

**Ecology and Geodiversity Assessment  
for  
Nuneaton and Bedworth Borough Council**

**Prepared by**

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Habitat  
Biodiversity  
Audit



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County Council**



**THE UNIVERSITY of York**

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## **EXECUTIVE SUMMARY**

The aim of this report is to identify any ecological or geological features that will need to be taken into consideration within and adjacent to potential residential and commercial sites identified within the Nuneaton and Bedworth Core Strategy development.

The report uses up to date habitat and sites evidence plus species data available for the borough. This evidence is evaluated using ground breaking methodologies to show habitats of 'value' and features that enable species to move around the borough. This 'functional' analysis is the cornerstone to sustainable development and principles enshrined in the National Planning Policy Framework.

The output of this report is a series of maps showing where development may impact on ecology to a greater and lesser degree within potential residential and commercial sites and where habitats and features could be enhanced as part of any development. An interpretation to these maps is provided to aid the decision maker when reviewing each site.

The report also includes recommendations regarding monitoring of ecology and geology as the NBBC Core strategy is implemented.

# 1. INTRODUCTION

The Habitat Biodiversity Audit (HBA) Partnership for Warwickshire, Coventry and Solihull has been surveying and maintaining the Phase 1<sup>1</sup> habitat surveys for the Warwickshire sub-region since 1995. In addition to the Phase 1 surveys the HBA incorporates the Local Wildlife Sites Project (LWSP) which identifies surveys and processes the Local Wildlife Sites (formerly Sites of Importance for Nature Conservation – SINCs) inventory for Warwickshire, Coventry and Solihull.

Warwickshire County Council Ecological Services lead one of the six Defra Biodiversity Offsetting pilots (2012-2014) on behalf of all the Local Planning Authorities within Warwickshire, Coventry and Solihull (the sub-region). This pilot used the HBA and WSP data as the evidence base to delivery offsetting through a sub-regional Green Infrastructure Strategy. As a result of the pilot the HBA Phase 1 habitat survey data was scored according to a set of habitat criteria introduced by Defra and Natural England.

The Sub-regional Green Infrastructure Strategy also used the Phase 1 habitat data to model habitat connectivity for woodlands, grasslands and wetlands through a partnership with The University of York.

## 1.1. ECOLOGY AND GEODIVERSITY ASSESSMENT (EGA) STUDY OBJECTIVES

- Nuneaton and Bedworth Borough Council have commissioned the Habitat Biodiversity Audit to assess the ecology and geodiversity of its development sites in order to prepare ecological and geodiversity policies that are fit for purpose.
- The Assessment will include recommendations for more detailed survey of sites that are considered to have ecological/geological value, together with recommendations regarding the future safeguarding and management of different parts of the buffer areas.
- The text of the Ecological and Geological Assessment Report will be accompanied by a set of maps for each of the potential employment and housing development sites, comprising:
  - a map for each potential development site, identifying locations of UK and Warwickshire BAP and priority habitats and species, as well as areas of

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<sup>1</sup> The Phase 1 habitat classification and associated field survey technique provides a relatively rapid system to record semi-natural vegetation and other wildlife habitats. (JNCC, 1990)

irreplaceable natural habitat, such as ancient woodland and veteran trees, designated sites or sites with potential for designation; or where sites have potential to be upgraded, i.e. for example, from a LWS to a LNR;

- a map for each potential development site showing the Phase 1 Habitat classification (target notes will also be included on the shape files);
- a map for each potential development site indicating the occurrence of protected/priority species/habitats (target notes will also be included on the shape files); and
- a connectivity map of the Borough showing the potential for habitats to be linked together and where habitats need to be created.
- Recommend Local Wildlife Sites that are suitable for designation as Local Nature Reserves, prioritising the order of sites to be designated first,
- For each site recommend mitigation strategies to minimise the impact of development on the site's ecology and geodiversity,
- For each site recommend ways in which policies can ensure development can provide net gains in biodiversity,
- Recommend suitable indicators for monitoring biodiversity and geodiversity,
- Recommend an appropriate buffer around Ensor's Pool Special Area of Conservation.

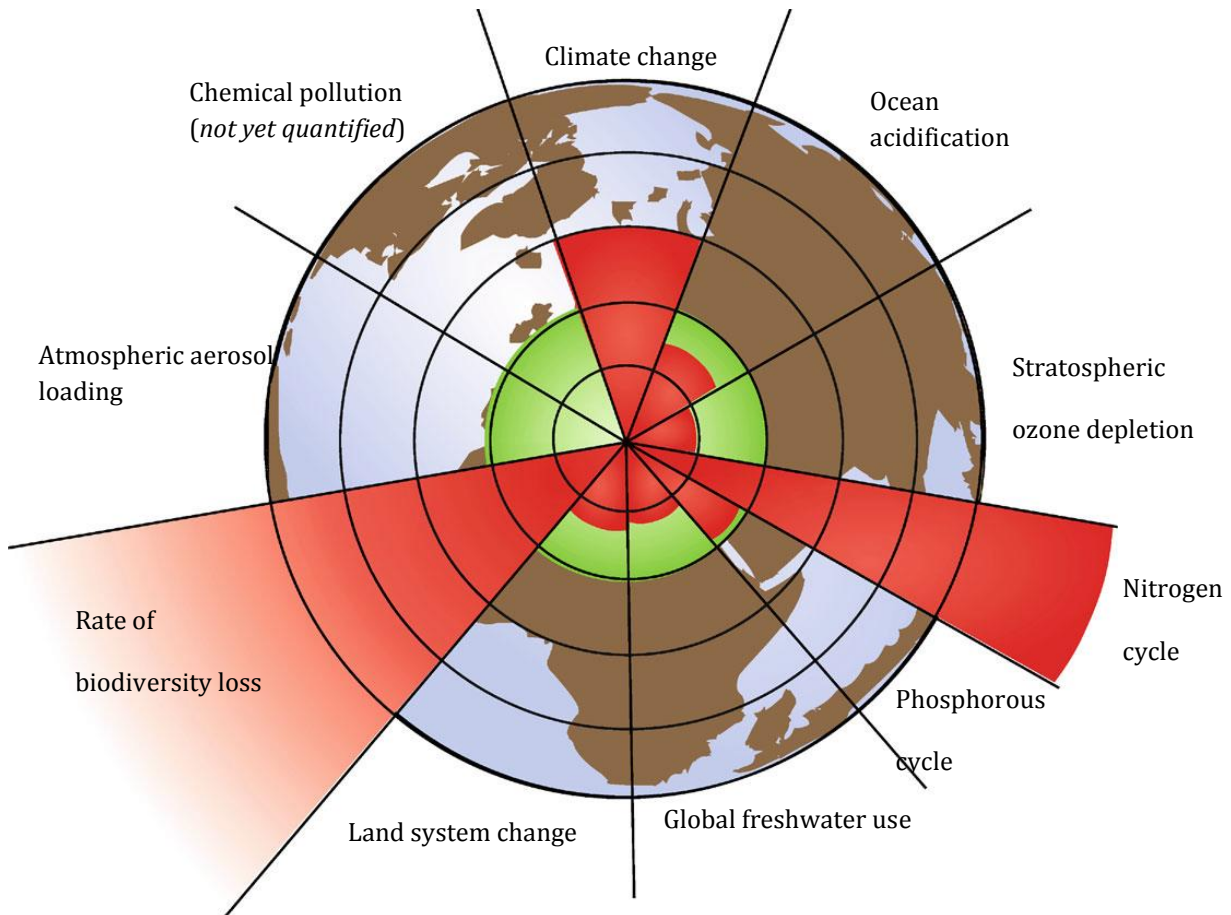
## 1.2. BIODIVERSITY CONTEXT

Biodiversity describes the variety of life on Earth, encompassing the whole of the natural world and all living things with which we share the planet.

### 1.2.1. INTERNATIONAL

Biodiversity is being unsustainably lost on a global, national and local scale. Figure 1 below shows the ten planetary boundaries that have been proposed which, if respected, would likely ensure that the Earth remains sustainable for human life. It is estimated that three of the boundaries – those for climate change, the nitrogen cycle and biodiversity loss – have already been transgressed while we are approaching transgression of several others<sup>2</sup>.

