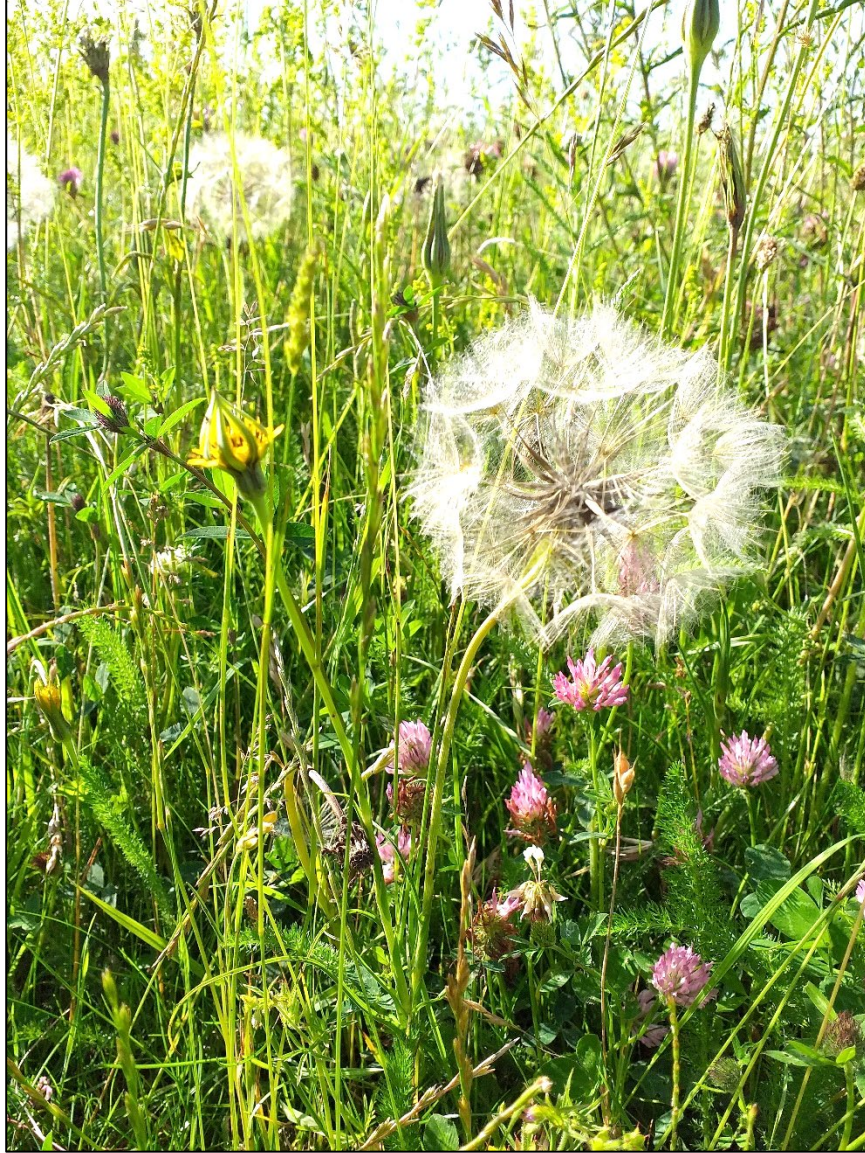


Worcestershire Pollinator Strategy 2020 – 2025



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Foreword

Worcestershire's Pollinator Strategy brings together aims and objectives from our Biodiversity Action Plan and unites local projects and national initiatives and policies to outline steps that need to be taken to support and increase wild pollinator populations. Following international reports in recent years of dramatic declines in pollinator and other invertebrate populations, it is absolutely critical that action is taken now.

The strategy sets out the commitment of Worcestershire County Council and our partners to achieving real improvements for pollinators through our everyday work and through bespoke projects. It will be referenced in other county and district policy documents and serves as a menu of opportunities to boost pollinator populations while carrying out routine management operations and designing new developments.

I am very pleased to support this first issue of the Worcestershire Pollinator Strategy and get behind the objectives identified to help reverse the decline.

