

Environmental Character Area Profile for the Minerals Local Plan: 28. Defford

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.

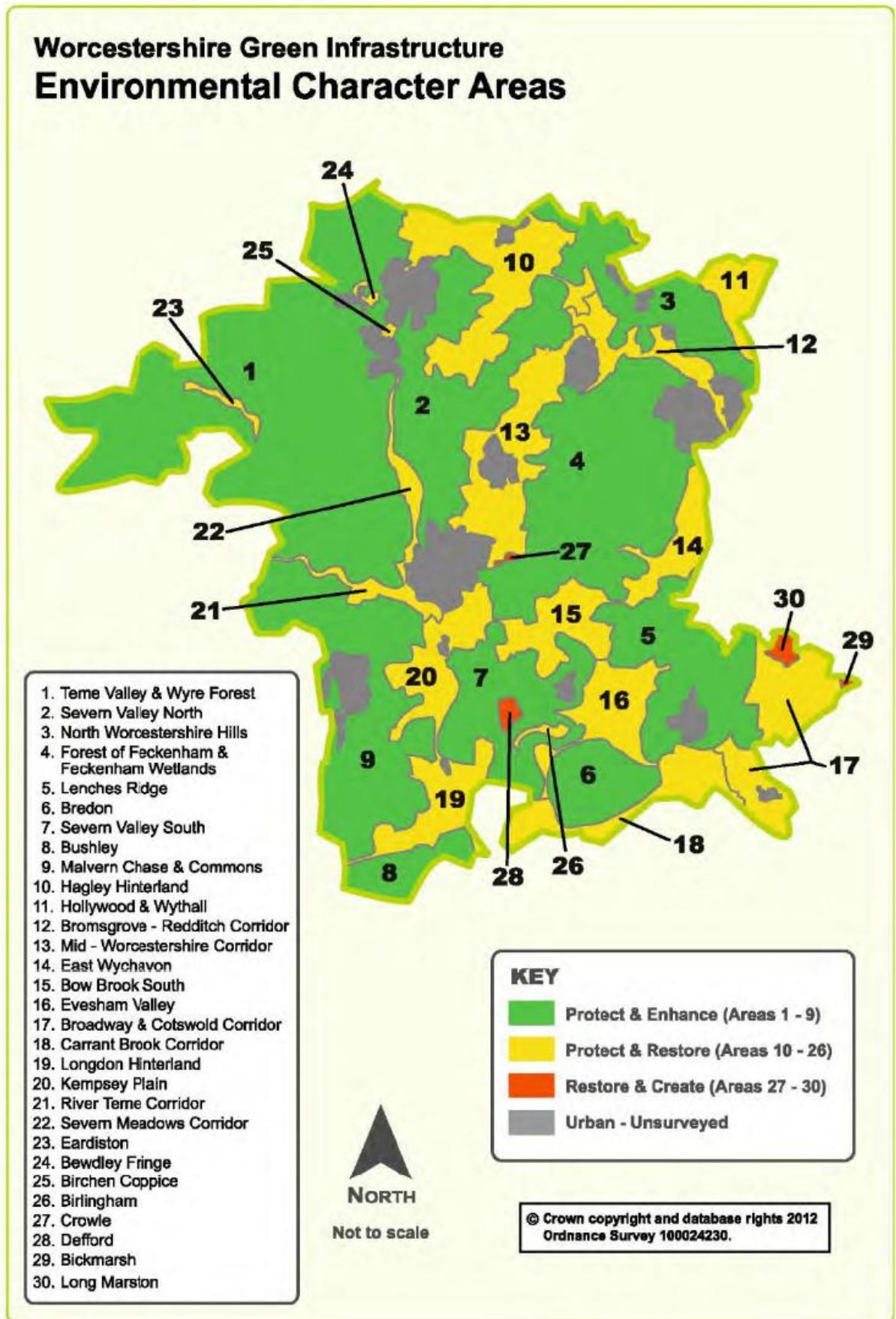
³ Worcestershire County Council (July 2012) *Planning for a Multifunctional Green Infrastructure Framework in Worcestershire: Green Infrastructure Framework 2*

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.

