

Environmental Character Area Profile for the Minerals Local Plan: 25. Birchen Coppice

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.

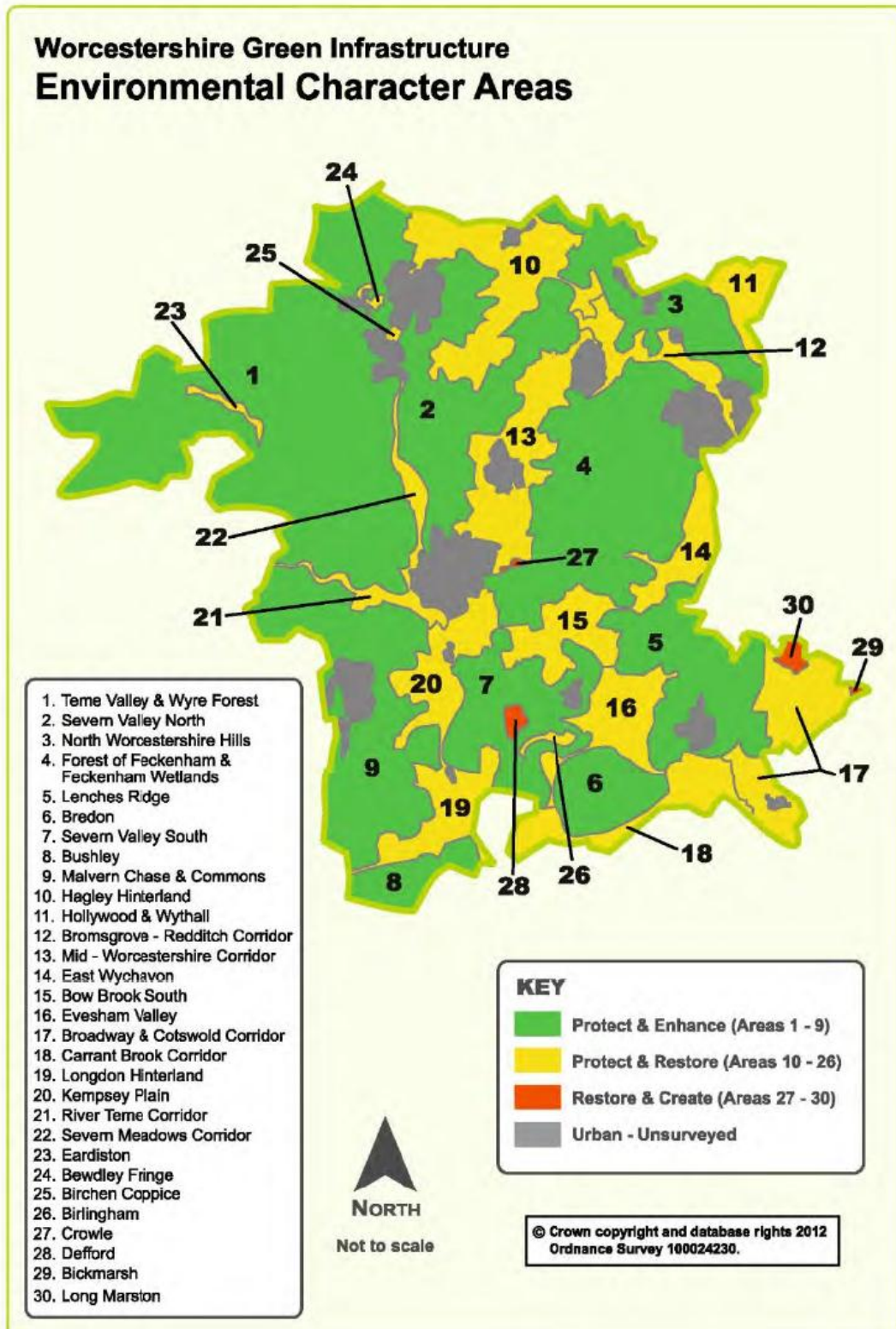
³ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

