How valuable is your grassland verge for wildlife?

A self-assessment toolkit

Grassland road verges are viewed by many as simple 'green' strips bordering the highway. Yet take a closer look and a fascinating ecological habitat comes into focus. Even a small, regularly mown verge can contain over 20 different wildflowers and grasses – and if allowed to grow and bloom will create an important wildlife oasis.

Regular mowing of road verges is expensive and severely limits the wildlife value of the grassland. Most plants can't flower so there is no nectar on offer for pollinators. The exposed ground is too dry, and the short grass offers no cover. For most wildlife species it is like a desert, and they can't live there. But managing a verge as a wildflower meadow will significantly increase its wildlife value and will also save money. Furthermore, it will create a much more interesting landscape for local people and will help enable greater contact with nature.

So, how valuable is your verge for wildlife and how can you improve this? This simple toolkit will allow you to assess its current wildlife value and more importantly, help you to better understand how different management regimes can improve this.

Using the Toolkit

The toolkit comprises a simple set of questions that when answered will provide a score - the higher this is the better your verge is for wildlife. Use the guide below to help you answer the questions appropriately. You can enter the scores in this document and then use a calculator to get the total, alternatively you can fill in the accompanying spreadsheet which will do the maths for you!

Each set of questions has been allocated a weighting to reflect its importance in contributing to the wildlife value of your grassland verge. By completing the toolkit and looking at the various options, you will be able to consider how you could make changes to further improve the wildlife value.

Note that this toolkit can only give you an indicative guide to the wildlife value of your verge. Other factors beyond the scope of this toolkit will also influence its wildlife value, such as geology, soil chemistry, habitat continuity, site history, etc. Nevertheless, taking a few minutes to complete the questions will help you get a good idea of the verge's current wildlife value.

Guide to scoring

Read each section below and use the figure or guidance in **square brackets** to put an entry in the **My Score** column. If you don't have an exact answer, just choose the option that you think best fits.

Remember you can use the spreadsheet as an alternative to calculate the score for you. If completed manually using the form below. **Toolkit scoring sheet** (Excel)

Plant diversity – the number of different species

As a general rule, the more different plant species that grow on the verge, the better for wildlife. Not only are more species of wildflowers and grasses given a home, but many insects have specialist feeding and breeding requirements linked to specific plant species, so a greater diversity of all-round wildlife can be supported.

New verges joining the project will be professionally surveyed for you and a report provided giving a list of the wildflowers and grasses found there. Further surveys can be carried out by arrangement or could involve local residents with the relevant identification skills. Appendix 2 offers more guidance on identifying wildflowers, grasses, shrubs and trees if you would like to do this yourself.

All plant species have a value, both intrinsically and as part of the wider ecosystem. The first score to enter below is the total of all wildflowers, grasses, trees and shrubs found on the verge. The second score gives additional weighting to those wildflower and grass species that are found in quality meadows. Use the list of these species in appendix 1 to calculate the total score for any of these quality meadow plants found on your verge.

[Enter the total number of different species on your verge]	**My score**
[Enter the total score of your verge species listed as quality meadow plants – see appendix 1]	**My score**
PLANT DIVERSITY TOTAL (add the two scores above)	**Total**

Size

A larger site offers more opportunities for wildlife, so the size of the verge is obviously important. The strip nearest the highway generally offers the least value because of buffeting by air turbulence, impacts to flying insects and traffic-related pollution. Many verges also have a mown 'visibility' strip bordering the highway. A wider verge, offering more habitat away from the highway, therefore scores proportionately higher.

If the verge is crossed by a surfaced path or has other hard standing, deduct this from the length and or width. Exclude any hedge or mown visibility strip from the measurement.

TIP: You could pace out the verge to get a reasonably accurate estimate of size, alternatively you could use the ruler tool on Google Earth (free download).

