

Guidance Note to accompany the Herefordshire Ecological Network Map

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Acknowledgements

This document has been prepared by Jo Hackman, with assistance from Bridgit Symons from Herefordshire Council's Conservation Team. Emma Wall at Herefordshire Biological Records Centre produced the Ecological Network Map.

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1 Introduction

1.1 This guidance note has been produced to accompany and explain Herefordshire's Ecological Network Map. It provides evidence for the Herefordshire Local Development Framework and Core Strategy. The Map has many potential uses both in development planning to protect the county's most important nature conservation assets, to target scarce resources towards key areas for conservation activity and to complement the existing green infrastructure assets.

2 What are ecological networks and why are they important?

2.1 Ecological networks have become recognised in the UK as an effective way to maintain and restore connectivity in the landscape and conserve wildlife in an environment that has become fragmented. Fragmentation can be caused by natural processes (such as fires, floods and geological processes) but is more commonly caused by human activities. The ecological network helps create pathways through both the built as well as the more intensively farmed and managed environment, enabling species to move, increasing the likelihood of their success in adapting to climate change. This in turn will deliver a range of benefits to people as well as wildlife, help nature be more resilient to human pressures and assist us with the delivery of ecosystem services of economic and social value.

2.2 Herefordshire's wildlife reflects its geographical position, geology and climate. The landscape has been shaped and farmed over thousands of years. The county has a range of both statutory and non statutory sites which help support our wildlife. However, designation of relatively small and isolated sites alone hasn't protected against more recent biodiversity declines. There are many challenges ahead for the natural environment not least increased demands on land for agriculture, housing and transport and climate change.

2.3 A healthy natural environment is important for our well-being, health and economy. The natural environment provides us with a range of benefits known as ecosystem services – including food, water, materials, flood defences and carbon sequestration and biodiversity underpins most, if not all, of them. Our woods, traditional orchards, uplands and species-rich grasslands are important places for carbon storage. Semi-natural habitats provide vital food and nest sites for our insects which in turn provide us with vital pollination services for our agriculture, horticulture and beverage producing sectors. Our rivers and water is important for wildlife habitat and species dispersal and migration but also for drinking, crop irrigation and industry. Herefordshire's tourism is based and promoted on the 'attractive, unspoilt countryside'. The natural world is important for our physical and mental health. Wildlife sites can provide important opportunities for people to experience the natural world. In turn the level of direct contact with nature is a factor influencing attitudes towards it.

2.4 Ecological network maps can help identify concentrations of core areas of high quality habitat as well as those which are isolated at a landscape scale. This can then be used to focus effort and target limited resources to restore areas and corridors where it will make the most difference. The key message to come out of the recent Making Space for Nature (Lawton Review)¹ document can be summarised in four words More, Bigger, Better and Joined. For example, this could include increasing the size of current wildlife sites, enhancing connections

between sites and creating new sites. National Planning Policy Framework (para. 117)² states that '*planning policies should: plan for biodiversity at a landscape scale and across local authority boundaries; Identify and map components of ecological networks and promote the preservation, restoration and recreation of priority habitats and networks*'. The Ecological Network Map will be incorporated into Herefordshire's Local Development Framework with the aim of protecting and enhancing the network.

3 Data sets and methodology used to compile the Herefordshire map

- 3.1 There is no definitive methodology for producing a county ecological network map. However we have drawn heavily on the components suggested in the Lawton Review. Decisions have been taken in the preparation of the map based on the current availability and quality of the County's ecological data which is held by the Herefordshire Biological Records Centre (HBRC) and has been assembled from a wide range of sources. See Appendix 2 for further information. The map should be a dynamic resource and will be regularly updated when more ecological survey work takes place and our knowledge improves. Some available data for surrounding English counties has been included (to a 15km boundary) to facilitate work at a landscape scale across the local authority boundaries; some data for Powys will be added when the map is updated in 2013.
- 3.2 Conserving and enhancing biodiversity is important wherever it is and white areas on a map do not imply they have no biodiversity interest and should not be considered. It must be appreciated that Herefordshire is lacking in detailed and recent habitat survey information as resources have not been put into the preparation of habitat inventories. Such inventories allow for detailed survey of known habitats to assess location, species present and condition. It is also recognised that many of the County's Local Wildlife Sites were last surveyed in 1977. Further survey work must be carried out within the life of the Core Strategy to update data sets, particularly for Local Wildlife Sites.

4 Components or categories of the ecological network

4. 1 Four main categories have been identified, loosely based on the descriptions in the Lawton Review¹:

Core Areas – Areas of high nature conservation value which form the heart of the network.

Contains habitats that are rare or important because of the wildlife they support. Should be seen as areas where species can thrive and disperse to other parts of the network. Includes protected wildlife sites Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) etc and other areas of high ecological quality Biodiversity Action Plan (BAP) habitats, Local Wildlife Sites (LWSs) etc. These areas are coloured purple on the map.

Core Area Buffer Zones – These surround the core areas and protect them from the adverse impacts of the wider environment.

Buffer zones vary in width depending on the type of site and the habitat it contains (International and national sites buffered to 400m and Local Sites and BAP habitats to 100m). These areas are coloured red on the map.

Corridors and stepping stones – Spaces that improve connectivity between conservation areas, enabling species to move, feed, disperse, migrate or reproduce.