**Figure 1: Planetary Boundaries (Rockstrom, J et al, 2009)**



<sup>2</sup> The Anthropocene: From *Global Change to Planetary Stewardship*, Will Steffen, A ° sa Persson, Lisa Deutsch, Jan Zalasiewicz, Mark Williams, Katherine Richardson, Carole Crumley, Paul Crutzen, Carl Folke, Line Gordon, Mario Molina, Veerabhadran Ramanathan, Johan Rockstro'm, Marten Scheffer, Hans Joachim Schellnhuber, Uno Svedin

In layman's terms Figure 1 illustrates the unprecedented extinction rates that the planet is currently experiencing and the relationship between this and human influences. Figure 1 illustrates the rate of biodiversity loss if left to natural safeguarding processes. Scientifically, it illustrates the estimate of quantitative evolution of control variables for a series of planetary boundaries, from preindustrial levels to the present. The inner (green) shaded nonagon represents the safe operating space with proposed boundary levels at its outer contour. The extent of the wedges for each boundary shows the estimate of current position of the control variable. Points show the estimated recent time trajectory (1950–present) of each control variable. For biodiversity loss, the estimated current boundary level of >100 extinctions per million species-years exceeds the space available in the future<sup>3</sup>.

At the tenth meeting of the Conference of the Parties, held from 18 to 29 October 2010 in Nagoya, Aichi Prefecture, Japan, a revised and updated Strategic Plan was adopted for Biodiversity, including the Aichi Biodiversity Targets<sup>4</sup> for the 2011-2020 period. This new plan will be the overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system. The tenth meeting of the Conference of the Parties agreed to translate this overarching international framework into national biodiversity strategies and action plans within two years.

Additionally, the meeting decided that the fifth national reports, due by 31 March 2014, should focus on the implementation of the 2011-2020 Strategic Plan and progress achieved towards the Aichi Biodiversity Targets. These targets are outlined below.

- Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.  
Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use.
- Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.
- Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.
- Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building.

The EU biodiversity strategy to 2020 has a vision that “By 2050, European Union biodiversity and the ecosystem services it provides — its natural capital — are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.” This includes a

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<sup>3</sup> [Planetary Boundaries](#): Exploring the Safe Operating Space for Humanity, Rockström, J. et al, 2009

<sup>4</sup> Aichi Biodiversity Targets: <http://www.cbd.int/sp/> and <http://www.cbd.int/sp/targets>



2020 headline target of “Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.”

## **1.2.2. NATIONAL**

Nationally, the 2020 mission for The England Biodiversity Strategy (Defra 2011) is “to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.”

The “fragmentation of natural environments is driving continuing threats to biodiversity. The previous global target to reduce significantly the rate of loss of biodiversity by 2010 was not met. In England, species and habitats are still declining. In 2008, for example, 18 out of 42 priority habitats and 120 out of 390 priority species were in decline” (Natural Environment White Paper, Defra, 2012).

The National Ecosystem Assessment recorded a significant loss in many areas of the UK habitats. The findings have been summarised below.

### Summary of the status and trends of the UK’s ecosystems and the services that they provide to society (taken from the National Ecosystem Assessment):

- The landscape of the UK has changed markedly during the last 60 years with the expansion of Enclosed Farmlands, Woodlands and Urban areas, and the contraction and fragmentation of Semi-natural Grasslands, upland and lowland Heaths, Freshwaters wetlands and Coastal Margin habitats.
- Changes in the extent and condition of habitats have significantly altered the ecosystem services they provide.
- Within Enclosed Farmland, crop and livestock production has increased significantly, but accompanied by a loss of landscape diversity, an increase in soil erosion and reduced soil quality, and a reduction in farmland birds and pollinators, in particular. However, there have been a number of recent improvements, including a reduction in greenhouse gas emissions, due to both reduced fertiliser application and lower livestock numbers, and improved chemical quality of water.
- The expansion of Woodlands has contributed to both improved climate regulation, through greater carbon sequestration, and air quality, while at the same time increased timber supply. More recent changes in forest policy and woodland management have enhanced general amenity value and wild species diversity.
- Expansion of Urban areas has degraded regulating services for climate, hazards, soil and water quality, and noise.
- Fragmentation and deterioration of wetlands, and in particular the separation of rivers from their floodplains, has compromised hazard (flood) regulation and many other ecosystem services.

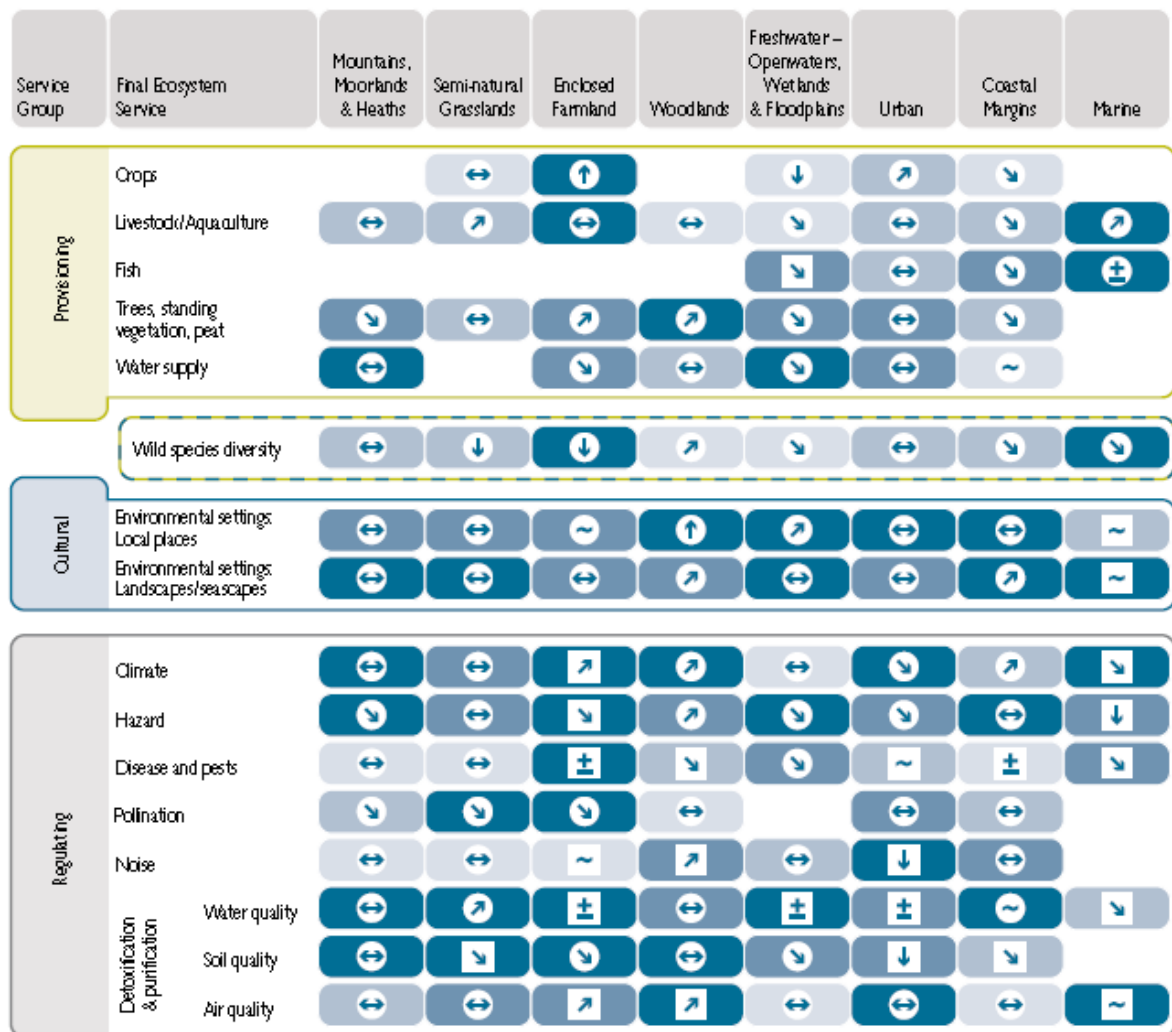
- Across all habitats apparent reductions in soil quality and continuing declines in the diversity of many wild species, including the variety and abundance of pollinators, is of particular concern.

The impact of the above trends on the Ecosystem Services and their associated habitats at the UK-wide scale since 1990 is illustrated in Figure 2. Full details of the methodology involved in quantifying the impacts can be found in the National Ecosystem Assessment technical report<sup>5</sup>.

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<sup>5</sup> <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

**Figure 2: National Ecosystem Services trends since 1990**



Relative importance of UK NEA Broad Habitats in delivering ecosystem services and overall direction of change in service flow since 1990. This figure is based on information synthesized from the habitat and ecosystem service chapters of the UK NEA Technical Report (Chapters 5–16), as well as expert opinion. This figure represents a UK-wide overview and will vary nationally, regionally and locally. It will therefore also inevitably include a level of uncertainty; full details can be found in the Technical Report. Arrows in circles represent where there is high evidence for or confidence in the direction of service flow amongst experts; arrows in squares represent where there is less evidence for or confidence in the direction of service flow. Blank cells represent services that are not applicable to a particular Broad Habitat.