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

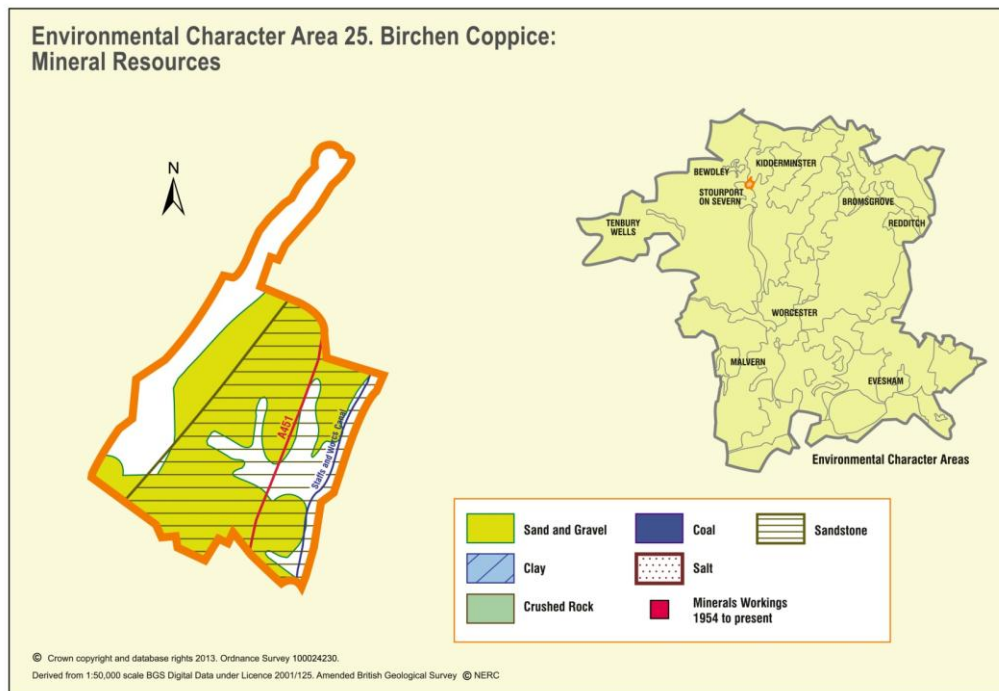
These are illustrated on Figure 1. Environmental Character Areas.

Figure 1. Environmental Character Areas



2. Characteristics and priorities of the Birchen Coppice ECA 25

Figure 2. Environmental Character Area 25 Birchen Coppice



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 25 contains potentially large volumes of sand and gravel, particularly from solid deposits. An outcrop of Kidderminster Formation beds runs North East – South West from Kidderminster to Burlish Park, Stourport and is flanked to the North West by Wildmoor Formation Sandstone and to the South East by the 3rd river terrace. The Wildmoor Foundation deposit appears to vary but at Mount Pleasant in the railway cutting south of the tunnel, more than 50 ft. is exposed including pebbly bands and beds of red sandstone with an occasional layer of marl.

Hard rock

- 2.3. There is no evidence of suitable strata in this ECA.

Industrial minerals.

Clay

2.4. There is no evidence of suitable strata in this ECA.

Silica sand

2.5. Wildmoor Formation sandstone exists in this ECA and has been worked elsewhere for silica sand production.

Brine

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

Future Growth

2.7. 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.

2.8. This ECA is a rural area within Wyre Forest District. The district anticipates the development of 2,946 homes and 35.17 ha of employment land in the between 2006 and 2026 years. No development is proposed in this ECA in the Wyre Forest District Council Core Strategy.

2.9. Areas beyond the boundary of the ECA could create demand for minerals in this Environmental Character Area, particularly the Market Town of Bewdley which is adjacent to the ECA, Kidderminster to the East and Stourport-on-Severn to the south.

Green Infrastructure priorities⁴

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

These are:

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

⁴ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

- 2.11. 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.
- 2.12. The strategic GI approach for the Mid-Worcestershire corridor ECA is to *protect and restore*. The overarching principle identified by the GI partnership is to protect and restore neutral grasslands, orchards and semi-natural ancient woodland, wet woodland and stream corridors.

