

In 200 (Q J O D Q G ¶ V Unimproved grassland resource was estimated at approximately 85,000 hectares (ha) (King 2004). For Worcestershire, the total area of all unimproved grassland types was estimated in 2018 to be 2,500-3,000 ha (Worcestershire Habitat Inventory cross-referenced with Worcestershire Grassland Inventory, Local Wildlife Sites and Site of Special Scientific Interest combined data), meaning that the county may hold 3.5% of the total resource.

2.1 Description of habitat, with distribution and extent of each

Celebrated in science, art, music and literature, wildflower and wildlife rich grasslands have long been regarded as timeless features of the English countryside. Our hay meadows in particular were the lifeblood of British agriculture and commercial activity; providing vital winter food for livestock and draft animals alike.

Semi-natural or traditionally managed grasslands provide a sustainable method of forage production, which although lower yielding than modern short-term sown grasslands are rich in trace elements, can be lower in gut parasites, are more drought tolerant and are therefore likely to be considerably more climate change resilient than modern agricultural grasslands. Traditional grasslands are important wildlife habitats, not just for their diversity of plants but also for their invertebrate, fungal and microbial diversity. They have considerable cultural importance and are more aesthetically pleasing than modern agricultural leys, adding colour and visual diversity to the landscape and the unique character of our countryside.

2.1.1 Lowland Neutral Hay Meadows and Pastures

The total England resource of unimproved lowland neutral grassland is estimated to be around 7282 ha (Rodwell *et al* 2007). The total extent of the Worcestershire resource is believed to be between 1500 and 2000 ha. From these figures it is possible that the county supports c.25 R I (Q J O D Q G ¶ V U H P D L Q L resource. Worcestershire is particularly significant for its lowland hay meadows and lowland flood meadows.

Lowland Hay Meadows

Sites with the classic National Vegetation Classification (NVC) MG5 community (*Cynosurus cristatus-Centaurea nigra*: & U H V W H - C a i l W i t h J u n e f l o w e e d s w a r d s) are widespread throughout the county with important concentrations in Malvern Chase, the Teme Valley, the southern Wyre Forest, parts of the Clent Hills, the Dodford area, the historic Forest of Feckenham (encompassing most of central

The EU Habitats Directive identifies Lowland Flood Plain Meadows as a habitat that is important in a European context. Whilst none of the Worcestershire sites have been chosen as a Special Area for Conservation (SAC) under the Directive, Upton Ham Site of Special Scientific Interest (SSSI) is a very good example of this habitat. Other sites are very thinly scattered throughout the floodplains of the lower Severn and Avon Vales in the southern half of the county including in discrete areas around Evesham, Pershore, Tewkesbury, Kempsey and Upton-upon-Severn. The WHI, completed in 2008, has 26.3 ha of MG4 habitat mapped: in addition to this around 45 ha of previously little known MG4-type grassland was discovered between 2011 and 2013 around Eldersfield and Longdon.

Table 1. Neutral grassland NVC communities in Worcestershire (Button and Day).

NVC community	Distribution
MG3	<i>Anthoxanthum odoratum</i> ± <i>Geranium sylvaticum</i>: Sweet Vernal-grass – Wood Crane's-bill grassland. A rare species-rich grassland type, occurring sparingly on the c R X Q W \ ¶ V F D U E R Q L I H U R X V G H S R V L W
MG4	<i>Alopecurus pratensis</i> ± <i>Sanguisorba officinalis</i>: Meadow foxtail – Great burnet grassland. Rare. Mainly large traditional flood meadows situated along the Avon and low.997

	Apparently confined to Triassic and Jurassic limestones.
CG5	<i>Bromus erectus - Brachipodium pinnatum</i>: Upright brome and Tor Grass grassland. Rare. Similar sites to CG4.

Worcestershire contains only a small number of acid grassland SSSIs; however the existing SSSIs are generally large in extent, for example the Malvern Hills and Commons and Shadybank, Hollybed and Coombe Green Commons near Welland. Most of the acid grasslands associated with the Malvern Hills are owned and managed by the Malvern Hills Trust as public open space.