Councillor Tony Miller
Cabinet Member with Responsibility for Environment

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Introduction

This Pollinator Strategy is a pledge of the county's commitment to deliver actions that will support the recovery of pollinator populations within Worcestershire and beyond. Organisations in Worcestershire have already taken steps towards this ambition, whilst recognising there is much more we can do. The delivery of this strategy is closely linked to the Local Biodiversity Action Plan, which underwent a full review in 2018.

Examples of actions already delivered or underway within the county include:

- In 2015 Worcestershire County Council Cabinet committed to making Worcestershire a Pollinator Friendly County and resolved to endorse and support efforts to deliver actions that would result in an increase in pollinator-friendly habitat.
- Wyre Forest District Council and Worcester City Council have instigated wildflower planting schemes on urban roundabouts, verges and within public parks and green spaces.
- Wychavon District Council are aiming to stop use of glyphosate in the parks and green spaces that they own and manage.
- Malvern Hills District Council have set up a new Environmental Policy Panel to promote biodiversity enhancement actions across the council.
- Worcestershire Highways is reviewing its management of 8000km of road verge, altering cutting practices to achieve a road verge management regime more closely aligned to that recommended by Plantlife¹. The results of the changes are being monitored and Worcestershire Highways are continuing to examine how operations can be modified to enhance road verge biodiversity.
- Wyre Forest District Council are managing large areas of land, including a former golf course, to expand and connect the district's grasslands and heathlands.
- The Malvern Hills AONB Partnership are supporting landowners to manage land in a more biodiversity-friendly way.
- Conferences were held in 2016 and 2018 that focused on the needs of pollinating insects and their habitats. Participants came from a variety of public, private, charitable and community sector groups.
- Worcestershire County Council is working in partnership with Worcestershire Wildlife Trust to deliver the Natural Networks project. This will distribute £2.3 million in grants over three years (2019-2021) for biodiversity enhancements, including the creation and restoration of pollinator friendly habitat such as wildflower meadows.
- Workshop with Buglife to map 'B-lines' in Worcestershire and coordination of publication dates.

¹ Plantlife (2016) *The Good Verge Guide*

www.plantlife.org.uk/application/files/4614/8232/2916/Road_verge_guide_17_6.pdf

Our vision...

Worcestershire will be rich in native flower-rich habitats, helping to support sustainable pollinator populations, which in turn support a sustainable and thriving agricultural and horticultural sector, and make places more attractive for people to live and work in.

Aims

The aims of this strategy mirror the aims within the Worcestershire Biodiversity Action Plan that relate specifically to pollinators or pollinator habitat:

Arable Farmland Habitat Action Plan: Levels of awareness of arable flora ecology and conservation are high and key sites within the county are managed to maintain a diverse seed bank that safeguards populations of rare species.

Traditional Orchard Habitat Action Plan: The extent and condition of the traditional orchard resource in Worcestershire is understood, more sites have been brought into good, restorative conservation management programmes and new orchards have been created which incorporate the planting of locally distinctive varieties.

Hedgerows Habitat Action Plan: Worcestershire has a strong and coherent network of biodiversity-rich, well-managed hedgerows.

Scrub Habitat Action Plan: The presence and management of scrub is viewed as an essential component of a balanced habitat mosaic and its importance to numerous species, in particular birds and pollinators, is recognised.

Grassland Habitat Action Plan: The county's reputation as a national stronghold for biodiverse grassland habitat, in particular lowland neutral and floodplain grasslands, has been further enhanced through a focus on the protection, restoration and sustainable management of Worcestershire's existing grassland resource.

Lowland Heathland Habitat Action Plan: Sustainable, long-term funding has been secured for the ongoing management of Worcestershire's existing flagship heathland sites.

Road Verges Habitat Action Plan: Enhancement of the biodiversity value of Worcestershire's road verge network is embedded into all highways plans and strategies and is evidenced in the delivery of wildlife-friendly verge management.

Urban Habitat Action Plan: The value and potential of urban areas and urban greenspace for biodiversity is recognised and a functioning network of green spaces, wildlife habitat provision and permeable wildlife corridors is in place within our urban areas, informed by a regularly reviewed and updated evidence base.