Biodiversity and landscape

- 2.13. The Birchen Coppice Environmental Character Area lies within the Kinver Sandlands Regional Landscape Character Area. This is an area of former woodland and waste which is closely associated with an irregular zone of Permian and Triassic rocks that extend northwards from Stourport-on-Severn into south Staffordshire and south-east Shropshire. The nature of the underlying bedrock typically gives rise to sandy, free draining soils supporting woodland and heath. Worcestershire's heaths once formed part of a heathy belt extending north to Kinver, then into Staffordshire and to the north of Birmingham to link to the Arden area. This is reflected today by the frequent occurrence of place names ending in "heath" and in the presence of isolated red brick farmsteads and clusters of wayside dwellings, both of which are associated with the enclosure of former commons.
- 2.14. Birchen Coppice ECA is one of the few remaining open pieces of land between Kidderminster and Stourport-on-Severn. The coppice itself is a finger of land, enclosed on three sides by urban development. It is linked by a small isthmus of land to the main, rectangular shaped part of the ECA. This area has been substantially degraded with sports grounds and golf courses, particularly on the western side of the A451 but the underlying character of Sandstone Estatelands is still discernable in the large scale, planned enclosure pattern and open views. On the eastern side of the A451 the land is still relatively undeveloped with large geometric grassed fields and a wooded belt marking its boundary along the Staffordshire and Worcestershire Canal.
- 2.15. The ECA is located inside the Stour Valley Natural Area, an area notable for the county's greatest concentrations of wetland habitats: open water, marsh, fen and carr. Biodiversity value is considered high despite a very significant decline associated with industrialisation since the 1970's. The grassland and tree belt to the east of the A451 form part of a wider network of designated grasslands and woodlands which extend out from the Stour floodplain. There is significant opportunity to re-link flood-plain corridors within the ECA, in particular wet and floodplain grasslands, reedbed and wet woodland as well as extending areas of acid grassland and heathland which are found to the west.

GI Priorities:

2.16. The biodiversity and landscape priorities identified for the Birchen Coppice ECA are⁵:

- In this urban fringe area, seek opportunities to restore the characteristic features of the Sandstone Estatelands Landscape Types that comprises this ECA.
- Newly created GI features should aim to augment the existing resource concentrating on the main priorities for protection and creation including acid grassland and hedge and small woodland connectivity through linking, merging and buffering existing and newly created habitats.
- Implementation and delivery to be directed to existing site management and buffering as a first principle. Linking of networks to be applied where practicable.
- Restore functional stream corridors, and re-link flood plain corridors in particular wet and floodplain grassland, reedbed and wet woodland

Geodiversity

2.17. There are no geological SSSIs or local geological sites in this ECA.

Historic Environment⁶

2.18. This very small character area has had little archaeological investigation and consequently has an unknown archaeological potential although there is a likelihood for the presence of early prehistoric artefacts and possible seasonal settlement remains in common with other areas of former open heathland near to the Severn.

2.19. Historic landscape character has been affected by the construction of a golf course and 20th century industrial activity. However, some internal field boundaries are derived from the phase of 19th century enclosure of former open heath.

GI Priorities:

2.20. The historic environment priorities identified for the Birchen Coppice ECA are⁷:

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

⁶ 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.

⁷ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

- Explore opportunities to restore heathland landscapes employing methods sensitive to historic asset conservation; notably: historic field boundaries and potential prehistoric artefact scatters.