Length <10m **[0.8]** Length 10-20m **[1]** Length 20-50m **[1.2]** Length >50 **[1.5]**	Choose the option that best fits your verge and enter the figure shown in square brackets in the My Score column.	**My Score**
Width <1m **[0.5]** Width 1-2m **[0.8]** Width 2-5m **[1.2]** Width >5m **[1.5]**		**My Score**

Mowing regime

Regularly mowing grass effectively destroys it as a wildlife habitat, only a few species can thrive in the harsh environment that mowing creates. However, by not mowing between April and mid-September it allows the plants to grow and flower, providing important feeding stations for bees, butterflies and other pollinators. The taller vegetation also means that lots of insects and other invertebrates can now find a home in the moist and protected interior – providing vital food for hedgehogs, birds, frogs, small mammals and other creatures.

The key to a diverse wildflower meadow is low fertility. Soil with lots of nitrogen and high levels of other plant nutrients allows a few large, dominating plants to take over. Although this is still a much better habitat than mown grass, to get a more diverse and flowery meadow it is essential to reduce the soil fertility over time. This can be done by removing the cuttings after mowing. If cut and just left to rot down it will add yet more nutrients to the soil, as well as creating a thatch that restricts germination of other wildflowers. To speed up this nutrient removal, the verge can be cut three times in the first year and the cuttings removed each time.

Remember that a meadow grassland habitat is not just about the plants. The animals that also live there need somewhere to hide and crucially somewhere safe to over-winter. Mowing all of the verge each year is fine for the plants but a disaster for the animals. To get a balance, mow just part of the verge each year (a third or a half), then rotate the mown area next year.

Regularly mown **[0.1]** Mown annually, cuttings left **[0.5]** Mown annually, cuttings removed **[1]** 50-70% mown annually (area rotated each year), cuttings removed **[1.5]**	**My score**

Habitat structure

Whilst the grassland is the main habitat we are assessing, many verges have features such as hedges and ditches, or have a sloping aspect, which can further enhance the overall wildlife value. Not only does a hedge or ditch (especially if damp or with standing water) provide an additional and complementary habitat. Many plants and animals prefer specific habitats, so a ditch or a hedge will support different wildlife to that found in the meadow, adding to the overall biodiversity value.

Any hedge bordering the verge will add value (providing shade, cover, food and nesting opportunities) but a hedge comprising of native shrubs will be of most benefit (e.g., Hawthorn, Beech, Hazel, etc.). See appendix 2 for more help on recognising native hedgerow shrubs. A strong slope to the verge can also help reduce fertility by allowing rain to leach out some of the nutrients. As described above, lower fertility encourages greater plant diversity.

Native hedge at rear of the verge **[1.3]** Non-native hedge at rear of the verge **[1.1]** No hedge **[1]**	**My Score**
Wet ditch **[1.3]** Dry ditch **[1.1]** No ditch **[1]**	**My Score**
Slope 10-20% **[1.1]** Slope >20% **[1.2]** No slope **[1]**	**My Score**

Tree shade

You may wonder why the presence of trees on your verge has a negative impact on the score! This is because we are assessing the wildlife value of a grassland habitat and tree shade limits the growth and flowering of most plants. Whilst trees and scrub do provide wildlife value in their own right, meadow grassland is a much more threatened habitat so in this case, meadow grassland trumps the trees! An exception to this is where a hedge may border the back of the verge (see above), providing it is managed to prevent excessive shading.

No shade **[1]** Proportion shaded: 10-20% **[0.9]** Proportion shaded: 20-40% **[0.7]** Proportion shaded: 40-60% **[0.5]** Proportion shaded: >60% **[0.3]**	To assess the percentage of shade, think of looking down onto the verge from above.	**My Score**

Community engagement

Though communicating and engaging with local residents may not at first seem to be a factor contributing to the verge's wildlife value, without community support, meadow management may not continue or go ahead in the first place which would be a devastating impact on the habitat. A meadow verge can also serve as a pilot, helping to educate people of the need for more enlightened management of our open spaces. Positive engagement will increase support and hopefully lead to further benefits through more verges, better ecological site management elsewhere and even wildlife improvements to private gardens.