Importance of Broad Habitat for delivering the ecosystem service

- High
- Medium – High
- Medium – Low
- Low

Direction of change in the flow of the service

- ↑ Improving
- ↗ Some improvement
- ↔ No net change
- ↕ Improvement and/or deterioration in different locations
- ↘ Some deterioration
- ↓ Deterioration
- ~ Unknown

### 1.2.3. SUB-REGIONAL

In terms of species and habitats at the local level, there have been winners and losers. The 2010 Local Biodiversity Action Plan (LBAP) progress is illustrated in Table 1. This is based on the results of reporting on targets and actions by the LBAP partnership between 2008 and 2010 (Action Plans are reported on in a three year cycle and the 'Year' column relates to the last reporting period for that plan).

**Table 1 Local Biodiversity Action Plan Report 2007 -2010**

Species Action Plans	Progress 2007	Progress 2008-2010	Habitat Action Plans	Progress 2007	Progress 2008-2010
Adder	↓	↓	Allotments	↔	↔
Argent & Sable Moth	↔	↑	Canals	↑	↑
Barn Owl	↑	↑	Churchyards & Cemeteries	↑	↔
Bats	↔	↔	Disused Industrial & Railway Land	↓	↑
Bittern	↔	↔	Fen & Swamp	↔	↑
Black Poplar	↑	↑	Field Margins	↑	↑
Bloody-nosed Beetle	↑	↓	Gardens	↔	↑
Chalk Carpet Moth	↑	↑	Hedgerows	↔	↔
Common Dormouse	↓↓	↔	Lowland Acid Grassland	↔	↑
Cuckoo Bee	↑	↑	Lowland Calcareous Grassland	↑	↑
Dingy Skipper Butterfly	↑	↑	Lowland Heathland	↔	↔
Dotted Bee-fly	↑	↑	Lowland Neutral Grassland	↑	↑
Farmland Birds	↔	↔	Parks & Public Open Spaces	↑	↑
Great Crested Newt	slight ↓	slight ↓	Ponds, Lakes & Reservoirs	↔	slight ↑
Lapwing	↓	↑	Quarries & Gravel Pits	↑	↑
Leaf-rolling Weevil	↑	↔	Reedbeds	↑	↑
Otter	↑	↑	Rivers & Streams	↓	↑
Rare Bumblebees	↑	↑	Roadside Verges	↓	↔
Red Wood Ant	slight ↑	↑	School Grounds	↓	↔
Scarce Arable Plants	↑	↑	Scrub & Carr	↓	↓
Small Blue Butterfly	↑	↑	The Built Environment	↔	↓
Snipe	↓	slight ↑	Traditional Orchards	↑	↔
Song Thrush	↑	↑	Woodlands	↑	↑
Water Vole	↓	↓	Wood-pasture, Parkland & Veteran Trees	↔	slight ↑
White-dawed Crayfish	↓	↔			
Wood White Butterfly	↑	↑			

A green, upward arrow indicates that positive progress has been made towards achieving the targets set out within the Local Biodiversity Action Plan for that species or habitat. Two horizontal orange arrows indicate that no progress has been made, but there has been no loss to that species/habitat either. A downward red arrow indicates that the species/habitat has suffered a loss, therefore there has been negative progress towards achieving the LBAP targets.

## 1.2.4. WARWICKSHIRE, COVENTRY AND SOLIHULL

Table 2 below illustrates the distribution of habitats within the sub-region<sup>6</sup>, suggesting that the county is primarily composed of arable land and improved grassland, which dominate the county at 49% and 29% of the county's area respectively. This is followed by woodland at 8%, of which broadleaved comprises 6%, and then neutral grassland at 4%. It is interesting to note that amenity grassland covers 4% of Warwickshire, although this does include golf courses. The low percentage of woodland habitat cover within the county is of particular concern, as Warwickshire is well known for its Forest of Arden landscape.

**Table 2 Percentage of each Phase 1 habitat within the sub-region**

Habitat Type	%age	Habitat Type	%age
Broad-leaved semi-natural woodland	3.12	Continuous bracken	0.04
Broad-leaved semi-natural plantation	2.41	Tall ruderal	0.47
Coniferous semi-natural woodland	0.00	Other tall herb and fern - non ruderal	0.00
Coniferous plantation	0.71	Dry heath/acid grassland mosaic	0.00
Mixed semi-natural woodland	0.03	Sphagnum bog	0.00
Mixed plantation	0.76	Acid/neutral flush	0.00
Dense/continuous scrub	0.83	Basin mire	0.00
Scattered scrub	0.24	Swamp	0.07
Parkland/scattered broad-leaved trees	0.17	Inundation vegetation	0.00
Parkland/scattered coniferous trees	0.01	Standing water	1.01
Recently felled woodland	0.01	Running water	0.39
Orchard	0.08	Quarry	0.29
Unimproved acid grassland	0.00	Spoil	0.01
Semi-improved acid grassland	0.04	Refuse-tip	0.07
Unimproved neutral grassland	0.10	Arable	49.00
Semi-improved neutral grassland	3.58	Allotments	0.18
Unimproved calcareous grassland	0.02	Arable field margins	0.67
Semi-improved calcareous grassland	0.04	Amenity grassland	4.23
Improved grassland	28.66	Ephemeral/short perennial	0.07
Marsh/marshy grassland	0.22	Introduced shrub	0.01
Poor semi-improved grassland	2.12	Bare ground	0.32

## 1.2.5. LOCAL

Nuneaton & Bedworth Borough has an underlying geological hard rock lending itself to deep quarrying activities. These habitats, which include rock exposure, short-ephemeral vegetation and scrub, can be particularly important for invertebrates such as butterflies and insects.

<sup>6</sup> State of the Environment Report Habitat Biodiversity Audit 2013

## 2. THE STUDY AREAS

The Nuneaton and Bedworth study areas consists of potential employment sites (AR/EX/WE) and potential housing areas (PDAs) as identified by NBBC listed below in Tables 3, 4 and Figure 3 showing the mapped locations of both sites.

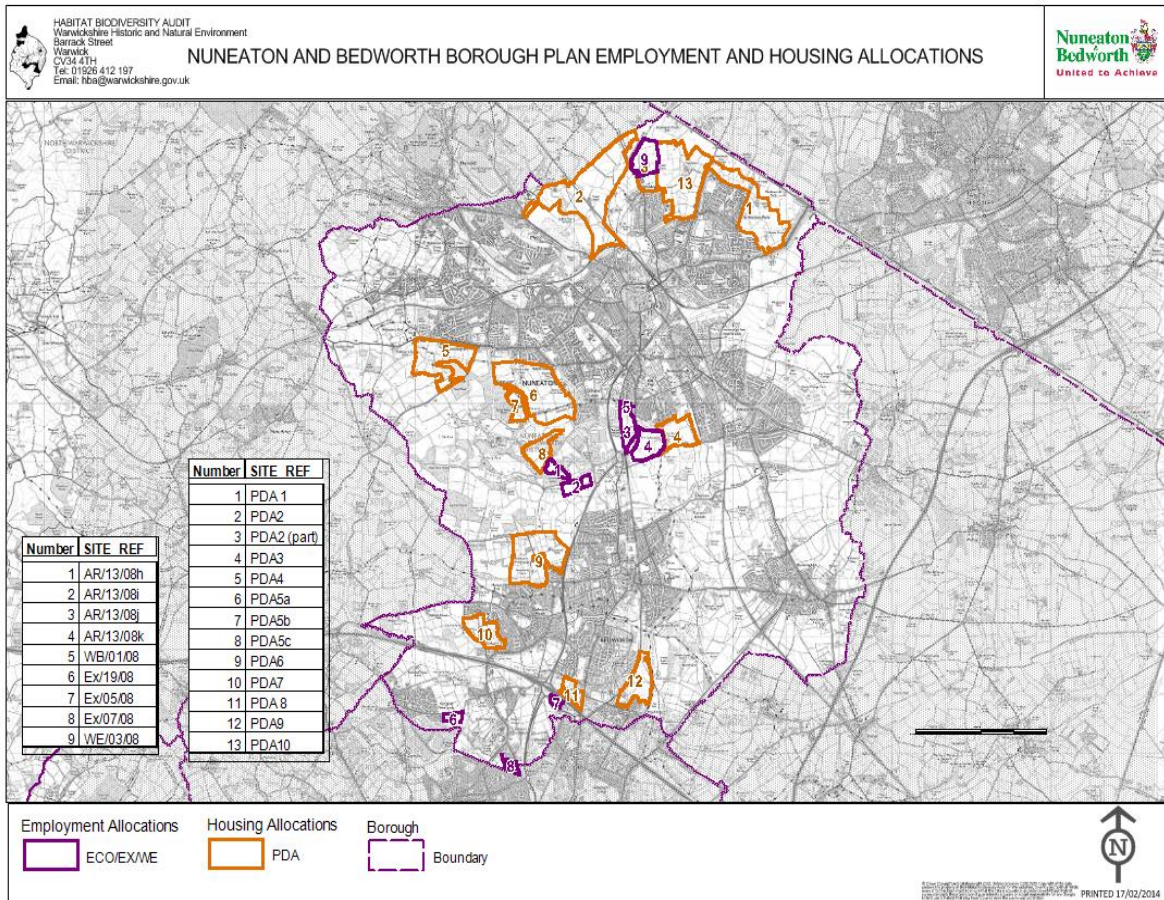
**Table 3 Employment Allocations**

Number	Site Reference	Hectares
1,2	ECO 1 (Bermuda Extension 1), includes AR13/08h and AR13/08i	16.01
2,4,5	ECO 2 (Bermuda Extension 2), includes AR13/08j, AR13/08k and WB01/08	41.02
6	ECO 3 (Prologis Extension), includes EX19/08	5.29
7	EX/05/08	3.14
8	EX07/08	3.66
9	WB/03/08	24.28

