

Environmental Character Area Profile for the Minerals Local Plan: 14. East Wychavon

1. Introduction

- 1.1. Minerals development usually takes place on previously undeveloped land and can therefore result in permanent change to the natural environment and green spaces in Worcestershire. The impacts of both the working and the restoration of mineral sites need to be considered in detail in the development of the Worcestershire Minerals Local Plan (the MLP).
- 1.2. The Council will take a 'green infrastructure' (GI) approach to considering these impacts. The GI approach is a different way of thinking about the green spaces in Worcestershire. It moves beyond solely considering the environmental benefits of green spaces and integrates the consideration of economic, health and social benefits in the planning and management of green spaces. Rather than considering each green space in isolation it looks at the ways in which individual sites and corridors of green space collectively form the distinctive character of Worcestershire that attracts both visitors and business to the County.
- 1.3. The components of GI include biodiversity, landscape, historic environment, access and recreation and water (also known as blue infrastructure). The GI approach requires thinking about the environment as an integrated system of stepping stones or nodes in a wider network¹.

Green infrastructure and mineral workings and restoration

- 1.4. There is significant potential for mineral workings to destroy existing networks of green infrastructure if the nature and character of these networks is not taken into account. However there is also significant potential to contribute positively to green infrastructure through the restoration of mineral workings.
- 1.5. The GI approach extends beyond thinking about designated sites of biodiversity or historic interest. This means that the impact of a mineral working on the wider environment and the integrated system of stepping stones or nodes in a wider network² will need to be considered.

Environmental Character Areas³ and the Minerals Local Plan

- 1.6. The Worcestershire Green Infrastructure Partnership has undertaken an analysis of the landscape character, biodiversity and the historic environment of Worcestershire to identify 30 distinct GI Environmental Character Areas (ECAs). Details about how these were developed is set out in *Planning for a Multifunctional Green Infrastructure Framework in*

¹ Green Infrastructure Guidance – Natural England.

² Green Infrastructure Guidance – Natural England.

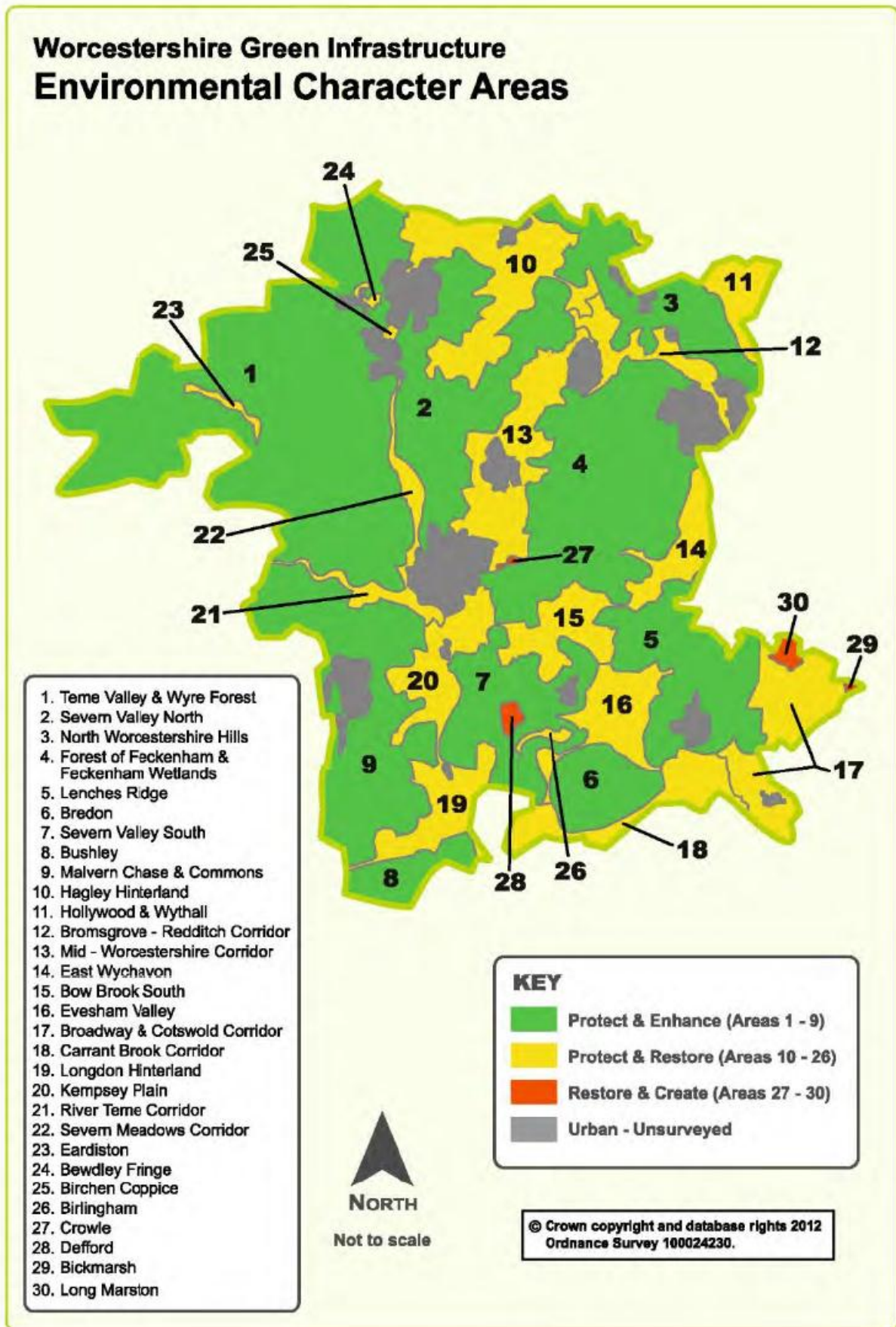
³ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