Many features act as natural corridors e.g. rivers and hedgerows. They are not necessarily linear but may be a number of small sites. They act in a way that connects, complements or conserves core areas. These are coloured orange on the map.

Sustainable Land Use Areas – Areas in the wider landscape formed on the basis of sustainable use of natural resources, appropriate economic activity and maintenance of ecosystem services.

They may include a variety of land uses but will have proposals for habitat restoration or creation. This includes areas under environmental and landscape designations in policies Areas of Outstanding Natural Beauty (AONBs), Nature Improvement Areas (NIAs) etc. These areas are coloured pale green on the map.

5 Interpretation of the map and decision options

5.1 In order of priority, the suggested actions to promote the restoration and recreation of networks and habitats would be as follows:

1. Better management of Core Areas –
 - a. Improve management and quality of SACs, SSSIs and LWSs within Core Areas. Investing in the management of SACs, SSSIs and LWSs is a priority for the county to secure the effective delivery of an ecological network.
 - b. Protect what we have, utilising existing policy and legislation as well as grants and incentives to work with owners to achieve improved habitat management and enhancements.
 - c. Strengthening and enlarging the core areas and increasing the size of existing habitats in these areas. On non-statutory sites and habitats the first step may be to identify and engage with landowners.
2. Assess, identify and plan for habitat restoration and creation to create one or more new large Core Areas that link to the ecological network.
3. Seek to complement and potentially join existing Core Areas and extensive areas of habitat corridors and stepping stones.
4. Appraise existing Sustainable land use areas outside of the AONBs and seek to develop a shared vision and priority areas for moving forwards. Seek to integrate sustainable land use in these zones.

Appendix 1 ~ References

1. Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) *Making Space for Nature: a review of England's wildlife sites and ecological network*. Report to Defra
2. Department for Communities and Local Government. (2012) National Planning Policy Framework

Appendix 2 ~ Data sets used to compile the Ecological Network map

List of datasets included in each category and where this information was obtained from Emma Wall at the HBRC.

Core Areas - Purple

Designated sites – international, national and local:	
Special Area of Conservation	Natural England (NE)
Site of Special Scientific Interest	NE
National Nature Reserve	NE
Local Wildlife Site	HBRC
Local Geological Site	Herefordshire & Worcestershire Earth Heritage Trust
Ancient Woodland	NE
Local Nature Reserve	NE/Herefordshire Council
Herefordshire Nature Trust Reserve	HBRC
Common Land	HC
BAP Habitats	NE and HBRC

Corridors and Stepping Stones - Orange

Water		Ordnance Survey
Selected Phase 1 Habitats HBRC Codes include:		
A1.1.1 Broad-leaved woodland Semi-natural A1.1.2 Broad-leaved woodland Plantation A1.2.1 Coniferous woodland Semi-natural A1.3.1 Mixed woodland Semi-natural A2.1 Scrub Dense/continuous A2.2 Scrub Scattered	B1.1 Acid grassland Unimproved B1.2 Acid grassland Semi-improved B2.1 Neutral grassland Unimproved B2.2 Neutral grassland Semi-improved B3.1 Calcareous grassland Unimproved B3.2 Calcareous grassland Semi-improved B5 Marsh/marshy grassland B6 Poor Semi-improved grassland	
C1.1 Tall herb and fern Bracken continuous C1.2 Tall herb and fern Bracken scattered	D1.1 Dry dwarf shrub heath acid D2 Wet dwarf shrub heath D5 Dry heath/acid grassland	
F1 Swamp F2.2 Marginal/inundation Inundation vegetation	G1 Open water Standing water G2 Open water Running water	
I1.1.1 Natural Inland cliff Acid/neutral I1.2.1 Natural Inland cliff Basic I1.4.1 Natural Other exposure Acid/neutral I1.5 Cave I2.1 Artificial quarry I2.2 Artificial spoil I2.4 Artificial refuse-tip	J2.1.1 Boundaries Intact hedge Native species-rich J2.2.1 Boundaries Defunct hedge Native species-rich J2.6 Boundaries Dry ditch	

Sustainable Land-use Areas - Green

Wye Valley AONB	HC
Malvern Hills AONB	HC
Wye Valley Nature Improvement Area	Wye Valley AONB

Adjacent Counties

Shropshire, Worcestershire & Gloucestershire	NE
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Appendix 3 ~ Glossary

Biodiversity The total variety of life on earth or within any given part of it.

Ecosystem Services The benefits people obtain from ecosystems such as food, water, flood and disease control and recreation.

Ecological Networks These link sites of biodiversity importance

Green Infrastructure This is a strategically planned and delivered network comprising the broadest range of high quality green spaces and other environmental features. It should be designed and managed as a multifunctional resource capable of delivering those ecological services and quality of life benefits required by the communities it serves and needed to underpin sustainability. Its design and management should also respect and enhance the character and distinctiveness of an area with regards to habitats and landscape types.

Habitat creation Land management actions aimed at establishing a habitat on a site where it has not occurred before.

Habitat enhancement Land management actions aimed at improving the quality of habitat on a site which already supports that habitat.

Habitat restoration Land management actions aimed at restoring a habitat on a site where it has previously existed, but subsequently been lost.