**Table 4 Housing Allocations**

Number	Site Reference	Hectares
1	PDA1	76.68
2, 3	PDA2 (2a, 2b, 2c [also referred to as Emp site WE03] and 2d)	134.22
3	PDA3 (parcels 3a [also referred to as AR/13j), 3b [also referred to as AR/13k], 3c)	27.93
4	PDA4	59.30
5	PDA5 (parcels 5a, 5b, 5c [also referred to as AR/13c] and 5d [also referred to as AR/13h])	129.1
6	PDA6	74.61
7	PDA7	26.01
8	PDA8	12.47
9	PDA9	32.85
10	PDA10	93.85

**Figure 3: NBBC Housing and Employment Area Allocations**



## 2.1. REPORT DESCRIPTIONS

Each individual site report is divided into the following headings:

- Area in hectares
- Area overview
- Key Features
- Designated Sites
- Phase 1 Habitat Distinctiveness
- Phase 1 Habitat Connectivity
- Protected Species
- Recommendations

### 3. DESIGNATED SITES

The primary objective of nature conservation is to ensure that the national heritage of wild flora and fauna and geological and physiographic features remains as large and as diverse as possible, so that society may use and appreciate its value to the fullest extent (Nature Conservancy Council 1989). The protection and management of areas of importance for wild flora and fauna and their habitat is regarded as the cornerstone of British conservation policy. The principal statutory means of achieving this is by designation of sites for their conservation importance.

#### 3.1.1. STATUTORY SITES

A very small number of sites of nature conservation importance in Warwickshire receive statutory protection. Statutory sites in Warwickshire comprise 13 Local Nature Reserves and 57 Sites of Special Scientific Interest (SSSIs). Of these, Ensor's Pool in Nuneaton and Bedworth Borough is also a Special Area of Conservation (SAC), reflecting its international importance.

Table 5 below lists the current number designated sites for Nuneaton and Bedworth including both the statutory and non-statutory sites.

**Table 5 Nuneaton and Bedworth site designations**

Site Designation	Count	Area (ha)	% Area***
Special Area of Conservation* (SAC)	1	3.80	0.05
Sites of Special Scientific Interest (SSSI)	2	15.33	0.19
Local Geological Sites	8	35.00	0.44
Local Nature Reserves	3	24.728	0.31
Local Wildlife Sites – Status LWS**	40	355.80	4.52
Local Wildlife Sites – Status potential	46	331.51	4.21
Local Wildlife Sites – Status deferred	3	21.93	0.28
Local Wildlife Sites – Status destroyed	6	454.39	5.77
Local Wildlife Sites – Status rejected	16	112.00	1.42
Ancient Woodland	14	130.798	1.66

\*Ensor's Pool is a SAC, SSSI and a Local Nature Reserve

\*\*LWS designated sites completed in 2012

\*\*\*Nuneaton and Bedworth Borough total area 7,872 hectares

#### 3.1.2. SITES OF SPECIAL SCIENTIFIC INTEREST SSSI

Sites of Special Scientific Interest (SSSI) represent areas of the country's best wildlife (habitat or species) and geological features. SSSIs are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006.



### 3.1.3. LOCAL NATURE RESERVES

A Local Nature Reserve (LNR) is a statutory designation made under section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006. All district and county councils have powers to acquire, declare and manage LNRs. To qualify for LNR status a site must be of importance for wildlife, geology, education or public enjoyment.

### 3.1.4. HEDGEROWS

The Hedgerows Regulations: A Guide to the Law and Good Practice (Defra, 1997) sets out the criteria that must be used by the local planning authority in determining which hedgerows are important. The criteria relate to the value of hedgerows from an archaeological, historical, landscape or wildlife perspective. They exclude hedgerows that are less than 30 years old or in an urban setting. If a hedgerow is at least 30 years old and qualifies under any one of the criteria, then it is important and worthy of retention.

A Biodiversity Action Plan (BAP) priority hedgerow is defined as having more than 80% native woody species, including at least five (four in northern and eastern England, upland Wales and Scotland) woody species that are either native somewhere in the UK or which are archaeophytes<sup>7</sup>. If this is the case then the hedgerow is defined as species-rich.

The Hedgerows Regulations states that the hedgerow does not have to contain trees, but any trees in it form part of the hedgerow. Where a former hedgerow has not been actively managed and has grown into a line of trees it is not covered by the regulations. However, lines of trees may be protected under existing licensing procedures for felling or by Tree Preservation Orders (TPOs).

Species-rich hedgerows can also be designated as Local Wildlife Sites as set out in **The Green Book** (Habitat Biodiversity Audit, 2014 Section 9.3. p.57).

### 3.1.5. NON-STATUTORY SITES: LOCAL WILDLIFE SITES

The few sites which have statutory designations because of their international or national interest represent the top of the hierarchy of protection. These sites are selected according to standardised criteria and procedures. Second tier, non-statutory sites, covering local nature conservation importance, are more difficult to classify as they have no legislative basis or standardised definition. Defra define Local Wildlife Sites as “*sites of substantive nature conservation value. Although they do not have any statutory status, many are equal in quality to the representative*

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<sup>7</sup> Being recorded as naturalised in the wild before 1500 AD

*sample of sites that make up the series of statutory Sites of Special Scientific Interest (SSSIs)' (Defra, 2009)<sup>8</sup>.*

The Warwickshire, Coventry and Solihull Local Wildlife Sites Project in 2000 set out to formerly identify Sites of Importance for Nature Conservation (SINCs), now known as Local Wildlife Sites (LWS). The formal process for identifying, surveying and designating Local Wildlife Sites is set out in *The Green Book: Guidance for the Selection of Local Wildlife Sites in Warwickshire, Coventry and Solihull* (Habitat Biodiversity Audit, 2014).

## **National Planning Policy**

The National Planning Policy Framework (2012) gives clear principles and policy guidance in relation to biodiversity. The UK All Party Parliament Group summarised Biodiversity and the NPPF for members as

The NPPF sets the overall direction for local authority and neighbourhood planning policy. It must be taken into account in the preparation of these plans, and is now a material consideration in planning decisions.

The policies in the Framework apply with immediate effect and replace almost all existing planning guidance set out in planning policy statements, including Planning Policy Statement 9 on Biodiversity and Geological Conservation.

## **Definition of Sustainable Development**

Sustainable development has now been defined more clearly and includes an explicit reference to the 2005 Sustainable Development Strategy. This set out five 'guiding principles' of sustainable development: living within the planet's environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

The Framework states that "to achieve sustainable development, economic, social and environmental gains should be sought jointly and simultaneously through the planning system."

## **Core Planning Principles**

The final NPPF sets out 12 core land-use planning principles that should underpin both plan-making and decision-taking, these include a requirement that planning contributes to "conserving and enhancing the natural environment and reducing pollution." Applying this principle means that allocations of land for development should prefer land of lesser environmental value, where consistent with other policies

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<sup>8</sup> [Defra Webpage](#)

in the NPPF. Later on in the Framework this is changed slightly and refers to land "*with the least environmental or amenity value.*" The Framework does not define what is meant by "*land of lesser environmental value*" or how it should be determined.

The core land-use planning principles also require that planning encourage the effective use of land by reusing brownfield land.

## **Conserving and Enhancing the Natural Environment**

The NPPF states that the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services minimising impacts on biodiversity and providing net gains in biodiversity where possible;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The National Framework states that local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites.

Local planning authorities should also plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. To minimise impacts on biodiversity and geodiversity planning policy should:

- plan for biodiversity at a landscape-scale across local authority boundaries
- identify and map components of local ecological networks
- promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.