Rivers and Streams: All rivers and streams in Worcestershire to be of improved water quality and show geo-morphological features and species assemblages that would be expected of natural rivers and streams in the County.

Ponds and Lakes: Worcestershire's pond network has increased in density and in habitat quality.

Background to the strategy

The Importance of Pollinators

Pollinators are crucial components of a healthy ecosystem and a sustainable economy² and include bees, butterflies, moths, flies, beetles and wasps. Many global commercial crops are fully dependent on insect pollination or benefit from it through greater seed-set and higher yields. In the EU around 84% of crops depend, at least in part, on insect pollination. Up to €15 billion of the EU's annual agricultural output is directly attributed to insect pollinators³. An estimated 80% of the UK's native wildflowers also depend on insect pollination⁴. Loss of native flower-rich habitats, and the resulting seeds and berries, has deleterious consequences throughout the food chain.

Pollinators under threat

Wild pollinator populations are in serious trouble⁵. Globally, 40% of the world's insect species are threatened with extinction⁶. Half of the UK's 27 bumblebee species are in decline with three of those species already extinct. A long-term and ongoing decline in butterfly populations has also been identified, with 70% of species declining in occurrence and 57% declining in abundance since monitoring began in 1976⁷.

The most significant factors leading to these declines in pollinator numbers include:

- **Habitat loss.** Since the Second World War there has been a catastrophic loss of wildflower-rich grasslands which provide food, shelter and nesting sites for pollinators. Over 7.5 million acres of this habitat has been lost in England alone⁸, attributed to more intensive farming and urban/industrial development. Loss or mismanagement of small woodland fragments has also impacted on saproxylic beetle and hoverfly larvae that are pollinators as adults⁹.
- **Pesticides.** The global impact of decades of agro-chemical usage on the individual survival and behavioural ecology of insects is becoming increasingly apparent¹⁰.

² Vanbergen, A.J. *et al.* (2014) *Status and value of pollinators and pollination services*

http://randd.defra.gov.uk/Document.aspx?Document=12316_finalreportph0514.pdf

³ Communication from the European Commission on the EU Pollinators Initiative (2018)

<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1528213737113&uri=CELEX:52018DC0395>

⁴ Buglife (2014) *Get Britain Buzzing: a Manifesto for Pollinators*

www.buglife.org.uk/campaigns-and-our-work/campaigns/get-britain-buzzing

⁵ Powney, G.D. *et al.* (2019) *Widespread losses of pollinating insects in Britain*. *Nature Communications* **10**, 1018.

⁶ Sanchez-Bayo, F. & Wyckhuys, K.A.G. (2019) Worldwide decline of the entomofauna: A review of its drivers. *Biological Conservation* **232**: 8-27.

⁷ Butterfly Conservation (2015) *The State of Britain's Butterflies*

<https://butterfly-conservation.org/butterflies/the-state-of-britains-butterflies>

⁸ Plantlife (2018) *Action now for species-rich grasslands*

www.plantlife.org.uk/application/files/2315/3087/2058/Grasslands_action_plan_-_Plantlife.pdf

⁹ Proesmans, W. *et al.* (2019) Importance of forest fragments as pollinator habitat varies with season and guild. *Basic and Applied Ecology* **34**: 95-107.

¹⁰ Woodcock, B.A. *et al.* (2017) Country-specific effects of neonicotinoid pesticides on honey bees and wild bees. *Science* **356** (6345): 1393-1395.

There is growing evidence of the harmful sub-lethal impact of pesticides on honeybees, wild bees and butterflies, as well as wider ecosystem effects such as declines in farmland birds and soil organisms⁶.

- **Climate Change.** Climatic changes leading to altered temperatures will impact insects' physiology, behaviour and interactions with plants and other animals within their ecosystem. This is likely to result in shifts in population dynamics, abundance and occurrence of many different species¹¹. Furthermore afforestation schemes to address climate change objectives may result in further loss of (potentially) species-rich grasslands – a habitat that is also capable of a high rate of carbon sequestration¹².

Pollinators need...