Blue Infrastructure

Flooding

- 2.21. The river Stour presents the main source of flood risk to Stourport; it bisects the town and with the Staffordshire and Worcestershire Canal is adjacent to this ECA.
- 2.22. In isolation, the canal system operates effectively, and is able to accommodate the flows that enter it from feeder streams and its own small catchment areas. However, as evidenced in the events of June and July 2007, problems arise when the River Stour interacts with the canal system. When river levels in the Stour exceed the bank heights of the canal, water enters the canal system and quickly uses the storage afforded by the available freeboard. The canal then acts as a conduit to flood water, passing flood water downstream. This situation was observed in the summer of 2007, when levels in the River Stour at Kinver, just north of the Wyre Forest District boundary, exceeded the towpath level of the canal. The canal was unable to cope with the additional flux of water resulting in bank failure and ultimately property flooding at Whittington (outside the District).
- 2.23. Very heavy rainfall within the District has the potential to result in large numbers of individual local floods. Surface water run-off management in the entire District therefore remains an important issue for all developments which highlight the need for Sustainable Drainage Systems (SUDS) thereby maximising the use of source control measures.
- 2.24. The Environment Agency are not aware of any specific incidences of groundwater flooding within the Wyre Forest District.
- 2.25. The River Severn Catchment Flood Management Plan makes this a policy 5 area, where it will "Take further action to reduce flood risk".

Water Supply

- 2.26. Most supplies in Wyre Forest District are from the Trimpley reservoir and River Severn. The Sherwood Sandstone aquifer beneath the central part of the district provides an additional source of supply and must be protected.
- 2.27. Both the river and the aquifer are susceptible to over abstraction and pollution.
- 2.28. These restrictions must be taken into account when considering the new development sites.

Water Quality

- 2.29. Surface Water quality in this ECA is moderate, groundwater quality is poor however. The whole area is categorised as a water body with

agricultural/rural diffuse pollution pressure and water company point source pollution pressure. The WFD Ecological status is moderate.

GI Priorities:

- 2.30. The blue infrastructure priorities identified for this ECA are⁸:
- Manage areas of low, moderate or high flood risk and take action where necessary to keep pace with climate change.
 - Explore 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 by limiting redevelopment to flood-compatible land-uses e.g. parkland).
 - Seek ecological improvements.

Access, informal recreation and tourism

- 2.31. This is a small ECA with no publically accessible sub-regional GI assets in the ECA, although the Staffordshire and Worcestershire Canal runs along its eastern edge.

GI Priorities:

- 2.32. The access and recreation priorities identified for the Birchen Coppice ECA are⁹:
- 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 be those from the Green Flag Award Programme, and the Country Parks Accreditation Scheme, as appropriate.

Transport

Road

- 2.33. The A451 runs through the ECA to connect Stourport to the south with Kidderminster to the north. Other roads in this Environmental Character Area are more minor.
- 2.34. The Worcestershire Advisory Lorry Route Map does not show any low bridges which would restrict the movement of vehicles over 16'3" (4.95m)

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

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

on the lorry route network, although it does show areas of reported peak time congestion on the A451 near Kidderminster. Local roads may have further restrictions and will need further assessment if they are to be used for accessing mineral resources.

Rail

2.35. There are no network railways in this Environmental Character Area.

Water

2.36. The Staffordshire and Worcestershire Canal runs along the eastern edge of the ECA on its route between Stourport and Kidderminster.

GI Priorities:

- 2.37. The GI transport priorities identified for the Birchen Coppice ECA are¹⁰:
- 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:

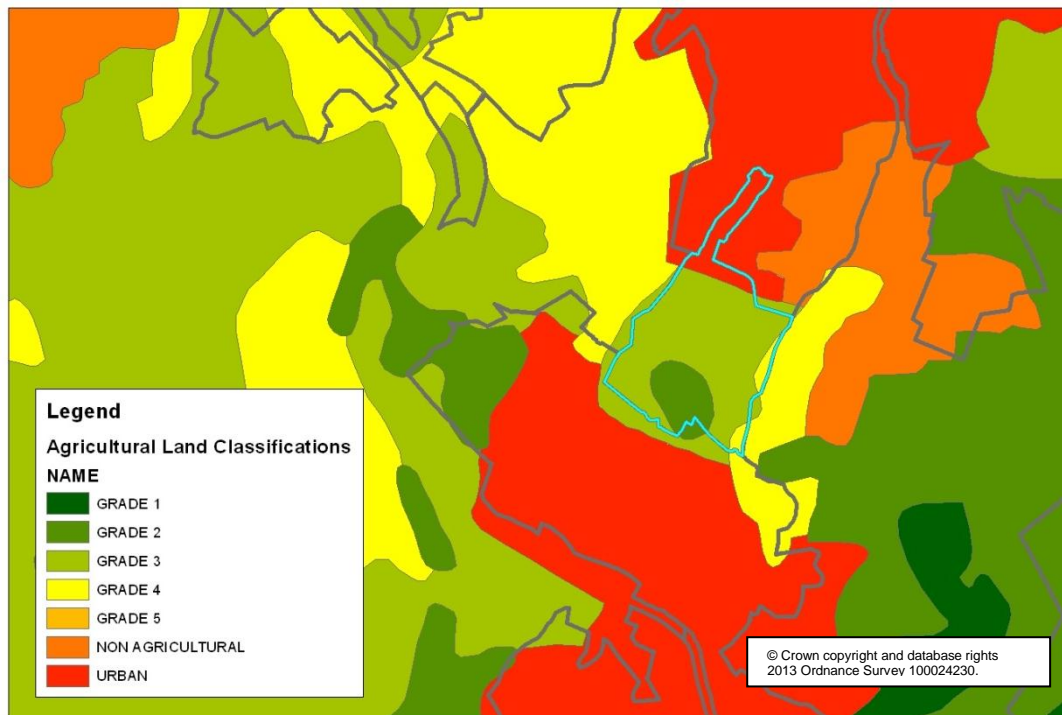
- 2.38. The LTP 3 transport priorities identified for the Birchen Coppice ECA are:
- **Stourport-on-Severn A451 Minster Road / Worcester Street Junction Improvement Scheme** - this scheme would involve maintenance and upgrading of this busy junction to improve its efficiency. It is proposed that a MOVA intelligent traffic signal control system would be installed to improve capacity at this junction.
 - **Stourport-on-Severn Relief Road Phase 1 (A451-B4193-A4025) Scheme** - the Stourport-on-Severn Transport Study identified that the majority of Stourport's congestion was caused by vehicular trips passing through the town from the east to the north and vice versa. This proposed scheme would involve the partial completion of the previously proposed bypass, relieving the impacts of this heavy traffic flow through the town. This scheme would complement any investment in a Hoobrook Link Road in Kidderminster and would be integrated with other Stourport enhancement schemes.

Agriculture/Forestry

- 2.39. The majority of the land use in this ECA is cash cropping. Cash cropping covers market gardening as well as arable farming.
- 2.40. Agricultural land quality in the ECA is predominantly Grade 3, with some higher quality Grade 2 land and some urban land in the north of the ECA at Kidderminster, as shown in Figure 3.

¹⁰ 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 majority of this ECA is listed as priority 1 for woodland creation which could benefit landscape character, biodiversity, cultural heritage and/or public access (Figure 4). However, they also show that the ECA is not an ancient woodland landscape (Figure 5).