- Event: any organised gathering of local residents to view/discuss the verge. This can include inviting residents to a site survey or to help with collecting/removing the cuttings.
- Publicity: communicating the project through articles in a community newspaper or on the parish council website will help with engagement.
- A Wild Place feature page on the NatureSpot website (www.naturespot.org.uk) will be automatically set up for you but it is important that the link to this is publicised locally. Not only does this page explain the project it will also list, with images, the wildflowers, grasses and other wildlife seen there. Local residents are encouraged to submit their own wildlife sightings to add to this page.

No events **[1]** Annual events: 1 **[1.3]** Annual events: 2+ **[1.4]**	**My Score**
No publicity **[1]** Annual publicity articles: 1 **[1.2]** Annual publicity articles: 2+ **[1.4]**	**My Score**
Wild Place page not publicised **[1]** Wild Place page is publicised **[1.2]**	**My Score**

TOTAL (multiply Plant Diversity Total by all other entries)	**TOTAL**

Interpreting the result

Verges in the scheme typically have scores ranging from 20 to 150. The higher scoring verges are generally larger with a diverse and well-established range of wildflowers and grasses. Here is a general guide to what these scores indicate:

<30 **Low quality**	**30-60** **Developing**	**60-100** **Good**	**>100** **Excellent**
The verge needs more time and the right management to improve. Look at the help and guidance section below.	The verge offers a good starting point but needs appropriate management for improvements to continue.	The verge is becoming an important wildlife habitat. Make sure the management continues and review options for adding yet more value.	Keep going! You are doing really well and the verge is now an important wildlife habitat. However, keep looking for ways to improve further.

It is important not to be downbeat if your verge currently has a low assessment score. Every verge can be improved over time. Creating a quality meadow grassland is not a quick fix, but by using the pointers in this toolkit, and the management advice given by the project, you will help to create a valuable wildlife habitat and a landscape feature that local residents will appreciate. The section below offers more help and guidance.

Help and Guidance

For more details about the **Verges Biodiversity Project**, how to get involved and further guidance on management, visit the **Verges Project page** on the NatureSpot website. Copies of this toolkit and the accompanying spreadsheet can also be found here.

If you are already participating in the verges project, you should be able to find the relevant Wild Place feature page on NatureSpot. Use the Wild Place dropdown menu on the **NatureSpot home page**.

Watch **Phil Sterling's inspiring talk** on managing verges for wildlife, drawing on his experience of managing verges and amenity grassland for Dorset County Council.

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Appendix 1 – Meadow Quality Wildflowers and Grasses

This list includes the wildflower and grass species that are commonly found in established meadows and are therefore desirable species to have in a verge when trying to develop it as meadow grassland. The species not on this list include temporary colonisers, those tolerant of trampling or salt spray, and those exploiting high nutrient levels in the soil. Over time, and with appropriate management, these plants will be replaced by the meadow species listed below.