...Forage/food/nectar

Pollinating insects need nectar and pollen throughout the period of the year they are active. This active period varies from species to species and so ensuring a year-round food supply is an important part of habitat provision¹³. Many different plants can provide these food resources, including 'weeds' such as dandelions, ragwort, thistles and flowering trees¹⁴. In addition to flowers, some pollinators need other food resources to support their different life stages, for example butterfly and moth caterpillars need particular plants to feed on.

...Nesting habitat

Nesting sites will provide pollinators with shelter, protection from predators and a place for eggs and young to develop safely. Some bee species require communal nesting sites whilst others are solitary and will mine single burrows into bare ground, old masonry or deadwood. Old burrows created by small mammals may be used, along with areas of dense vegetation. Man-made shelters such as 'insect hotels' are also readily used.

...Wintering/hibernation habitat

Dense vegetation such as tussocky grassland, scrub, mature trees, and piles of wood and stone can provide essential habitat for hibernating pollinators. Many species overwinter as adults including queen bumblebees and some butterflies and hoverflies, others as eggs, larvae or pupae.

...A stress-free life

Pollinators face many pressures that impact on their ability to find food, survive hibernation and to reproduce, including habitat loss, pests and disease, extreme weather, competition from invasive species, climate change and the use of pesticides.

¹¹ International Centre of Insect Physiology and Ecology (icipe) (2019) *Insects and Climate Change*. www.icipe.org/news/insects-and-climate-change

¹² De Deyn, G.B. *et al.* (2010) Additional carbon sequestration benefits of grassland diversity restoration. *Journal of Applied Ecology* **48** (3): 600-608.

¹³ The Wildlife Trusts and the Royal Horticultural Society (2017) *Your wild bee action pack* www.wildlifetrusts.org/sites/default/files/2017-12/ecxt.pdf

¹⁴ Somme, L. *et al.* (2016) Food in a row: urban trees offer valuable floral resources to pollinating insects. *Urban Ecosystems* **19**: 1149-1161.

National Pollinator Strategy

The National Pollinator Strategy¹⁵ and its accompanying Implementation Plan¹⁶ sets out a 10 year plan to help pollinating insects survive and thrive across England. The Strategy outlines actions to support and protect the many pollinating insects which contribute to our food production and the diversity of our environment. It is a shared plan of action which looks to everyone to work together and ensure pollinators' needs are addressed as an integral part of land and habitat management. In particular the Strategy asks local authorities to take a lead across many of their work areas and duties, including their role in local planning and also as managers of public and amenity spaces, brownfield sites, schools, car parks, roadside verges and roundabouts.

Pollinator strategies elsewhere

Pollinator action plans or strategies have been developed by many counties and other administrative areas across the UK, with pledges to work with local partners to deliver their objectives. In the south-west of England Cornwall, Devon, Dorset, Somerset and Greater Bristol have all published plans, which include actions such as modifying verge mowing regimes, re-seeding disturbed areas with native wildflower seed, education and awareness raising, and not using herbicides on council-owned land. Councils, Wildlife Trusts and other partners in the West Midlands have linked actions for pollinators to Biodiversity Action Plan documents, but so far none have published a specific pollinator action plan.

Other national policy

The UK Government's 25 Year Environment Plan¹⁷ sets out a focus on environmental protection, recovery and sustainability, which will be implemented via schemes including the proposed Environmental Land Management (ELM). Although it is still in development and not yet adopted, the recommended 'strategic objectives' of ELM are to¹⁸:

- *secure a range of positive environmental benefits, prioritising between environmental outcomes where necessary*
- *help tackle some of the environmental challenges associated with agriculture, focusing on how to address these in the shorter term*

¹⁵ Defra (2014) The National Pollinator Strategy: for bees and other pollinators in England.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794706/national-pollinator-strategy.pdf

¹⁶ Defra (2018) National Pollinator Strategy: Implementation Plan, 2018-2021.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766200/nps-implementation-plan-2018-2021.pdf?utm_source=Green+Infrastructure+Partnership&utm_campaign=229851a713-EMAIL_CAMPAIGN_2017_08_31_COPY_01&utm_medium=email&utm_term=0_f4eb0dc7a3-229851a713-103375569

¹⁷ Defra (2018) 25 Year Environment Plan.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

¹⁸ Defra (2020) *Environmental Land Management: Policy Discussion Document*.

https://consult.defra.gov.uk/elm/elmpolicyconsultation/supporting_documents/ELM%20Policy%20Discussion%20Document%20230620.pdf

ELM objectives are to be achieved by rewarding land managers for using environmentally sustainable practices. This should bring financial reward for restoring and maintaining species-rich grassland on par with the tree planting promoted under present government schemes.