Worcestershire: Green Infrastructure Framework 2 (2012) available at www.worcestershire.gov.uk/GI

- 1.7. These underlie the distinctive character of Worcestershire and it is the Council's intention that the unique characteristics of each area will drive the restoration strategy for the Minerals Local Plan.
- 1.8. This is one of 30 profile documents which set out the characteristics and priorities for the each ECA. It sets out the mineral resources in the ECA and the GI priorities identified by the Worcestershire GI Partnership. These priorities are structured around biodiversity, historic environment, landscape character, water environment (also known as blue infrastructure) access and recreation and transport. The document is also supplemented by other locally relevant information as appropriate.
- 1.9. This information will be used to develop the spatial strategy and restoration priorities for each ECA.
- 1.10. Profiles for each of the following ECAs are available on our website www.worcestershire.gov.uk/mineralsbackground:
- 1.11. The Environmental Character Areas are:
 1. Teme Valley & Wyre Forest
 2. Severn Valley North
 3. North Worcestershire Hills
 4. Forest of Feckenham & Feckenham Wetlands
 5. Lenches Ridge
 6. Bredon
 7. Severn Valley South
 8. Bushley
 9. Malvern Chase and Commons
 10. Hagley Hinterland
 11. Hollywood & Wythall
 12. Bromsgrove – Redditch Corridor
 13. Mid-Worcestershire Corridor
 14. East Wychavon
 15. Bow Brook South
 16. Evesham Valley
 17. Broadway & Cotswold Corridor
 18. Carrant Brook Corridor
 19. Longdon Hinterland
 20. Kempsey Plain
 21. River Teme Corridor
 22. Severn Meadows Corridor
 23. Eardiston
 24. Bewdley Fringe
 25. Birchen Coppice
 26. Birlingham
 27. Crowle
 28. Defford
 29. Bickmarsh
 30. Long Marston