The National Framework also sets out a number of principles that should be applied when determining planning applications to ensure that the planning system aims to conserve and enhance biodiversity. These include:

- Refusing an application where significant harm resulting from the development cannot be avoided, mitigated or compensated.
- Unless the benefits outweigh the impacts development on land within or outside a Site of Special Scientific Interest that is likely to have an adverse effect on the site should not be permitted.
- Permitting development where the primary objective is to conserve or enhance biodiversity.
- Encouraging opportunities to incorporate biodiversity in and around developments.
- Refusing planning permission for development that would result in the loss or deterioration of irreplaceable habitats.
- Ensuring that Special Protection Areas and possible Special Areas of Conservation, listed or proposed Ramsar sites, and sites identified, or required, as compensatory measures for adverse effects on European sites are given the same level of protection as European sites.

Biodiversity is also referred to in the section on "meeting the challenge of climate change" which states that local Plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. Furthermore, where the NPPF states that local planning authorities should plan positively to enhance the beneficial use of the Green Belt, it states that this should include opportunities to retain and enhance biodiversity.

### **Identifying Local Wildlife Sites**

The Government recognises that our natural heritage is not confined to the various statutory designated sites but is found throughout the countryside and many urban areas. The Government also recognises that local authorities designate sites of local nature conservation value themselves and looks to them to take account of nature conservation interests in all their activities.

*“Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites,<sup>24</sup> so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks” (para 113, NPPF, 2012)*

Local Wildlife Sites help buffer and connect natural areas, providing ecological networks and increasing resilience of biodiversity to pressure of land use and climate

change (Lawton L.H., 2010). They contribute to the quality of life and the health and well-being of communities and provide important open space in urban areas.

*Making Space for Nature* (Lawton D.H., 2010) delivered to government in September 2011, asserts that Local Wildlife Sites are highly vulnerable to damage and loss, and recommended improving their protection and management, underlining that Local Sites are “important to future ecological networks, because they not only provide wildlife refuges in their own right, but can act as stepping stones and corridors to link and protect nationally and internationally designated sites”. (Figure 5) Building on this, recommendation 12 of the Review is that Local Authorities should take responsibility for the identification and monitoring of Local Wildlife Sites, and that their management must be improved.

The Government response to *Making Space for Nature*, published alongside the Natural Environment White Paper, (Defra, 2011), encouraged Local Site Partnerships to continue to implement Defra’s Local Sites guidance and play an increased role in identifying, protecting and managing Local Sites. The subsequent *England Biodiversity Strategy 2020* (Defra, 2011) restated that Government will encourage local authorities to take a more active and positive role in the management of Local Sites, including through reporting data on such sites in the Government’s new Single Data List.

### **3.1.6. NON-STATUTORY SITES: LOCAL GEOLOGICAL SITES**

For many years, schemes to conserve wildlife sites not enjoying the statutory protection of Sites of Special Scientific Interest (SSSIs) have been operating successfully throughout Britain, but schemes to protect non-statutory geological and geomorphological sites are far less widespread. Those that do exist have much in common with their biological partners - sites are selected and managed by locally based groups, and safeguarded through local authority planning policies and the involvement of site owner(s).

LGSs are any geological or geomorphological sites, excluding SSSIs, in a county that are considered worthy of protection for their educational, research, historical or aesthetic importance. RIGS are broadly analogous to non-statutory wildlife sites and are often referred to locally by the same name. They can include important teaching sites, wildlife trust reserves, Local Nature Reserves and a wide range of other sites. LGSs are not regarded as ‘understudy’ SSSIs, but as sites of regional importance in their own right.

### **3.1.7. WARWICKSHIRE, COVENTRY AND SOLIHULL LOCAL BIODIVERSITY ACTION PLAN (LBAP)**

The Warwickshire, Coventry and Solihull Local Biodiversity Action Plan (LBAP) provide a local response to the UK Government's National Action Plans for threatened habitats and species. The LBAP contributes to national targets wherever these are relevant to the Warwickshire sub-region but also sets local targets. The LBAP action plans for all local habitats can be found on the Warwickshire County Council Heritage and Culture web site <http://heritage.warwickshire.gov.uk/ecology/lbap/>

The Warwickshire, Coventry and Solihull LBAP habitats equivalent to the Warwickshire Phase 1 habitat survey are shown in the technical section 10.2.

## **4. WARWICKSHIRE PHASE 1 HABITATS SURVEY**

The national Phase 1 habitat survey is a well-established, general purpose survey devised to provide rapid mapping over wide areas of the British countryside. The methodology is set out in the "*Handbook for Phase 1 habitat survey: A technique for environmental audit*" (Nature Conservancy Council 1990, 2010 ed.). The handbook has been revised and reprinted with minor revisions to mainly take account of the introduction and wider use of Geographical Information System (GIS).

The first field surveys for the Warwickshire sub-region are recorded in the 2001 Phase 1 survey for 1998 up to 2001. In 2001 the completed surveys were digitised and recorded in the HBA's GIS. The original Phase 1 survey was augmented by aerial survey interpretation from 1991 aerial imagery. Since the first survey was completed a mechanism has been established to update the Phase 1 survey on a regular basis and the original survey has become the baseline data from which all subsequent surveys are based. The continuous revision of the Phase 1 objective was to update the Warwickshire sub-region every 5 years, subject to resources. In addition to the field survey revision, HBA has access to the latest aerial imagery for 2013 from aerial surveys commissioned by Warwickshire County Council. For details of the Warwickshire Phase 1 habitat survey categories please refer to the technical appendix section 10 of this document.

### **4.1. PHASE 1 HABITAT DISTINCTIVENESS**

The habitat distinctiveness categories and their associated scores have been taken from the Biodiversity Offsetting Pilot in the UK National Ecosystem Assessment (UK NEA, 2011), Appendix 1. The scores have been interpreted as those that best match the Warwickshire sub-region Phase 1 habitat scheme (see technical sections 10.3 for the Phase 1 habitat distinctiveness area and linear features scores).

The habitat distinctiveness categories can also be interpreted as areas of habitat importance or sensitivity, and are a useful way of simplifying the 57 Phase 1 map categories. Distinctiveness also assigns a score to the habitats which are most bio-diverse and those that are not. The Phase 1 habitat categories alone do not determine biodiversity.

Each Phase 1 habitat type has been given a distinctiveness score ranging from; 6 - high distinctiveness, 4 – moderate distinctiveness to 2 - low distinctiveness.

High distinctiveness scores equate to areas of highest biodiversity, including all unimproved and semi-improved habitats. High distinctiveness will also incorporate statutory sites, Local Wildlife Sites and the Biodiversity Action Plan (BAP) habitats. The high distinctiveness category for linear habitats includes species-rich hedgerows.

Moderate distinctiveness scores are a mid-way assessment for areas that are either a transition from high to low or vice versa; or are of indeterminate biodiversity. Examples include scrubland and tall ruderal<sup>9</sup> which are transitional and temporary habitats. Linear sites with moderate scores include intact hedgerows.

Low distinctiveness scores are areas of low biodiversity interest. These areas cover the majority of the sub-region, including for example agricultural farmland, amenity grassland and coniferous plantation woodland. Low linear scores are associated with defunct hedgerows, fences and dry ditches.