B-Lines

Wildlife organisations and councils in Worcestershire are working with Buglife, the Invertebrate Conservation Trust, to map B-Lines (or 'biodiversity-lines') throughout the county¹⁹. The B-lines project aims to create a UK-wide network of wide strips of permanent wildflower-rich habitats to provide pathways for native insect pollinators by linking existing wildlife areas together.

With Buglife we have mapped the best routes for the Worcestershire B-Lines network, including existing resources such as local wildlife sites designated for grassland and roadside verge nature reserves. Landowners and managers on the B-Lines will be encouraged and supported to plug gaps in the network with pollinator friendly actions.

The B-Lines project helps identify a county-wide network for pollinators and links to neighbouring counties, but it should not discourage action for pollinators also being taken in the areas in between.

Nature Recovery Networks

The emerging Environment Bill will require competent authorities to establish Nature Recovery Networks (NRN) and it is anticipated that these will facilitate local delivery of national strategic nature recovery outcomes. It is intended to link and thereby strengthen existing valuable habitats by undertaking a landscape-scale review of where priorities and opportunities exist. Wildflower-rich grassland, meadows and heathlands are likely to form a core part of the NRN. Worcestershire's NRN will compliment other schemes, including B-Lines, and will be coordinated with neighbouring counties.

Case studies

Worcestershire Wildlife Trust developed the Wild Pollinators Project, applying a specially devised pollinators audit for use on farmland, and rolled it out amongst farmers and growers in the Bow Brook and Shrawley areas who signed up to help wild pollinators. Leasowes Farm in the parish of Bentley Paucefoot joined the scheme, enabling important habitat improvement work in the Bow Brook catchment area.

During the last 15 years Kenswick and Wichenford Parish Council, in the Malvern Hills District, have promoted development of wildflower-rich grasslands on an area known as Kings Green and along several connecting 'green lanes', by carrying out a single cut late in the year and collecting the arisings. Simple changes to management practices like this cost nothing to implement and can have impressive results.

¹⁹ <https://www.buglife.org.uk/our-work/b-lines/>

The Glorious Cotswolds Grassland project is a scheme very close to Worcestershire, focused on creating and managing 100Ha of wildflower-rich grassland throughout the Cotswolds AONB with green hay strewing and providing advice to landowners. This project is part of a much larger ambition to establish a network of such habitat along the limestone band between Hull in north-east England and Portland on the south coast.

Significant opportunities also exist to provide pollinator habitat with private gardens, where homeowners can contribute to a habitat mosaic within built-up areas. The present strategy focuses on larger land parcels that meet the definitions of BAP habitats, however some of the BAP species may be found within gardens.

Worcestershire Pollinator Strategy

Key principles of the Strategy

- This strategy brings together objectives from the Worcestershire Biodiversity Action Plan 2018-2027 which relate specifically to the protection and enhancement of pollinator populations and the creation and restoration of pollinator habitat. Clearly there are areas and species not identified by name within the Biodiversity Action Plan, which also have high biodiversity value; these also benefit from the more generic actions identified for the habitat types and species listed.
- This strategy will serve as an action plan to ensure the needs of pollinators are considered across the breadth of County Council functions.
- The objectives within this strategy are those agreed by a partnership of organisations (the Worcestershire Biodiversity Partnership) and as such the Council will work collaboratively with partners to deliver the strategy.
- Worcestershire County Council will not always be best-placed to deliver a particular objective and will instead look to support other partners who take the lead, including private and public organisations (for example schools, academy trusts, further and higher education institutions, District Councils, Parish Councils, public and community gardens, housing associations, conservation groups/organisations, private landowners and utilities companies). These organisations might derive their own pollinator strategies from the County Council strategy by selecting objectives with most local relevance.

