-create lowland dry acid grasslands and heathlands as opportunities arise.
4. Encourage the restoration and improvement of degraded lowland dry acid grasslands and heathlands.



## WHERE TO FIND FURTHER INFORMATION

Buglife – advice on managing BAP habitats

- <https://www.buglife.org.uk/resources/habitat-management/lowland-dry-acid-grassland>
- <https://www.buglife.org.uk/resources/habitat-management/lowland-heathland>

Buglife – Notable invertebrates associated with lowland acid grassland and lowland heath (pdf)

- <https://cdn.buglife.org.uk/2019/07/16-Notable-invertebrates-associated-with-lowland-dry-acid-grassland.pdf>
- <https://cdn.buglife.org.uk/2019/07/17-Notable-invertebrates-associated-with-lowland-heathland.pdf>

Forest Research Best Practice Guidelines (pdf) • [https://www.forestresearch.gov.uk/documents/2447/LRU\\_BPG16.pdf](https://www.forestresearch.gov.uk/documents/2447/LRU_BPG16.pdf)

JNCC Habitat Description (pdf)

- <https://data.jncc.gov.uk/data/902cafcb-578f-43de-8a99-7143f00d79a2/UKBAP-BAPHabitats-26-LowlandDryAcidGrass.pdf>
- <https://data.jncc.gov.uk/data/1be8bec3-0437-4758-adc8-ac866d4e0769/UKBAP-BAPHabitats-28-LowlandHeathland.pdf>

MAGIC website – interactive mapping information including designations • <https://magic.defra.gov.uk>

*Making Space for Nature, a Review of England's Wildlife Sites and Ecological Network* 16 Sep 2010.

- Chaired by Professor Sir John Lawton CBE FRS. Defra website (pdf) • <https://webarchive.nationalarchives.gov.uk/ukgwa/20130402151656/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

Natural England Lowland Dry Acid Grassland Publication 19 (pdf)

- <http://publications.naturalengland.org.uk/file/6261913914703872>

Natural England National Character Area 85 Breckland • <http://publications.naturalengland.org.uk/publication/4282581>

Natural England Technical Information Note (TIN048) – Bracken management and control (pdf)

- <http://publications.naturalengland.org.uk/publication/35013>

Natural Environment White Paper June 2011 – *The Natural Choice: securing the value of nature* (pdf)

- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228842/8082.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf)

Plantlife Important Plant Areas - Breckland

- <https://www.plantlife.org.uk/uk/nature-reserves-important-plant-areas/important-plant-areas/breckland>

RSPB: information on land management for woodlark and nightjar, and management of gorse • <https://www.rspb.org.uk/our-work/conservation/conservation-and-sustainability/advice/conservation-land-management-advice>

Suffolk Biological Records Centre – Suffolk State of Nature report: Heathland. Compiled by Martin Sanford,

- 2005 (pdf) • <https://www.suffolkbis.org.uk/sites/default/files/Heathland%20Report.pdf>

Suffolk Wildlife Trust Habitats Explorer

- <https://www.suffolkwildlifetrust.org/habitats/grassland/lowland-dry-acid-grassland>
- <https://www.suffolkwildlifetrust.org/habitats/heathland-and-moorland/lowland-heath>

## CONTACT

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# SUFFOLK LOWLAND ACID GRASSLANDS AND HEATHLANDS: NOTABLE INVERTEBRATES

Species	Designation
<b>Grasshoppers, crickets and cockroaches (Orthoptera/Dermaptera/Dictyoptera)</b>	
<i>Stenobothrus lineatus</i>	Should be considered worthy of conservation
<b>True Bugs (Hemiptera)</b>	
Heteroptera	
<i>Arenocoris waltli</i>	RDB2
<i>Lygus pratensis</i>	RDB3
<i>Legnotus picipes</i>	Nb
<i>Odontoscelis lineola</i>	Nb
<i>Spathocera dahlmanni</i>	Nb
<i>Graptopeltus lynceus</i>	Nb
<i>Megalonotus praetextatus</i>	Nb
<i>Megalonotus sabulicola</i>	Nb
<i>Chlamydatus pulicarius</i>	Nb
<i>Syromastes rhombeus</i>	Local
<i>Arenocoris falleni</i>	Local
<i>Ceraleptes lividus</i>	Local
<i>Ceraleptes lividus</i>	Local
<i>Eremocoris podagricus</i>	Local
<i>Berytinus crassipes</i>	Local
<i>Berytinus signoreti</i>	Local
<i>Coranus subapterus</i>	Local
<i>Conostethus roseus</i>	Local
<b>Leafhoppers, planthoppers, froghoppers, treehoppers &amp; cicadas (Auchenorrhyncha)</b>	
<i>Ribautodelphax angulosus</i>	Nb
<b>Flies (Diptera)</b>	
<b>Snail-killing flies, picture-wing flies, grass flies and allies (Acalyptata)</b>	
<i>Oscinimorpha arcuata</i> (Chloropidae)	N
<b>Soldier flies, bee flies, robber flies &amp; allies (Larger Brachycera)</b>	
<i>Eutolmus rufibarbis</i>	RDB3
<b>Blowflies, dungflies and allies (Calyptata)</b>	
<i>Freraea gagatea</i> (Tachinidae)	RDB3
<i>Subclytia rotundiventris</i> (Tachinidae)	RDB3
<i>Coenosia atra</i> (Muscidae)	N
<i>Miltogramma germari</i> (Sarcophagidae)	RDB3
<i>Sarcophila latifrons</i> (Sarcophagidae)	N
<i>Eurithia intermedia</i> (Tachinidae)	N
In addition to the species covered below, several ungraded calypterates have a strong association with acid grassland. They include <i>Dexia rustica</i> , <i>Linnaemyia vulpina</i> , <i>Medina collaris</i> , <i>Metopia staegeerii</i> and <i>Prosenia siberita</i> .	
<b>Beetles (Coleoptera)</b>	
<b>Ground beetles (Adephaga)</b>	
<i>Harpalus froelichii</i>	BAP Priority RDB2
<i>Amara fusca</i>	RDB1
<i>Bradycellus csikii</i>	RDB1
<i>Harpalus pumilus</i>	Na
<i>Amara consularis</i>	Nb
<i>Amara equestris</i>	Nb