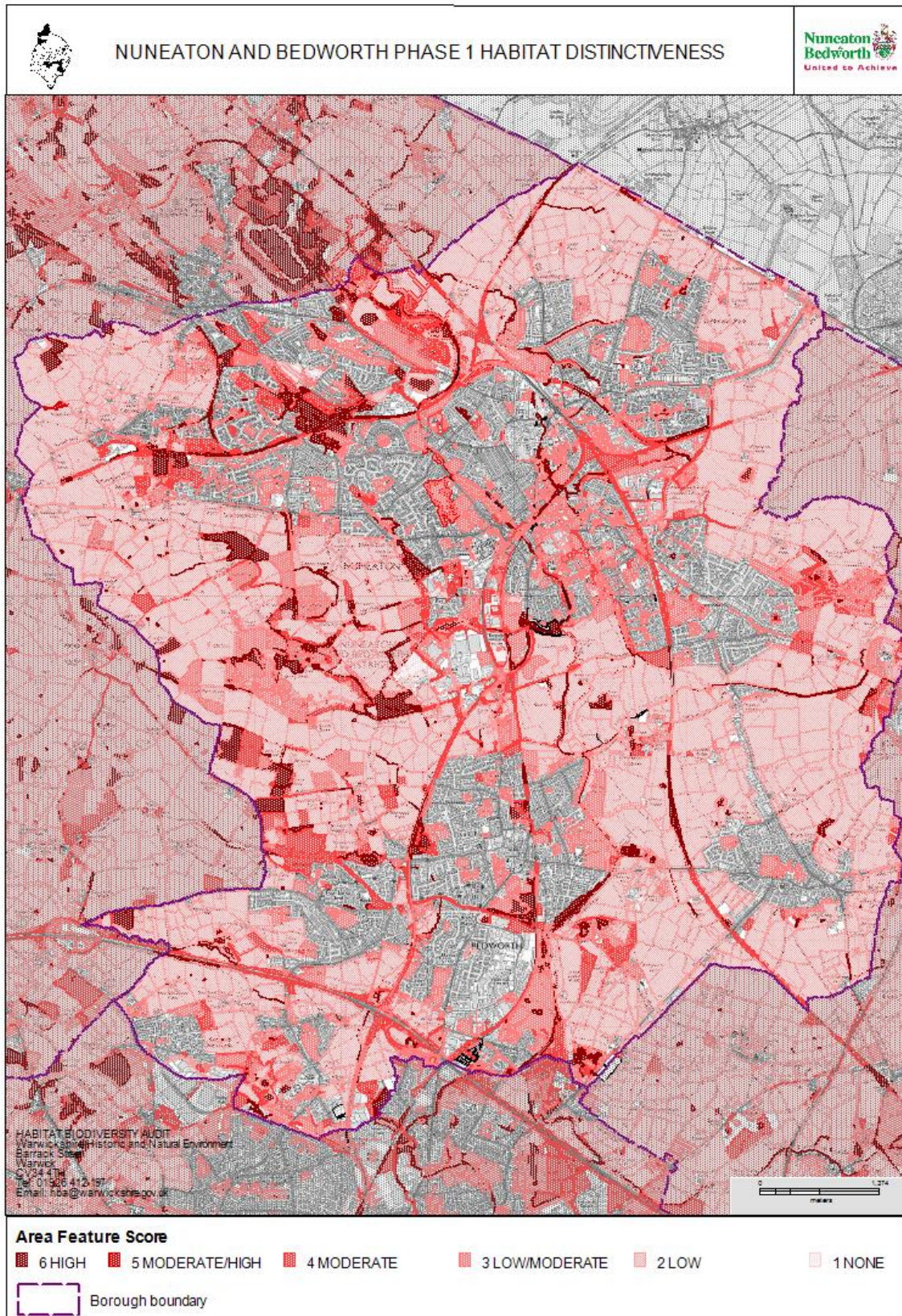
The distinctiveness categories can be further adapted and refined to best suit the Warwickshire sub-region habitats. For example scrubland can be sub-divided into open scattered scrub with a score of 5 to distinguish it from dense scrubland which may be invading semi-natural grassland. Habitats within SSSIs or Local Wildlife Sites could be given high scores to reflect their importance as part of the overall area. This may be a requirement for mosaic sites associated with former industrial land use. Distinctiveness scores are an intrinsic requirement for the proposed biodiversity off-setting schemes and will be a requirement for determining the value of habitats.

Examples of the application of the Phase 1 distinctiveness mapping can be found in the Stratford-on-Avon District Council - Ecological and Geological Study of Local Service Villages (Habitat Biodiversity Audit and WCC Ecological Services, July 2012).

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<sup>9</sup> Ruderal from the latin for rubble or rubbish refers to cleared areas that have become colonised by pioneer plant species, typical tall perennial or biennial dicotyledon plant species include Rosebay (*Chamerion angustifolium*), Common nettle (*Urtica dioica*) and Japanese Knotweed (*Fallopia japonica*).

**Figure 4: Nuneaton and Bedworth Phase 1 habitat distinctiveness**





## 4.2. HABITAT CONNECTIVITY

The landscape habitat connectivity used as part of this ecological assessment has acquired the technical services from the Environment Department, University of York to calculate connectivity using the Incidence Function Model (IFM) (Nieminen, 2002) (Hanski, 2001 repr.) The model measures the distance between suitable habitats using a set dispersal distance of a study species. The habitat patches included both the Phase 1 polygons for semi-natural habitats and intact hedgerows recorded as linear features in the Phase 1.

The study used dispersal distances of 500m and 1000m around each of the habitat features. These two dispersal distances were applied to 3 groupings of broad habitat types:

- Semi-natural woodland including scrub and intact hedgerows
- Semi-natural grasslands and intact hedgerows
- Ponds

The quality and level of detail afforded by the Phase I cover data allow the results to be used as measures of structural connectivity, where the physical connectedness of the landscape elements of habitat patches and linear features can be assessed.

For ease of interpretation 6 levels of connectivity have been illustrated on the connectivity maps. These being areas of zero connectivity followed by evenly distributed ranges greater than zero. The lower the area value the less connected it is; conversely the higher the value the greater connected the area is to suitable habitat. Figure 7 illustrates woodland connectivity. The same methodology has been applied to grasslands and ponds.

## 5. INTERPRETATION

The Distinctiveness and Connectivity maps provide value evidence for promoting any mitigation and compensation for future development. They should be used to advise on layout designs of the development and where “offsetting” opportunities exist to promote the local and government objectives. More information will be provided in the Sub-regional Green Infrastructure Strategy and NBBC Green Infrastructure Strategy. The Association of Local Government Ecologists (ALGE) and the Planning Portal have launched a web-based toolkit to advise applicants on ecological considerations<sup>10</sup>. At the time of writing this site is still in development, but is valuable to all forms of residential and commercial development.

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<sup>10</sup> [Biodiversity Planning Toolkit](#)

These mapping approaches are being used to identify sub-regional GI Biodiversity Assets and identify Strategic Areas for delivering the Biodiversity Strategy's aim to reconnect habitats throughout the sub-region.

Sub-regional GI Biodiversity Assets – are all qualifying woodland, grassland and wetland features that have a connective function or a high distinctiveness value.

### **Recommendation 1**

The aim of the sub-regional GI Strategy is to safeguard and enhance all GI Biodiversity Assets.

### **Recommendation 2**

The aim of the sub-regional GI Strategy is to fulfil two priorities for each of the woodland, grassland and wetland habitat categories:

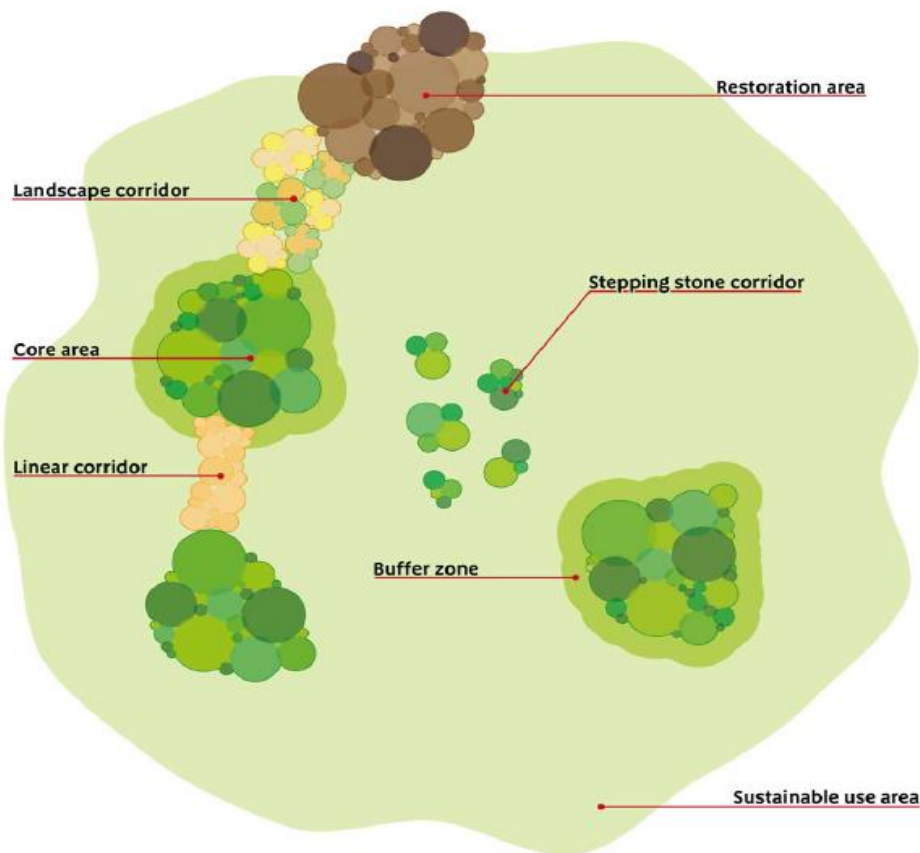
Priority 1) - Connect together individual sub-regional GI Biodiversity assets to form core areas.

Priority 2) – Connect the Core Areas together [where Priority 1 has been achieved] to form large functional clusters.