Strategy Objectives

Arable Farmland

- Promote and support the adoption of Integrated Pest Management systems on farms
- Engage with Natural England and Defra to ensure that future farm support/agri-environment payment structures will benefit arable flora and are compatible with Integrated Pest Management systems
- Promote appropriate management of arable field margins that will allow the germination of the 'forgotten' seed bank
- Promote the conservation of rare arable flora through the collection and germination or spreading elsewhere of seed from high-value species-rich margins such as those on the Kemerton Estate
- Support compulsory training for agronomists, farm advisors and farmers on the ecology and conservation of arable flora and link this to CPD requirements where relevant
- Be involved in the development, trialling and promotion of agri-technology that supports the Integrated Pest Management approach

Traditional Orchard

- Provide training opportunities to increase the skills and knowledge of orchard owners and managers
- Promote the creation, restoration and management of orchards throughout Worcestershire and the development of functional habitat linkages between orchards
- Focus training and support on the users and managers of community orchards or orchards created for amenity/landscape reasons within development to address issues around lack of management or inappropriate management
- Secure further funding for the delivery of traditional orchard based projects

Hedgerows

- Improve and consolidate our understanding of how to best restore and manage hedgerows and their ground flora in different situations and on different soil types
- Maximise engagement with landowners to communicate best practice in hedgerow management for biodiversity
- Promote the preparation of whole-farm integrated hedgerow management plans that maximise the biodiversity value of hedgerows
- Prioritise research into and support for the establishment and management of hedgerow ground flora, including publishing species lists for different character areas and soil types that could be used in the development of seed and plug plant planting packages
- Promote the creation and restoration of botanically rich hedgerow ground flora and seed bank resources and work with Defra and Natural England to ensure that future farm support/agri-environment payment structures provide proper financial incentives for this

Scrub

- Maintain the extent and favourable condition of scrub habitat within the Bredon Hill SAC
- Raise the profile and improve understanding of the biodiversity value of scrub
- Encourage the management of scrub as part of a landscape-scale habitat mosaic to provide diversity of vegetation structure at the transition between woodland and grassland as well as a standalone component
- Promote the importance of scrub in providing a nectar source for pollinating insects
- Promote the inclusion of scrub within Green Infrastructure plans to provide diversity of habitat structure
- Promote the addition of shrub and ground flora layers characteristic of Ancient Semi-Natural Woodland to new plantations

Wet Grassland

- Engagement with and education of landowners within the Avon floodplain to achieve further reversion of arable farmland to grassland alongside the river
- Wet grassland creation and enhancement to be a focus of the Carrant Catchment Area Restoration Project

- Wet grassland should form a component of Green Infrastructure plans to deliver the multifunctional benefits of flood storage, public open space and biodiversity

Grassland

- Use Environmental Character Area profiling to geographically target defined corridors and clusters of grasslands, as delineated by the county Grassland Inventory, SSSI and LWS networks, to focus efforts to protect, restore and maintain current known good quality or restorable grasslands
- Re-establish a county Grasslands Forum that both actively involves and engages grassland owners and managers
- Consolidate and communicate a suite of clear interventions representing different landowner and site requirements to be available to those seeking advice on grassland management or on obtaining financial support
- Demonstrate to different audiences the multifunctional uses of grasslands, linking this to delivery of ecosystem services and 'public goods', through events and publicity focused on flagship sites
- Encourage the maintenance and improvement of floristic diversity on existing permanent pasture through good grazing management and the use of species-rich hay as supplementary feed
- Engage proactively with horse owners from the planning (change of use) stage onwards to give information and advice on best practice grassland management
- Maintain an active programme of surveying, monitoring and data collection and ensure records and maps remain up to date, specifically the Worcestershire Habitat Inventory, the Local Sites inventory and the MAGIC Geographical Information System
- Focus on securing grassland habitat connectivity in Green Infrastructure delivery to reduce levels of fragmentation
- Develop the methodology and concept of working with groups of landowners to promote landscape-scale change and logistical efficiency, especially within target grassland corridors and cluster areas