Meadow Quality Wildflowers and Grasses			
Species	**Common name**	**Taxon group**	**Score**
Achillea millefolium	Yarrow	Wildflowers	**1**
Achillea ptarmica	Sneezewort	Wildflowers	**2**
Bellis perennis	Daisy	Wildflowers	**1**
Campanula rotundifolia	Harebell	Wildflowers	**3**
Cardamine pratensis	Cuckooflower	Wildflowers	**2**
Centaurea nigra	Common Knapweed	Wildflowers	**2**
Centaurea scabiosa	Greater Knapweed	Wildflowers	**2**
Cerastium fontanum	Common Mouse-ear	Wildflowers	**1**
Conopodium majus	Pignut	Wildflowers	**2**
Crepis capillaris	Smooth Hawk's-beard	Wildflowers	**1**
Daucus carota subsp. carota	Wild Carrot	Wildflowers	**1**
Echium vulgare	Viper's-bugloss	Wildflowers	**1**
Ficaria verna	Lesser Celandine	Wildflowers	**1**
Filipendula ulmaria	Meadowsweet	Wildflowers	**1**
Galium mollugo subsp. erectum	Upright Hedge Bedstraw	Wildflowers	**2**
Galium verum	Lady's Bedstraw	Wildflowers	**2**
Geranium lucidum	Shining Crane's-bill	Wildflowers	**1**
Geranium molle	Dove's-foot Crane's-bill	Wildflowers	**1**
Geranium pratense	Meadow Crane's-bill	Wildflowers	**1**
Geranium pyrenaicum	Hedgerow Crane's-bill	Wildflowers	**2**
Glechoma hederacea	Ground-ivy	Wildflowers	**1**
Hypericum perforatum	Perforate St. John's-Wort	Wildflowers	**1**
Hypochaeris radicata	Cat's-ear	Wildflowers	**1**
Knautia arvensis	Field Scabious	Wildflowers	**2**
Lathyrus pratensis	Meadow Vetchling	Wildflowers	**2**
Leontodon hispidus	Rough Hawkbit	Wildflowers	**2**
Leontodon saxatilis	Lesser Hawkbit	Wildflowers	**1**
Leucanthemum vulgare	Oxeye Daisy	Wildflowers	**2**
Lotus corniculatus	Common Bird's-foot-trefoil	Wildflowers	**2**
Medicago lupulina	Black Medick	Wildflowers	**1**
Mercurialis perennis	Dog's Mercury	Wildflowers	**1**
Ononis repens	Common Restharrow	Wildflowers	**2**
Ophrys apifera	Bee Orchid	Wildflowers	**2**
Pilosella officinarum	Mouse-ear-hawkweed	Wildflowers	**2**
Pimpinella saxifraga	Burnet-saxifrage	Wildflowers	**2**
Plantago lanceolata	Ribwort Plantain	Wildflowers	**1**
Potentilla anserina	Silverweed	Wildflowers	**1**
Poterium sanguisorba	Salad Burnet	Wildflowers	**2**
Primula veris	Cowslip	Wildflowers	**2**

Prunella vulgaris	Selfheal	Wildflowers	**1**
Ranunculus acris	Meadow Buttercup	Wildflowers	**2**
Ranunculus auricomus	Goldilocks Buttercup	Wildflowers	**2**
Ranunculus bulbosus	Bulbous Buttercup	Wildflowers	**2**
Rhinanthus minor	Yellow-rattle	Wildflowers	**2**
Rumex acetosa	Common Sorrel	Wildflowers	**2**
Rumex acetosella	Sheep's Sorrel	Wildflowers	**3**
Sanguisorba officinalis	Great Burnet	Wildflowers	**2**
Scorzoneroides autumnalis	Autumn Hawkbit	Wildflowers	**2**
Scrophularia auriculata	Water Figwort	Wildflowers	**1**
Silene flos-cuculi	Ragged-Robin	Wildflowers	**2**
Silene latifolia	White Campion	Wildflowers	**2**
Stachys sylvatica	Hedge Woundwort	Wildflowers	**1**
Stellaria holostea	Greater Stitchwort	Wildflowers	**2**
Succisa pratensis	Devil's-bit Scabious	Wildflowers	**2**
Tanacetum vulgare	Tansy	Wildflowers	**1**
Tragopogon pratensis	Goat's-beard	Wildflowers	**1**
Trifolium pratense	Red Clover	Wildflowers	**2**
Trifolium repens	White Clover	Wildflowers	**1**
Veronica chamaedrys	Germander Speedwell	Wildflowers	**1**
Veronica persica	Common Field-speedwell	Wildflowers	**1**
Veronica serpyllifolia	Thyme-leaved Speedwell	Wildflowers	**1**
Vicia hirsuta	Hairy Tare	Wildflowers	**1**
Vicia sativa	Common Vetch	Wildflowers	**1**
Vicia sepium	Bush Vetch	Wildflowers	**1**
Viola odorata	Sweet Violet	Wildflowers	**1**
Viola reichenbachiana	Early Dog-violet	Wildflowers	**1**
Agrostis capillaris	Common Bent	Grasses, Rushes & Sedges	**1**
Agrostis stolonifera	Creeping Bent	Grasses, Rushes & Sedges	**1**
Alopecurus pratensis	Meadow Foxtail	Grasses, Rushes & Sedges	**1**
Anthoxanthum odoratum	Sweet Vernal-grass	Grasses, Rushes & Sedges	**2**
Briza media	Quaking-grass	Grasses, Rushes & Sedges	**1**
Cynosurus cristatus	Crested Dog's-tail	Grasses, Rushes & Sedges	**1**
Festuca pratensis	Meadow Fescue	Grasses, Rushes & Sedges	**1**
Festuca rubra	Red Fescue	Grasses, Rushes & Sedges	**1**
Hordeum secalinum	Meadow Barley	Grasses, Rushes & Sedges	**2**
Luzula campestris	Field Wood-rush	Grasses, Rushes & Sedges	**2**
Phleum pratense	Timothy	Grasses, Rushes & Sedges	**1**
Poa pratensis	Smooth Meadow-grass	Grasses, Rushes & Sedges	**1**
Poa trivialis	Rough Meadow-grass	Grasses, Rushes & Sedges	**1**
Trisetum flavescens	Yellow Oat-grass	Grasses, Rushes & Sedges	**2**