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

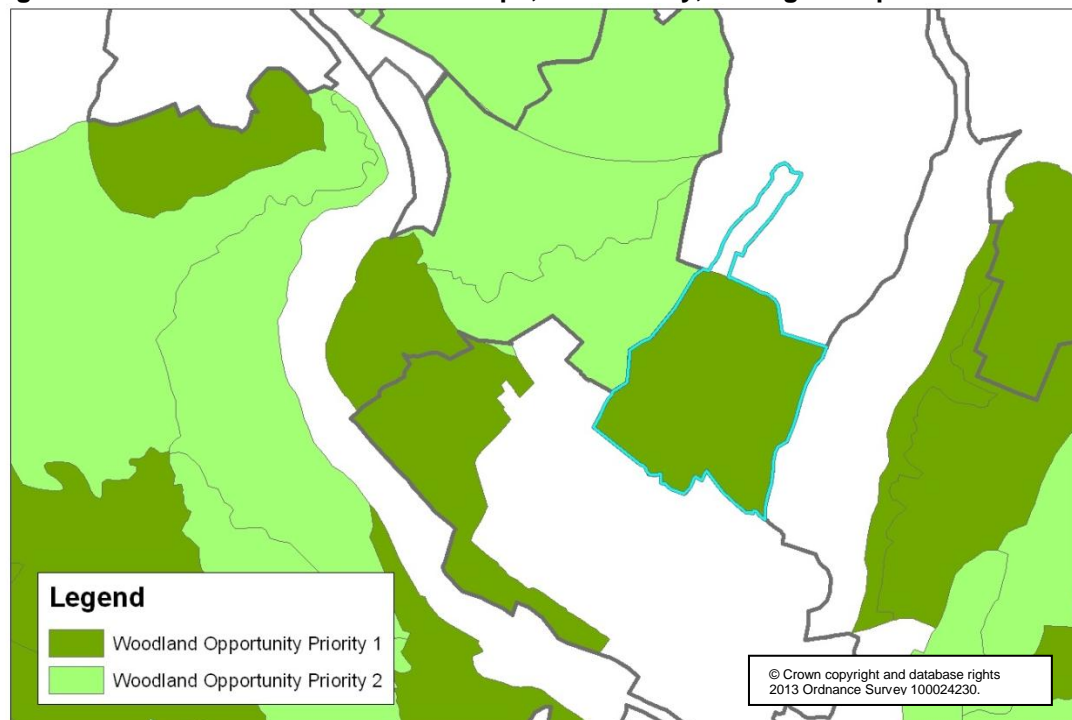
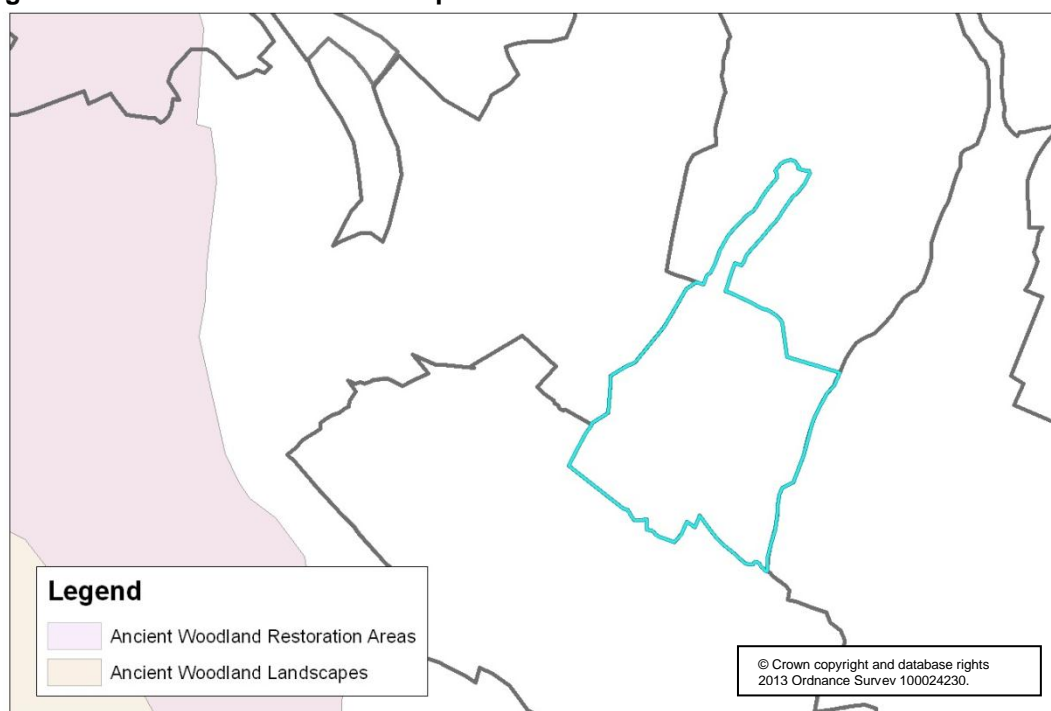


Figure 5. Ancient woodland landscape and restoration



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 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.

Socio-economic considerations

- 2.45. 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.
- 2.46. 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.
- 2.47. 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.
- 2.48. 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.