Lowland Heathland

- Continue to manage and maintain the extent of the flagship heathland sites
- Establish where heathland could be restored or created in order to enhance connectivity through north Worcestershire into Staffordshire
- Prioritise education and engagement with people living in close proximity to heathland sites to promote their importance and conservation value
- Maintain volunteer support for management and stewardship of heathland sites
- Raise the profile amongst members of the public and politically of the damage increasing recreational pressure can cause to sensitive heathland sites

Road Verges

- Undertake a full review of all sites currently listed as RVNRs and those proposed as potential RVNRs
- Maintain bespoke RVNR management and monitoring regime

- Complete the pilot road verge management project in the Malvern Hills AONB and disseminate information about the outcomes and conclusions of the project and recommended next steps for the county
- Work in partnership with Worcestershire Highways to refine and implement a more biodiversity-friendly approach to management of the wider highway verge network
- Newly created or re-landscaped road verges to be seeded with native pollinator-friendly mixes
- Use the Worcestershire Habitat Inventory to identify target areas for road verge survey and enhancement work where verges can form linking corridors or 'stepping stones' between areas of species-rich grassland
- All Local Plans to include policy recognition of the biodiversity value of road verges and the desirability of creating or enhancing species-rich verges

Urban

- Promote consistent use of Green Infrastructure Concept Plans to guide development on strategic-scale sites
- All Local Plans to have robust and clear policies on Green Infrastructure and biodiversity enhancement
- All Local Plans to have a policy on greening the built environment (i.e. use of green roofs, bat bricks, swift boxes, living walls) and the promotion of this to householders/developers at every planning stage
- Engage with statutory and public landowning bodies and work with them to secure biodiversity enhancements and more sympathetic management regimes on their landholdings
- Promote the adoption by local authorities of a pollinator-friendly approach to the management of urban parks and public open space

Rivers and Streams

- Partners engaged in river and stream restoration to take a catchment approach and use catchment-based partnership processes e.g. CABA
- Participate in national trials of biological control agents for invasive species such as Himalayan balsam; seek to eliminate invasive species where practicable

Ponds and Lakes

- Promote the restoration of neglected or degraded small farm ponds
- Promote the use of wildlife-friendly SuDS through local plan policy and development management decisions

Noble Chafer

- Raise the profile of the noble chafer and its ecology amongst orchard owners
- Continue survey work to reinforce our understanding of the noble chafer's population and distribution within the county
- Expand survey effort to include where practicable the investigation of non-fruit tree species for evidence of the noble chafer

- All sites in conservation ownership to be managed to create, maintain or otherwise provide suitable habitat for noble chafer
- Support and encourage the creation of new orchards (or the creation/provision of suitable deadwood habitat) in locations that will form habitat stepping stones between known or likely noble chafer orchards
- Promote the planting of fruit trees generally, including within hedgerows, in particular where trees can function as habitat stepping stones between known or likely noble chafer orchards

High Brown Fritillary

- Continue to undertake habitat assessments of former sites to monitor their suitability for a planned reintroduction
- Seek funding to undertake further research into the ecological requirements of the high brown fritillary in Worcestershire and the assessment of habitat suitability on a network of sites across its former ranges
- Produce a 10-year landscape management plan based on the results of habitat suitability assessments
- Work with partners in Worcestershire and the West Midlands and with Butterfly Conservation nationally to ensure that any reintroduction within Worcestershire takes place within the context of an agreed national recovery plan for the high brown fritillary

Brown Hairstreak

- Continue to work with local landowners to improve management of existing hedgerows and woodland and take opportunities to create additional habitat where possible
- Work with Natural England and other conservation partners to include specific measures to support the conservation of brown hairstreak within agri-environment or farm support payment schemes
- Continue the programme of searches for brown hairstreak eggs to monitor changes in the distribution of the species
- Maintain the timed count in the area immediately around Grafton Wood
- Monitor and instigate further research on the impact of Chalara ash dieback disease on the brown hairstreak

Wood White

- Maintain current levels of species monitoring at existing sites
- Carry out regular habitat assessments on reintroduction sites to inform site management works and ensure the wood white continues to thrive
- Continue to work with partners at a landscape scale to undertake site habitat assessments in order to identify further sites suitable for re/introductions and to plan the provision of additional habitat for the wood white
- Where habitat conditions are suitable undertake further carefully planned re/introductions of the wood white