This was compiled with the help of the County Recorder for Leicestershire and Rutland flora and is based on all wildflower and grass species recorded on the verges participating in the Verges Biodiversity Project.

Appendix 2 – Identifying Wildflowers, Grasses, Shrubs and Trees

Learning to identify wild plants can be hugely rewarding. By learning more about the species we share our environment with we start to increase our knowledge and understanding of nature.

However, there are hundreds of different plant species that could be growing on your verge so it is not straightforward to identify them all. If you want to learn, start by trying to identify the commonest plants, and don't just look on the verge. Garden and roadside 'weeds' are great subjects – they pop up everywhere so provide lots of opportunities to learn. Look for wildflowers at all times of year, some will be in flower every month.

There are lots of resources to help you so here are some tips to get you started.

1. The NatureSpot website (www.naturespot.org.uk) provides excellent images of nearly every plant, animal and fungi species found in Leicestershire and Rutland, providing a unique resource for our area. Visit the wildflower galleries – a menu is on the home page.

2. 'Native' plant species are those that have naturally grown in the UK for hundreds of years and form part of natural ecosystems. Because they have been here a long time, our wildlife has evolved with them and many species are dependent on these native plants for food. See the NatureSpot guide to native shrubs found in hedgerows HERE or on the ID guides page linked below.

3. The growing library of Leicestershire Wildlife Guides offer a great way to learn to identify some of the commonest species. Topics include 'Wildflowers on Road Verges' and 'Common Hedgerow Trees and Shrubs', plus many more. The guides can be viewed and downloaded for free at: www.naturespot.org.uk/IDguides.

4. Watch these training videos to help you identify wildflowers, grasses and hedgerow shrubs (also available on the page link above):

    - Wildflowers on road verges
    - Grasses on road verges
    - Hedgerow identification and management

5. Joining a guided walk or community survey is an enjoyable way to learn. Look for relevant events on the NatureSpot home page listings and/or ask to be added to the mailing list for the dates of community open day surveyson the verges.

6. The 100 Species Challenge is a fun and rewarding way to learn to identify a wide range of local wildlife species. Find out more at: www.naturespot.org.uk/100-species

7. If you are keen to take things further, buy a Wildflower Field Guide and ideally a hand-lens too (for looking at small features needed to identify some plants. There are many excellent guides on offer but a good choice is the Collins Wild Flower Guide, which includes grasses and ferns as well as wildflowers. A 10x hand-lens can be purchased for around £10.