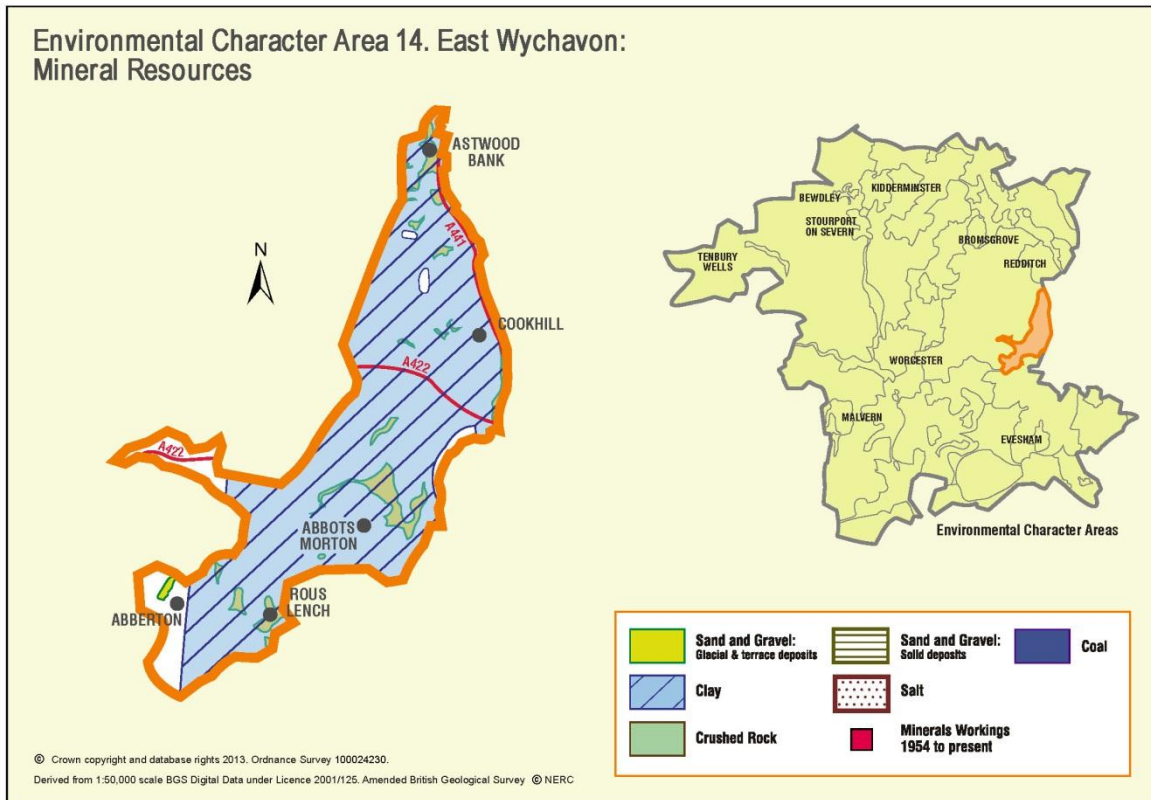
These are illustrated on Figure 1. Environmental Character Areas.

Figure 1. Environmental Character Areas



2. Characteristics and priorities of the East Wychavon ECA 14

Figure 2. Environmental Character Area 14. East Wychavon



Mineral Resources

Aggregates

2.1. Details about the aggregate resources in this ECA are given in the background report "Analysis of Mineral Resources in Worcestershire" available on www.worcestershire.gov.uk/mineralsbackground. The following is therefore only a simple summary.

Sand and gravel

2.2. ECA 14 may contain sand and gravel resources but the data is poor, boreholes are lacking and the deposits seem to be shallow.

Hard rock

2.3. There is no evidence that suitable strata exist.

Industrial minerals

Clay

2.4. There is no evidence of clay working in this ECA.

Silica sand

2.5. There is no evidence that suitable strata exist.

Building Stone

2.6. There are small disused building stone quarries in this ECA and further potential building stone resources may be assumed.

Brine

2.7. There is no evidence of brine working in this area or that Halite deposits might exist at depth.

Future Growth

2.8. The key driver for mineral extraction is to provide the raw materials required for the economy to function properly and for homes and infrastructure to be built. Minerals are unevenly distributed. Some of the minerals that we need are not found in Worcestershire and will need to be imported from outside the County. Many minerals are expensive to transport, particularly aggregates as they are a relatively low value and bulky material, and they are likely to be used close to their source, meaning that some local mineral extraction will be needed to support local growth in housing and the associated infrastructure that is required, or to provide raw materials for local industry. On average, about 80 per cent of mineral products are used within 30 miles of the quarry.

2.9. This is a largely rural area predominantly within Wychavon District but in Redditch Borough at the northern end. Wychavon anticipates the development of 5,807 homes, 18.5 ha of employment land and a new neighbourhood centre and Redditch anticipates 3,259 homes, 51 ha of employment land and significant retail development in the next 14-18 years⁴.

2.10. The ECA incorporates the "Sustainable Rural Settlement" of Astwood Bank which is identified as the focus for identified development needs and supporting local services and infrastructure in the Draft Borough of Redditch Local Plan No.4.

2.11. This and other areas beyond the boundary of the ECA could create demand for minerals in this Environmental Character Area.

Green Infrastructure priorities⁵

2.12. All Environmental Character Areas (ECA's) have been placed into one of three categories based on their overall score for Green Infrastructure. These are:

⁴ Information gathered by Worcestershire County Council in early 2013. This gives a good indication of the likely levels of development which can be expected, but for the latest figures please refer to the relevant City, District or Borough Council.