The Triassic sandstones around Kidderminster are of considerable interest, containing significant grassland elements within large heathland sites, for example the Devils Spittleful and Rifle Range SSSI, Hartlebury Common SSSI (which is on post glacial blown sand deposits) and Burlish Top Local Nature Reserve (identified in 2005 as being of SSSI quality (Stephen 2005)), as well as many small, dispersed and generally isolated blocks of old pasture. 19 such sites were surveyed in 2005 and recorded as being of Local Wildlife Site (LWS) quality; however the majority of sites remain unsurveyed.

Other important sites in North Worcestershire include Penorchard and Spinneyfields nature reserves (Worcestershire Wildlife Trust), Habberley Valley Local Nature Reserve (LNR) (Wyre Forest District Council), Waseley Hills Country Park (Worcestershire County Council) and the Clent Hills (National Trust) all of which contain areas of acid grassland.

2.1.4 Old Grassland

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unploughed and are restorable as they still, on the whole, contain important remnant native plant assemblages, intact soil profiles and soil macro and micro-organism communities. They can also provide important and increasingly scarce refuges for waxcap and other grassland fungi assemblages. These grasslands, along with orchard grasslands and road verges, are vitally important elements of our natural heritage that must be recognized as an essential component of our countryside.

The completion of the WHI in 2008 enabled the amount of old grassland in the county to be estimated for the first time, with 230 ha mapped. This figure includes the communities MG1 and MG6 (see table 4 below) but also MG9 and MG10, which are the tussocky neutral grassland communities of poorly drained soils (grazing marsh), which develop when drainage has become impeded on sites with MG6 and MG7. The MG9 and MG10 communities are considered within the Worcestershire Wet Grassland BAP and so readers of this BAP are advised to consult both plans.

Table 4. 'Old grassland' NVC communities present in Worcestershire (Button and Day)

NVC community	Distribution
MG1	<i>Arrhenatherum elatius</i> : False oat-grass

MG6

***Lolium perenne* - *Cynosurus cristatus*: Rye grass and Crested Dog's-tail grassland.** Widespread and frequent. Generally species-poor and characteristic of agricultural improvement but they tend to retain significant interest. MG6 can exhibit some more species-rich sub-communities such as the sweet vernal grass and yellow oat-grass communities (MG6b) in which meadow herbs such as common knapweed, ladies bedstraw and ox-eye daisy have local abundance, especially on ridge and furrow ridge-tops, steep banks or where there is a return to less intensive practices (Ratcliffe 1992, 1996, 1998).

Biodiversity 2020 sets out the UK Government's strategic direction for biodiversity

- x Funding from SITA Trust enabled Worcestershire Wildlife Trust to run the 'Restoring Worcestershire's Grasslands' project between 2012-2014. This brought 110 ha of grassland sites (many listed as LWS) back into good management through works such as fencing and scrub clearance.

4.3 Survey, research and monitoring

Worcestershire Wildlife Trust undertook a complete review of LWS between 2002 and 2009. Tables 5 to 8 below show trends derived from the 2002-2006 period of that review for the grassland sites and sites that contain a grassland component.

Table 5. A snapshot of key factors affecting grassland sites and mixed habitat sites containing grassland that were re-listed during the

In 2009 an investigation by Worcestershire Wildlife Trust (commissioned by Worcestershire County Council) into the condition of 76 grassland sites found that

Jefferson, R. G and Robertson, H. J (1996). *English Nature Research Report 169: Lowland Grassland - Wildlife value and conservation status*. English Nature.

King, M (2004). *Grasslands*. Plantlife/The Wildlife Trusts.

Magnificent Meadows Partnership guidance
<http://www.magnificentmeadows.org.uk/advice-guidance/how-can-i-manage-my-meadow/managing-for-grassland-habitats>