Grizzled Skipper

- Maintain current levels of surveying for grizzled skipper at Wyre, Honeybourne and Throckmorton
- Secure volunteer support and establish an annual monitoring programme for grizzled skipper at Hipton Hill
- Increase the area of suitable habitat for grizzled skipper at Hipton Hill and maintain this through annual management
- Undertake volunteer work parties, and employ contractors where resources allow, to maintain the current extent of suitable habitat for grizzled skipper at Wyre, Honeybourne and Throckmorton
- Seek opportunities to encourage grizzled skipper to re-colonise suitable former areas close to existing colonies, to extend existing habitats and to create additional habitat by working at a landscape scale

Pearl-bordered Fritillary

- Maintain suitability of existing habitat across a network of sites in the Wyre Forest
- Continue with existing annual monitoring programme of pearl-bordered fritillary populations
- Work at a landscape level to provide opportunities for possible expansion of range of the existing population at the Wyre Forest with the aim of successful long term colonisation of five new sites
- Carry out an annual survey of sites in Wyre with potentially suitable habitat to identify new site colonisations

Common Fan-foot

- Provide training to recorders in how to survey for common fan-foot by both adult trapping and larval searches
- Set up a monitoring programme for common fan-foot at the Wyre Forest based on previous work carried out here
- Recruit volunteers to undertake monitoring at 3-yearly intervals and maintain an evidence base of the current distribution of common fan-foot
- Work with the Butterfly Conservation HQ moth team and partner organisations to better communicate to woodland managers what good habitat for common fan-foot consists of and how to best maintain it
- Explore ways of increasing resilience for common fan-foot in the Wyre Forest

Drab Looper

- Maintain suitable areas of habitat within Wyre Forest and Monkwood and seek to secure suitable management within woodlands in the landscape immediately surrounding these woodlands
- Encourage the recording of drab looper as part of existing transect recording in Wyre Forest and at Monkwood
- Raise the profile of the drab looper amongst other recorders and encourage the submission of casual records from elsewhere in the county

- Take opportunities to communicate to woodland managers what good habitat for drab looper consists of and how to best maintain it

Grayling

- Include policies within the Malvern Hills Trust and the Malvern Hills AONB Management Plans that will support grayling population recovery efforts
- Continue annual monitoring of the grayling on the Malvern Hills by transects and timed counts and the publication of results
- Continue the collaboration between the Malvern Hills Trust and West Midlands Butterfly Conservation to deliver a volunteer work party programme to maintain existing breeding habitat
- Look for further opportunities to bring additional sites on the Malvern Hills into suitable management
- Engage the public with the conservation of the grayling butterfly through continued profile-raising in local media and a programme of annual walks
- Repeat assessment of grayling breeding habitat by 2025 to determine if management is effective

Glossary

- LWS** Local Wildlife Site. Non-statutorily designated sites, designated at county level, for conservation of native species.
- MAGIC** The MAGIC website provides an interactive map of geographic information held by Government agencies about the natural environment, covering rural, urban, coastal and marine environments across Great Britain.
- NRN** Nature Recovery Network. A scheme for which the UK Government requires Competent Authorities throughout England to map existing wildlife sites and routes to join up the network of sites.
- RVNR** Roadside Verge Nature Reserve. A non-statutory conservation designation, denoting a section of verge managed on a bespoke timetable for the notable species found there. We currently have 47 RVNRs in Worcestershire, marked with red and white posts, managed mostly for botanical diversity, but in some cases also for reptiles and glow worms.
- SAC** Special Area of Conservation. A statutory conservation designation under EU legislation. SACs form an EU-wide network of high quality conservation sites, making a significant contribution to conserving the habitats and species identified in Annexes I and II of the Habitats Directive.
- SSSI** Site of Special Scientific Interest. A statutory conservation designation under the Wildlife and Countryside Act (1981), as amended. SSSIs are considered the 'finest' sites for wildlife and natural features in England; they support many characteristic, rare and endangered species, habitats and natural features.