⁵ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

1. Protect and enhance
2. Protect and restore
3. Restore and create

- 2.13. The category is based on an assessment of the ECAs landscape character, biodiversity and the historic environment characteristics. These characteristics were each attributed a score, with biodiversity being given a greater weighting than landscape and the historic environment, each of which were given equal but lower weightings.
- 2.14. The strategic GI approach for the East Wychavon ECA is to *protect and restore*. The overarching principle identified by the GI partnership is restoration to protect and restore hedges and field boundaries and the hedge, ditch and watercourse trees.

Landscape and biodiversity

- 2.15. The East Wychavon Environmental Character Area lies along the eastern border of Worcestershire and abuts the Lenches Ridge ECA to the south. The southern part of the East Wychavon ECA is contiguous with the western part of the Lenches Ridge ECA, having been classified as the Village Claylands Landscape Type by the County Landscape Character Assessment. This Landscape Type does not support woodland and is characterised by medium-to-large scale pastoral fields, separated by hedgerows with scattered hedgerow and streamside trees. These are landscapes with heavy, poorly drained soils where, in the past, the continuing pastoral land use has preserved large areas of ridge and furrow from medieval cultivation. However, modern intensive agricultural land-use has now destroyed much of this heritage and resulted in a landscape notably denuded in biodiversity value within its county context. The settlement pattern of this Landscape Type is nucleated with farms being sited within or on the edge of villages and not in the open countryside as most of the western part of the county.
- 2.16. The northern part of the East Wychavon ECA has been described as the Landscape Type Settled Farmlands with Pastoral Land Use where the character is more intimate with smaller fields, a less regular enclosure pattern and a dispersed settlement pattern of farmsteads and groups of wayside dwellings. The pastoral land use has been lost to modern more intensive farming methods in places but is still intact in other areas. The northern and eastern parts of the ECA are part of the Redditch Hills and Ridgeway Natural Areas: a floristically diverse zone of mudstone and glacial soils with pockets of woodland (Weethley Wood Complex being the most notable within the ECA).
- 2.17. The eastern part of the ECA, near Abbots Morton is classified as Wet Pasture Meadows where the low lying ground drains badly and wetland habitat is noticeable. These seasonally inundated pastoral meadows do not support woodland, tree cover being represented by lines of trees following drainage ditches and streams. This Landscape Type extends almost to the county boundary where another Landscape Type, Wooded Estatelands picks up the character of the large linear woodlands of Weethley Wood and surrounding areas extending into Warwickshire.

GI Priorities:

- 2.18. The biodiversity priorities identified for the East Wychavon ECA are⁶:
- Seek opportunities to restore the landscape to its inherent landscape character.
 - Replant the hedgerow trees using species native to the area.
 - Seek every opportunity to create areas of permanent pasture in this inherently pastoral landscape.
 - Protect and enhance existing site and biodiversity interest. Implementation and delivery to be directed to existing site management and buffering as a first principle.
 - Existing hedgerow networks to be enhanced and expanded.
 - Protect and enhance existing sites of biodiversity interest. Implementation and delivery to be directed to existing site management and buffering as a first principle.

Geodiversity

- 2.19. There are no Local Geological Sites in this ECA.

Historic Environment⁷

2.20. This area is predominantly characterised by relic medieval and post medieval landscapes. There are a large number of moated enclosures and the former medieval nunnery at Cookhill, along with fragments of former parkland, field systems and settlements. Where lighter soils occur over the bands of sands and gravels there is increased evidence in the form of surface artefact scatters, for earlier occupation sites dating from the prehistoric and Romano British periods.

2.21. Historic landscape character is in common with the wider former Feckenham Forest area with a diverse mix of post-medieval piecemeal fields and regular planned enclosure of former medieval open-field cultivation.

GI Priorities:

- 2.22. The historic environment priorities identified for the East Wychavon ECA are⁸:
- Buffer historic landscape features, such as earthwork boundaries, ridge and furrow, abandoned multi-period settlement remains.
 - Protect historic water features and buffer key sites, such as moats, fishponds and millponds.
 - Conserve and enhance diverse multi-period historic field patterns and hedgerows associated with medieval assarting and late enclosure of historic open heath and medieval open-fields.