<b>Species</b>	<b>Designation</b>
<i>Amara fulva</i>	Nb
<i>Amara lucida</i>	Nb
<i>Calathus ambiguus</i>	Nb
<i>Harpalus smaragdinus</i>	Nb
<i>Licinus depressus</i>	Nb
<i>Licinus depressus</i>	Nb
<b>Leaf beetles (Chrysomelidae)</b>	
<i>Psylliodes sophiae</i>	RDB2
<i>Cassida nebulosa</i>	RDBK
<i>Mantura rustica</i>	Nb
<b>Weevils (Curculionoidea)</b>	
<i>Apion rubiginosum</i>	RDB3
<i>Protapion dissimile</i>	Nb
<i>Ceutorhynchus atomus</i>	Na
<i>Acalles ptinoides</i>	Nb
Dry Acid Grassland is far less rich than calcareous grassland for weevils. The listed species include several which are perhaps not true grassland species, but which can be included because their habitats are not appropriately assigned to any other Priority Habitat.	
<b>Rove beetles and allies (Staphylinidae/Scydmaenidae/Silphidae)</b>	
<i>Heterothops dissimilis</i>	RDBK
<i>Stenus aceris</i>	Local
<i>Quedius aridulus</i>	Local
<i>Ousipalia caesula</i>	Local
<b>Dung beetles and chafers (Scarabaeidae)</b>	
<i>Aphodius sordidus</i>	Na
<i>Aphodius coenosus</i>	Nb
<i>Aphodius distinctus</i>	Nb
<i>Aphodius paykulli</i>	Nb
<b>Earth-boring dung beetles (Geotrupidae)</b>	
<i>Trypocopris vernalis</i>	Local
<b>Ants, bees and wasps (Hymenoptera: Aculeata)</b>	
<i>Cerceris quadricincta</i>	BAP Priority
<i>Cerceris quinquefasciata</i>	BAP Priority
<i>Andrena alfkenella</i>	RDB3
<i>Halictus confusus</i>	RDB3
<i>Heriades truncorum</i>	RDB3, Very rare
<i>Hedychridium roseum</i>	Scarce
<i>Hedychrum niemelai</i>	RDB3, Scarce
<i>Pseudospinolia neglecta</i>	Scarce
<i>Smicromyrme rufipes</i>	Nb, Scarce
<i>Tiphia femorata</i>	Scarce
<i>Caliadurgus fasciatellus</i>	Scarce
<i>Priocnemis agilis</i>	Nb, Scarce
<i>Diodontus insidiosus</i>	RDB3, Scarce
<i>Nysson dimidiatus</i>	Nb, Scarce
<i>Colletes marginatus</i>	RDB3, Na, Scarce
<i>Andrena bimaculata</i>	Nb, Scarce
<i>Andrena hattorfiana</i>	RDB3, Scarce
<i>Andrena humilis</i>	Nb, Scarce
<i>Andrena labiata</i>	RDB3, Na, Scarce

## Definitions of Designations

RDB3 – Red Data Book category 3. RARE	Species which occur in small populations and, although not currently either Endangered or Vulnerable, are at risk. Rare species exist in 15 or fewer 10km squares, or are more widespread than this but dependent on small areas of especially vulnerable habitat.
RDB2 - Red Data Book Category 2. VULNERABLE	A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Rare species exist in 15 or fewer 10km squares, or are more widespread than this but dependent on small areas of especially vulnerable habitat.
Nb – Nationally Scarce Category B	Species which do not fall within Red Data Book categories but which are nonetheless uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid, or for less well recorded groups, between eight and twenty vicecounties.
Na – Nationally Scarce Category A	Species which do not fall within Red Data Book categories but which are nonetheless uncommon in Great Britain and thought to occur in 30 or fewer (typically between 16 and 30) 10km squares of the National Grid, or for less well recorded groups, in seven or fewer vice-counties.
RDBK	Species appear in the Red Data Book but the status is unknown, although they are thought to be rare.
Local	Found in restricted habitats.
Notable A	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties. The same as 'Nationally Scarce'.
Notable B	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties. Superseded by Nationally Scarce, and therefore no longer in use.
N – Nationally Scarce	Species which do not fall within Red Data Book categories but which are nonetheless uncommon in Great Britain. This status category has been used where information has not been sufficient to allocate a species to either Na or Nb. These species are thought to occur in between 16 and 100 10km squares of the National Grid.
BAP Priority Species	Listed under Sec 41 of the Natural Environmental and Rural Communities Act 2006 as priorities for conservation action.