### **Recommendation 3**

An additional aim is to create either new Core Areas large enough to function independently as an individual site or a functional cluster of larger and smaller sites where there is a distinct local need or deficiency in a habitat category.

**Figure 5: the components of ecological networks – Lawton Report 2010 p.17**



When applying these priorities to the Distinctiveness Maps for each settlement the aims would be to:

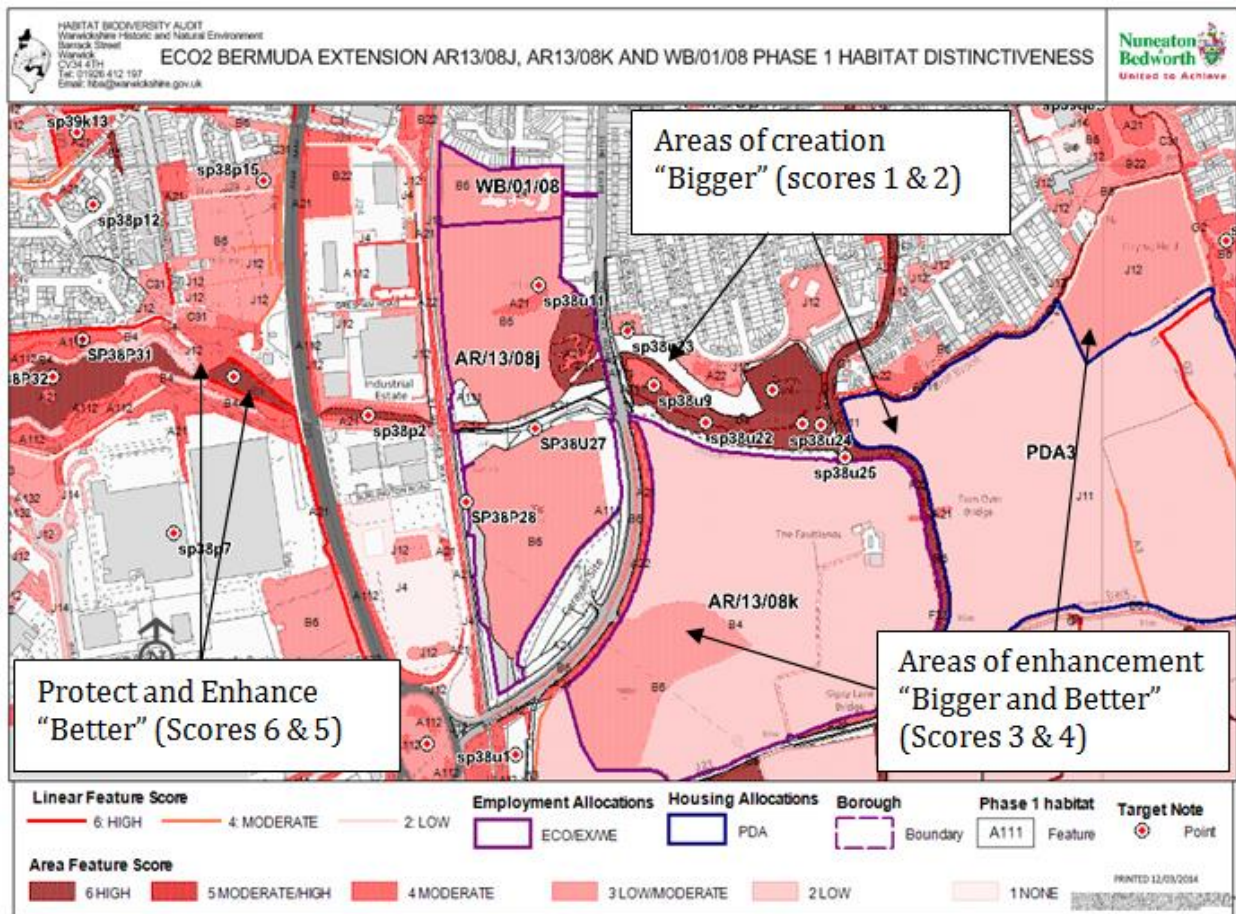
- A) Protect and Enhance those areas of High Distinctiveness
- B) Enlarge and Buffer these areas of High Distinctiveness
- C) Enhance areas of Moderate Distinctiveness

When applying these priorities to the Connectivity Maps for each settlement the aims would be to:

- A) Protect and Enhance the linear features and areas of High Distinctiveness
- B) Enhance areas of Moderate Distinctiveness
- C) Create or enhance new linear features to make continuous 'lines' of High and Moderate Distinctiveness that connect High and Moderate Distinctiveness areas together.

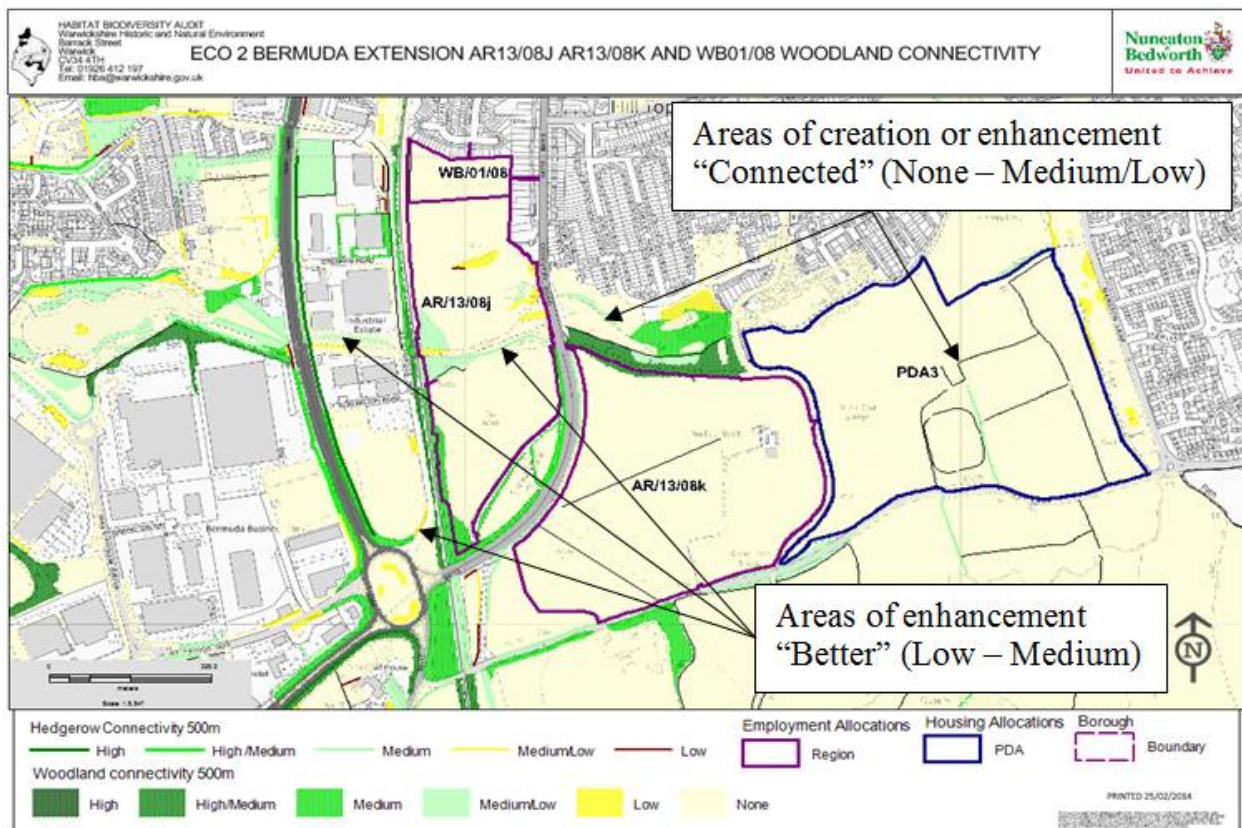
Figures 6 and 7 give examples of these aims of "Bigger, Better and Connected" (Lawton, 2011). Figure 7 only represents opportunities for woodland habitats, but the principles are the same for grassland and wetland habitat types.

**Figure 6: Distinctiveness scoring indicating 'Bigger' and 'Better'**



The Distinctiveness Maps and Connectivity maps are available to NBBC to enable wider application of the above principles to ensure that habitats become connected, enabling species to flow through a regional landscape and therefore be more resilient to climate change or other influences on the environment.

**Figure 7: Woodland connectivity indicating 'Connected' and 'Better'**



## 6. SPECIES RECORDS

Species information is based on existing records within the Warwickshire Biological Record Centre (WBRC). For this report EU and UK protected species, UK Biodiversity Action Plan, Local Biodiversity Action Plan species and rare and endangered species have been noted where records are held digitally. These records have been used with local knowledge to provide spatial interpretation for each site.