⁶ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

⁷ Historic Environment and Archaeology Service, Worcestershire County Council and Cotswold Archaeology (R Jackson and H Dalwood et al) (November 2007) *"Archaeology and aggregates in Worcestershire: A resource assessment and research agenda"* Supported by English Heritage through the Aggregates Levy Sustainability Fund.

⁸ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

- Buffer landscapes with historic parkland character and enhance and create linkages with wider historic environment green networks (hedgerows, woodland, parkland and wetlands).

Blue Infrastructure

Flooding

- 2.23. This ECA is drained by minor watercourses of which the Piddle Brook is the most significant. It is not a significant flood risk. Pluvial flood risk is seen as a significant factor for strategic planning in Wychavon District, The LPA does however consider that a number of areas are not defended to a satisfactory standard, notably, in this ECA, Rous Lench.
- 2.24. The geology can have an effect on the runoff, and the flooding, within a catchment as a result of the permeability of the strata. The geology within South Worcestershire is variable. Impermeable clays and mudstones dominate the Warwickshire Avon sub-catchment and groundwater flooding is not a problem in this ECA.
- 2.25. The River Severn Catchment Flood Management Plan makes this a Policy 3 area, where it will "Continue with existing or alternative actions to manage risk at the current level."

Water Quality

- 2.26. Surface water quality in this ECA is moderate and Groundwater quality good. The area is categorised as having water company point source pollution pressure.

Water Supply

- 2.27. In this ECA is poor, in theory no water is available.

GI Priorities:

- 2.28. The blue infrastructure priorities identified for the East Wychavon ECA are⁹:
- Reduce dependence on raised flood defences, as this is unsustainable in the long term, by taking opportunities to restore sustainable natural storage of floodwater on undeveloped floodplains. Make more space for rivers through urban areas via 'blue corridors' (i.e. Restoring access for floodwater onto key strips of floodplain. This requires redevelopment to be limited to flood-compatible land-uses e.g. parkland).
 - Some designated 'aquatic conservation' sites are in unfavourable condition. Activities that affect these sites must be changed to improve their condition.

⁹ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

- Ensure that the run-off from all proposed development is minimised. For example, SUDS must be encouraged and targeted within planning approvals.
- Encourage the retro-fitting of SUDS where surface water flooding is already a problem. Support ecological improvements. Examples of this include Severn & Avon Wetlands Project; Natural England's three fluvial SSSIs.
- Reduce the impacts of abstraction on the environment as part of the Restoring Sustainable Abstraction programme.

Access, informal recreation and tourism

- 2.29. This ECA is in Wychavon District. Only 3.6% of the Wychavon District is accessible natural greenspace, this is the lowest proportion across all districts in Worcestershire. As a whole accessibility to greenspace is poor with only 20% of households in Wychavon are within 5km of 100ha+sites and 2% of households within 10km of 500ha+sites.
- 2.30. There are no sub-regional recreation assets in this ECA, however the Wychavon Way cross the west of this ECA. This is a 40 mile way-marked recreation route from Holt Fleet to Broadway.
- 2.31. There are deficiencies in opportunities for access and recreation across the Vale of Evesham, with the Rights of Way network being less dense than in any other area of the County. There is also a lack of sites such as Country Parks, picnic places and Registered Commons. Few nature reserves exist although there are a number of smaller community sites such as Village Greens and Millennium Greens.
- 2.32. Provision is required at both a strategic and neighbourhood level. At a neighbourhood or local scale there is scope for towns and villages to address natural greenspace needs within the rural communities. This should be a requirement of development and other options should be explored for existing communities such as stewardship agreements.

GI Priorities:

- 2.33. The access and recreation priorities identified for the East Wychavon ECA are¹⁰:
- Consider the proximity to and ability to integrate with the rights of way network, recreational way-marked routes and the cycle network;
 - Accommodate associated facilities necessary for the use and enjoyment of the site in a manner that is appropriate and able to integrate with the landscape character, wildlife and cultural interests.
 - Act as a greenway from town into the countryside and utilise existing canal, former railway lines, river corridors and wherever possible link with public transport routes.
 - Adopt minimum quality standards, (commensurate with its location and scale) that sites and routes should be expected to achieve will

¹⁰ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

be those from the Green Flag Award Programme, and the Country Parks Accreditation Scheme, as appropriate.