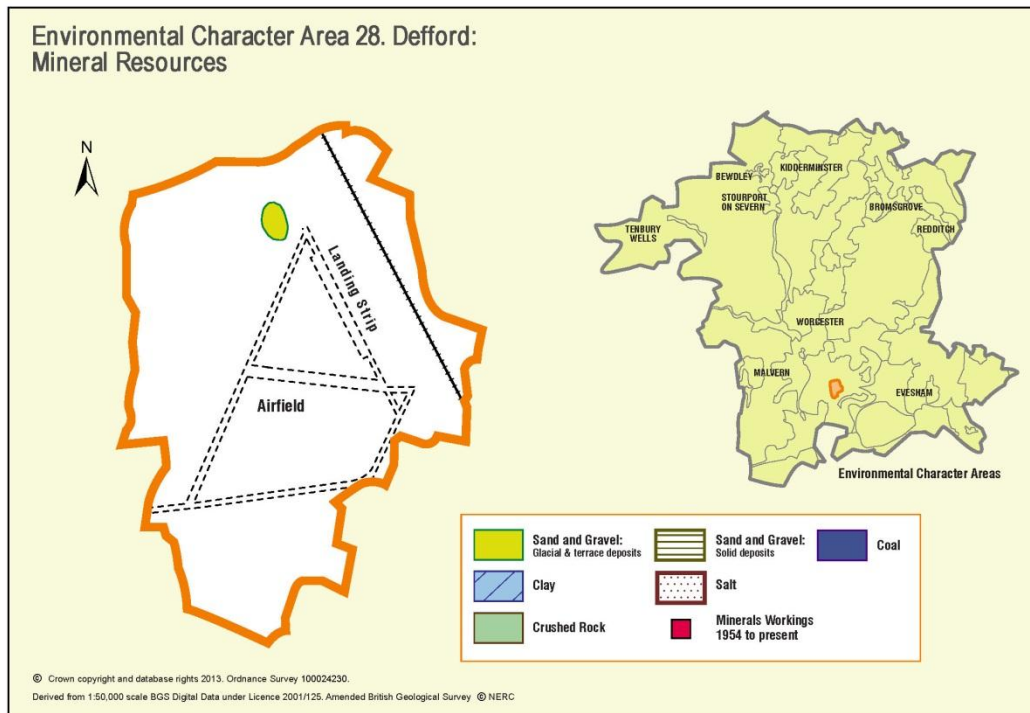
Figure 1. Environmental Character Areas



2. Characteristics and priorities of the Defford ECA

Mineral Resources

Figure 2. Environmental Character Area 28. Defford: Mineral Resources



Mineral Resources

- 2.1. The memoir for Eckington (Old, 1987, page 3) reports that "On the former Defford Airfield there has been so much tipping of debris and modification of topographic features that the that the top of the Blue Lias shown on the map is conjectural." It is reasonable to consider that there are no known aggregate, or energy mineral resources in this ECA, it is nonetheless a potential source of recycled materials.
- 2.2. Brine springs exist within the area however and halite deposits can be inferred.

Future Growth

- 2.3. 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 but this section considers the likely levels of development within 10 miles of the ECA.

- 2.4. This ECA is an airfield within a rural area of Wychavon District. The district anticipates the development of 5,807 homes, 18.5 ha of employment land and a new neighbourhood centre in the next 14-18 years⁴.
- 2.5. These and other areas beyond Worcestershire could create further demand for minerals in this Environmental Character Area.

Green Infrastructure priorities⁵

- 2.6. 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

- 2.7. 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.
- 2.8. The strategic GI approach for the Defford ECA is to *restore and create*. The overarching principles identified by the GI partnership are to:
 - Restore and create landscape links and connectivity to estate farmlands landscape.

Landscape Character and Biodiversity

- 2.9. The Defford Environmental Character Area is a small ECA located between Severn Stoke and Defford, south-east of Worcester. The county Landscape Character Assessment divides this area into two Landscape Types. The western part, which relates to land within the boundary of Croome Court landscape park is classified as Wooded Estate lands and encompasses the woodland around the estate workshops and maintenance areas. The larger part of the ECA was originally Defford Common, is described as the Landscape Type Unenclosed Commons and relates almost entirely to the disused airfield at Defford. Much of this land is now intensively farmed for arable crops and consequently has low

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*

biodiversity interest. Other than the woodland mentioned above, the ECA has few individual trees or other woodland.

GI Priorities:

- 2.10. The landscape and biodiversity priorities identified for the Defford 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.
 - Newly created green infrastructure should augment the existing resource, and link priority habitats including hedges. Priorities for restoration are species rich grassland and hedgerow trees.

Geodiversity

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

Historic Environment

- 2.12. There are few records for this area beyond the WWII airfield and associated camp. Brine Springs to the SW of the area may provide a focus for prehistoric and later activity.
- 2.13. Historic landscape character is dominated by the former Royal Air Force airfield and later research establishment.

GI Priorities:

- 2.14. The Green Infrastructure priorities identified for the Defford ECA are⁷:
- Defford Airfield was created directly from the former area of Defford Common. Protect and buffer surviving surface features associated with the former RAF airfield. The area has not been affected by modern agricultural practice and therefore there is a high potential for shallow surface archaeological deposits and artefacts. Avoid significant ground disturbance in order to protect below ground archaeology.

Blue infrastructure

- 2.15. There are no main rivers in ECA 28 but development in or near it could have implications for other ECAs in ground or surface water contact with it. Three un-named watercourses are mapped flowing within the ECA, one flows for at least 4km from Abbotswood, near Stoulton to the north. No instances of flooding appear to be recorded but there is a general risk from surface water flooding from sewers and overland flow in rural areas in Wychavon District.
- 2.16. 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

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

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

dominate the Warwickshire Avon sub-catchment. Groundwater flooding is not considered to be a major issue in the South Worcestershire Joint Core Strategy area.

- 2.17. 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."
- 2.18. None of the streams in this area is significant enough to have been tested against WFD criteria. The ECA appears however to be free from both water company diffuse and agricultural/rural diffuse pollution pressure.
- 2.19. Groundwater status is good in this ECA.
- 2.20. Water Supply: No water available.

GI Priorities:

- 2.21. The blue infrastructure priorities identified for the Defford 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.

Climate Change

- 2.22. 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

- 2.23. 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.
- 2.24. 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

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

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.

- 2.25. The soil types in 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

- 2.26. 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.
- 2.27. The Green Infrastructure Strategy categorises this ECA as one of 4 very small areas, atypical of the general nature of the county where further investigation is required to establish socio-economic priorities.