Transport

Road

- 2.34. The A422 crosses the centre of the ECA connecting Worcester in the west with Alcester and Stratford-upon-Avon in the east. The A441 runs along the north western edge of the ECA, connecting Redditch to the north with the A442. Other roads in this Environmental Character Area are more minor.
- 2.35. The Worcestershire Advisory Lorry Route Map does not show any low bridges which would restrict the movement of vehicles over 16'3" (4.95m) on the lorry route network. Local roads may have further restrictions and will need further assessment if they are to be used for accessing mineral resources.

Rail

- 2.36. There are no network rail lines in this ECA.

Water

- 2.37. There are no navigable waterways in this ECA.

GI Priorities:

- 2.38. The GI transport priorities identified for the East Wychavon ECA are¹¹:
- Opportunities should be sought to protect, enhance and create green infrastructure that promotes sustainable movement by walking and cycling, reducing the need to travel by car by providing pleasant environments that promote sustainable transport as a means to minimise the impact of transport on the natural environment and mitigate the impacts of climate change.

LTP Priorities:

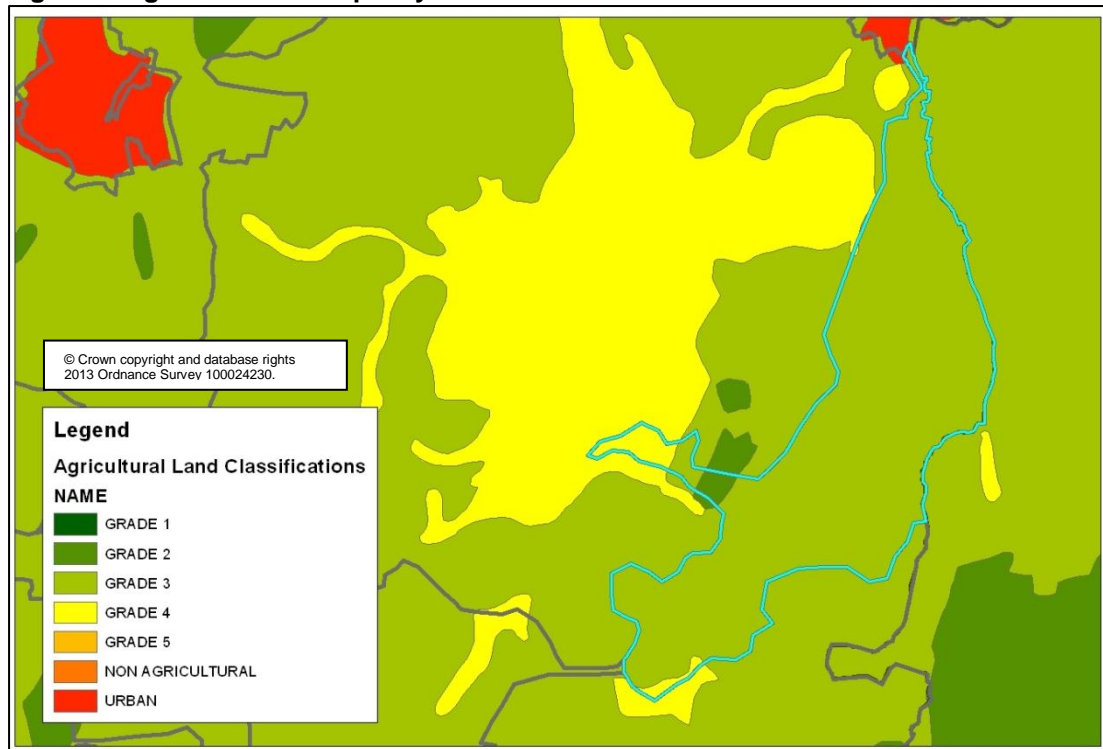
- 2.39. The LTP 3 transport priorities identified for the East Wychavon ECA are:
- **A442 Worcester-Alcester interurban corridor maintenance and improvement scheme** - a programme of improvements to transport infrastructure on this route, which is likely to be progressed in the medium term and will include junction enhancements, street furniture decluttering, replacement and enhancement.

Agriculture/Forestry

- 2.40. The agricultural land use in this ECA is dominated by pastoral land. Agricultural land quality across the area is largely grade 3, with one pocket of higher quality grade 2 land and some lower quality grade 4 land, as shown in Figure 3.

¹¹ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

Figure 3. Agricultural land quality



2.41. The forestry commission's woodland opportunity maps show that the northern half of the ECA is listed as priority 1 and the majority of this the southern half of the ECA is listed as priority 2 for woodland creation which could benefit landscape character, biodiversity, cultural heritage and/or public access (Figure 4). They also show that areas in the centre of the ECA are part of an ancient woodland landscape but this is not prioritised for woodland restoration (Figure 5).

Figure 4. Woodland creation for landscape, biodiversity, heritage and public access

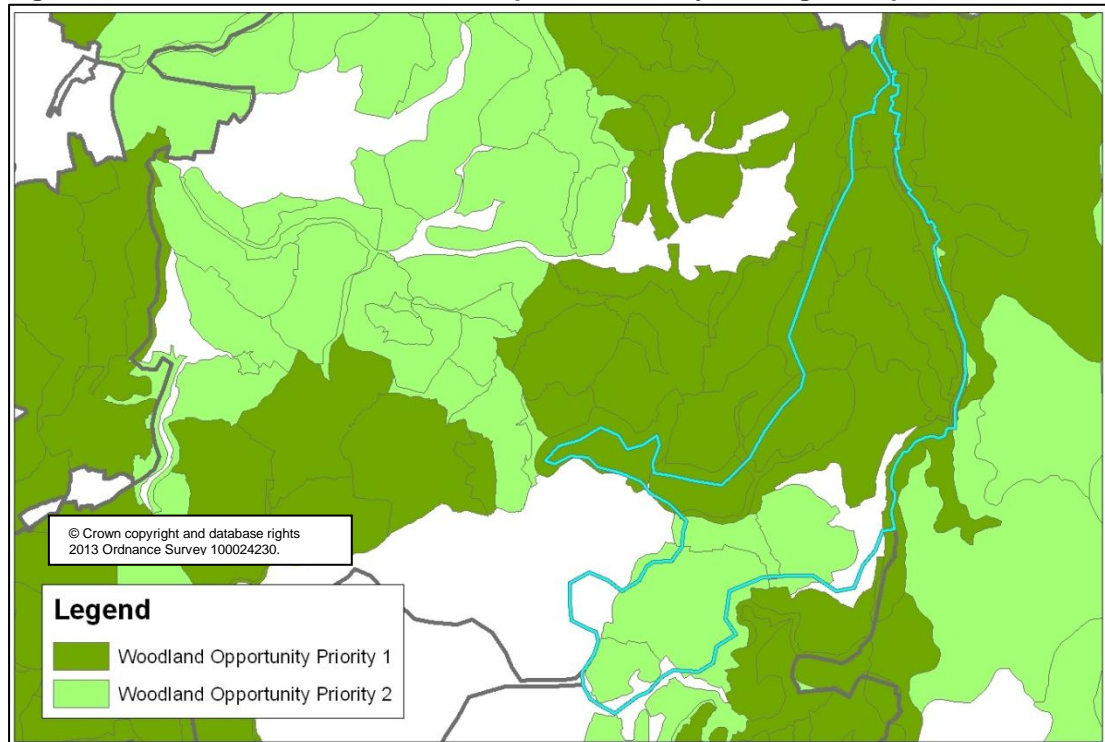
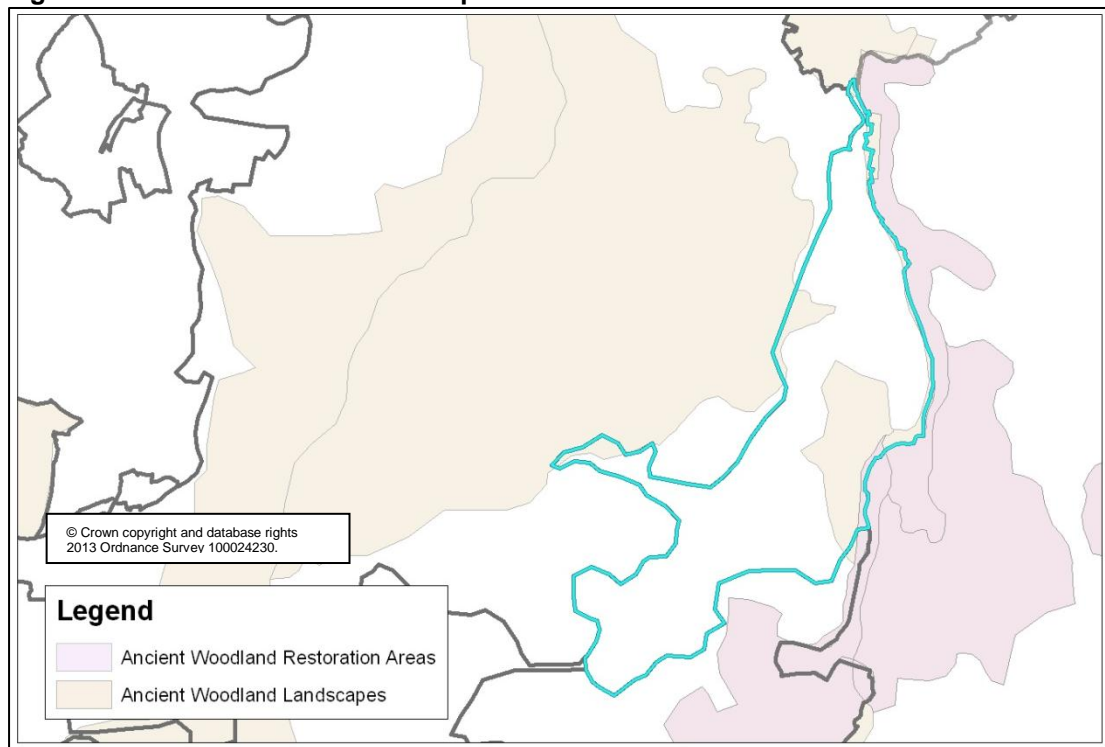


Figure 5. Ancient woodland landscape and restoration



Climate Change

2.42. Some effects of climate change will be similar across the whole county and many of the issues which can be addressed are likely to be common to all ECAs, such as:

- Improving air quality
- Providing flood risk management solutions
- Preventing water and soils pollution as a result of climate change related extreme weather conditions
- Promoting energy efficient and low carbon solutions
- Contributing to renewable energy production

Opportunities and issues

- 2.43. Green Infrastructure features such as buffering of watercourses provide a way of minimising fluvial flooding. Planned landscaping incorporating flood defences could provide both and short term benefits and sustainable drainage schemes (SUDS) are a mechanism for managing both fluvial and pluvial flood risk.
- 2.44. Agricultural and horticultural businesses could face damaging water shortages in the coming decades as a result of climate change. In many parts of Worcestershire, water resources are under severe pressure. The majority of catchments in which horticultural production is concentrated have been defined by the Environment Agency as being either over-licensed and/or over-abstracted. Well executed water storage facilities could not only provide water supply for the business in the dry periods but a wide range of green infrastructure benefits such as biodiversity or landscape and opportunities for increased physical activity and exposure to nature.
- 2.45. The soil types in the west of this ECA are inherently at risk of subsidence and heave. It is possible that changes in weather patterns as a result of climate change may worsen these tendencies.

Socio-economic considerations

- 3.46. The analysis of the socio-economic situation in Worcestershire in this strategy considers the economy and health & well-being at a high level. It is not intended to draw a full picture of the economy or health and well-being in the county, instead it focuses only on the indicators which are of most relevance to green infrastructure:
- **Economy:** unemployment, household income and deprivation levels.
 - **Health and well-being:** health deprivation, heart diseases, obesity, mental health problems and respiratory conditions.
 - **Access to sites for informal recreation:** considers links between informal recreation opportunities and mental and physical well-being.
- 2.47. There is thought to be a link between green infrastructure and some aspects of health. The issues of obesity, respiratory conditions, mental health, heart disease and health deprivation have been considered in this context.
- 2.48. 26% (120,000) of the Worcestershire's adult population is obese and another 40% is overweight. The adult obesity levels in Worcestershire are

higher than the national average. The level of childhood obesity is around the national average, at 10% of five year olds and 18% of eleven year olds. In terms of land cover, most of the Worcestershire area has some problems with obesity. The southern part of this ECA is however amongst the better performing areas in the county.

- 2.49. Obesity and respiratory problems in this county generally follow the same geographical pattern. Mental health problems, by contrast, tend to be found in the and around major settlements. Although mortality rates from cardiovascular diseases are significantly lower than the national rate, patterns of heart diseases are more dispersed than the other health indicators assessed and poor performance is found across the county. Contrary to other health indicators, heart diseases are least prevalent in some of the urban areas.
- 2.50. The overarching principles identified by the GI partnership regarding socio-economic matters for this ECA are:
- Maintain both health and economic wealth.
 - The main economic issues are low household incomes for most of this area and unemployment and economic-related deprivation to the north of Kidderminster
 - Primary focus on above average incidence of health problems related to heart disease.