This interpretation is based on data and information available at the time of preparing this report. Please note that lack of records may well indicate that no survey work has yet been undertaken, and does not indicate that species are necessarily absent. Protected species may be using the site and surrounding area and appropriate survey work may be required to establish their presence and to inform mitigation measures to ensure that they are not impacted by any proposed works.

## 7. MONITORING

The way sites have been evaluated in this report is unprecedented in the UK. However, the model is being promoted throughout the Warwickshire, Coventry and Solihull sub-region to ensure consistent benchmarking. It is recommended that the monitoring approach becomes consistent with neighbours in a meaningful way. To this affect it is recommended that the ecological interest within the Borough uses the following indicators:

### 7.1. NATIONAL INDICATORS:

#### ***Sites of Special Scientific Interest (SSSI) favourable status***

Owner: Natural England

Description: Natural England measures the condition of SSSIs to assess the quality of their special habitats and species – the Special Features that make these sites important. However, site assessments also look at the management measures that have been put in place to help conserve Special Features or help their recovery if they have been damaged.

#### ***Single Data list 160-00: Biodiversity (Local Sites in positive management)***

Owner: Warwickshire County Council

Description: Local Sites are sites designated locally for their substantive nature conservation importance, either for wildlife or geology. Sites in positive conservation management are defined as those sites which are being managed in order to conserve their nature conservation interest in the last five years (Defra, 2013).

### 7.2. LOCAL INDICATORS

#### ***Area or Local Sites that are in positive management***

Owner: Wildlife Sites Partnership / Warwickshire County Council

Description: The area measurement of Single Data list 160-00 (See above). This could be represented as a hectare figure in its own right reported annually and as the percentage in context of the borough. This will illustrate the area as hectares that is sensitively managed within the borough.

#### ***Connectivity Index (to be evaluated)***

Owner: Habitat Biodiversity Audit

Description: To work with University of York to formulate a connectivity score indicating how functional the borough is to enable species to move within and through the borough.

## 8. BIBLIOGRAPHY

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## **9. STUDY AREAS:**

### **9.1. MAP REF: ECO1 BERMUDA EXTENSION AR13/08H AND AR13/08I**

**Area:** AR13/08h 6.57 hectares and AR13/08i 9.44 hectares

#### **Overview**

Site AR13/08h was an area of permanent grassland that has since been partially ploughed and converted to an arable field. Just south of the arable field is a section of recently planted mixed plantation. Beyond the area of mixed plantation is the main section of Coventry Wood. The site is divided by a small section of semi-natural woodland which is also part of Coventry Wood. The bottom section of the site is the remaining area of permanent pasture, beyond which is the continuation of Coventry Wood.

On the western edge of the site is a small linear section of semi-natural woodland that links Coventry Wood to another area of woodland known as The Rough. The eastern edge is bounded by the Bermuda Park development. Separating the site from the Bermuda Park development is a broad-leaved plantation.

Site AR13/08i covers three grassland fields separated by hedgerows. The north-west corner of the site borders on Coventry Wood. To the north-east is the edge of Bermuda Park. In between is a small area of plantation and a grass field. To the south and west are open grass fields while on the eastern edge is the continuation of the woodland plantation

#### **Key Habitat Features**

- Ancient Woodland
- Broad-leaved semi-natural woodland
- Semi-improved grasslands
- Species rich hedgerows
- Ponds

#### **Designated Sites**

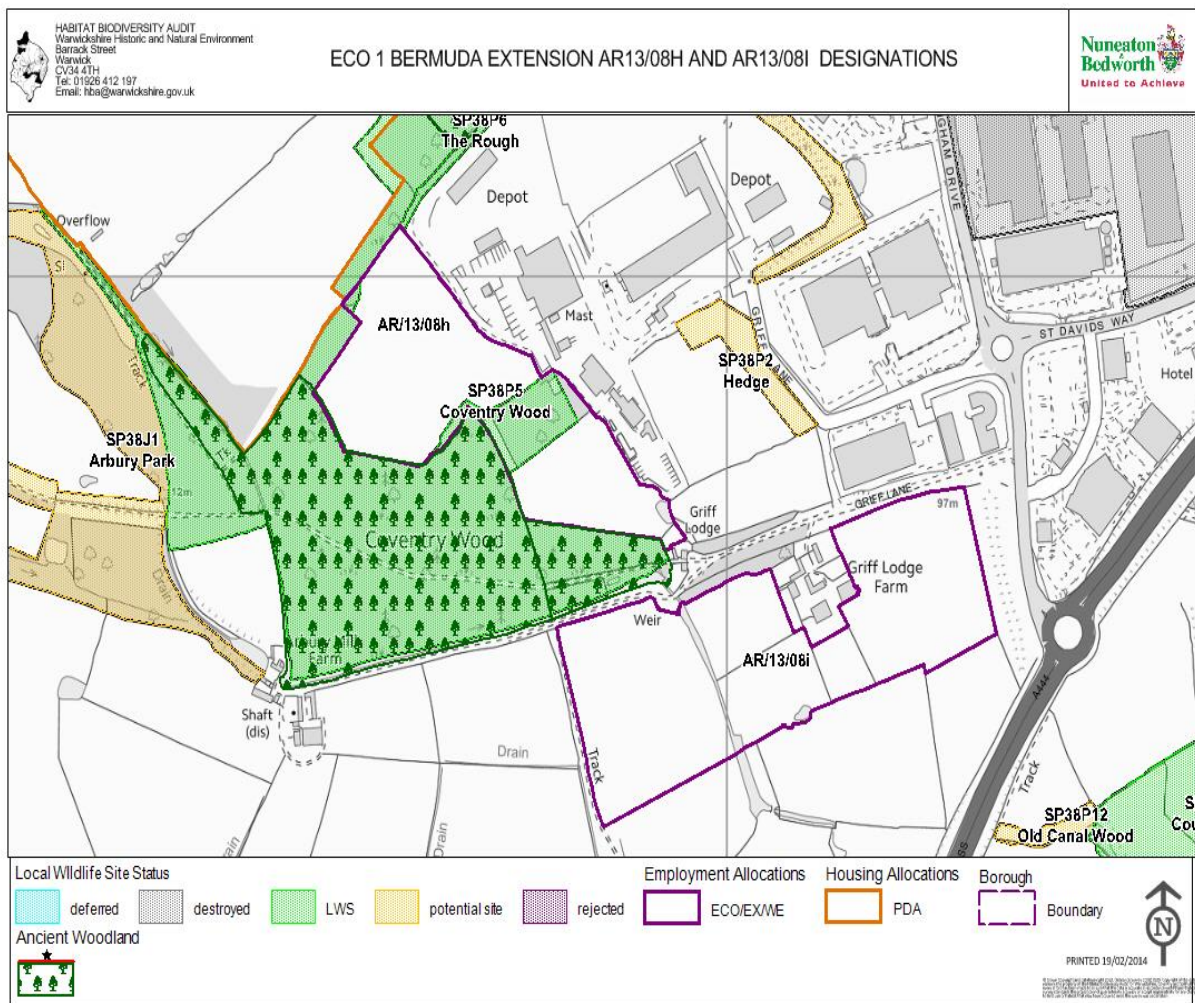
Local Wildlife Site SP38P5 Coventry Wood is described as a medium-sized semi-natural woodland situated on the eastern side of Arbury Park, a mosaic of historic landscaped parkland, farmland, lakes and woodland, 3.5 km south-west of Nuneaton town centre.

Much of the local wildlife site is listed as ancient woodland in the Ancient Woodland Inventory for Warwickshire, although parts of it have been replanted at different times, including with some locally non-native trees such as Beech and Norway Spruce. It is shown on the first edition of the one inch OS map (surveyed 1832-34) much as it is today, although it has lost the south-west corner to



farmland but gained two appendages on the north side. The longest appendage connected the site with a smaller block known as The Rough, which contained a mosaic of mature secondary deciduous woodland, scrub and wet grassland. This mosaic has in recent years been mostly replaced by a plantation of Norway Spruce, with only the perimeter retaining any deciduous woodland. It contains one county rarity, Climbing Corydalis (*Ceratocarpus claviculata*). The site is bisected by one of the main estate driveways which exits the park at Griff Lodge, at the eastern end of Coventry Wood. Although surrounded by a mix of plantations and small-medium sized arable and grass fields, the site is now bordered on the east side by the Griff industrial estates. Some attempts to screen this have been recently undertaken with extensive new areas of deciduous woodland planted on former arable land along the north side of the wood.

The site is naturally damp and is drained by a series of small streams which flow out of a narrow pool just beyond the north-western corner of the wood, before going on to feed the former Arbury Mill situated on the southern border. There are also at least four small ponds within the LWS, although most of these are now badly silted.



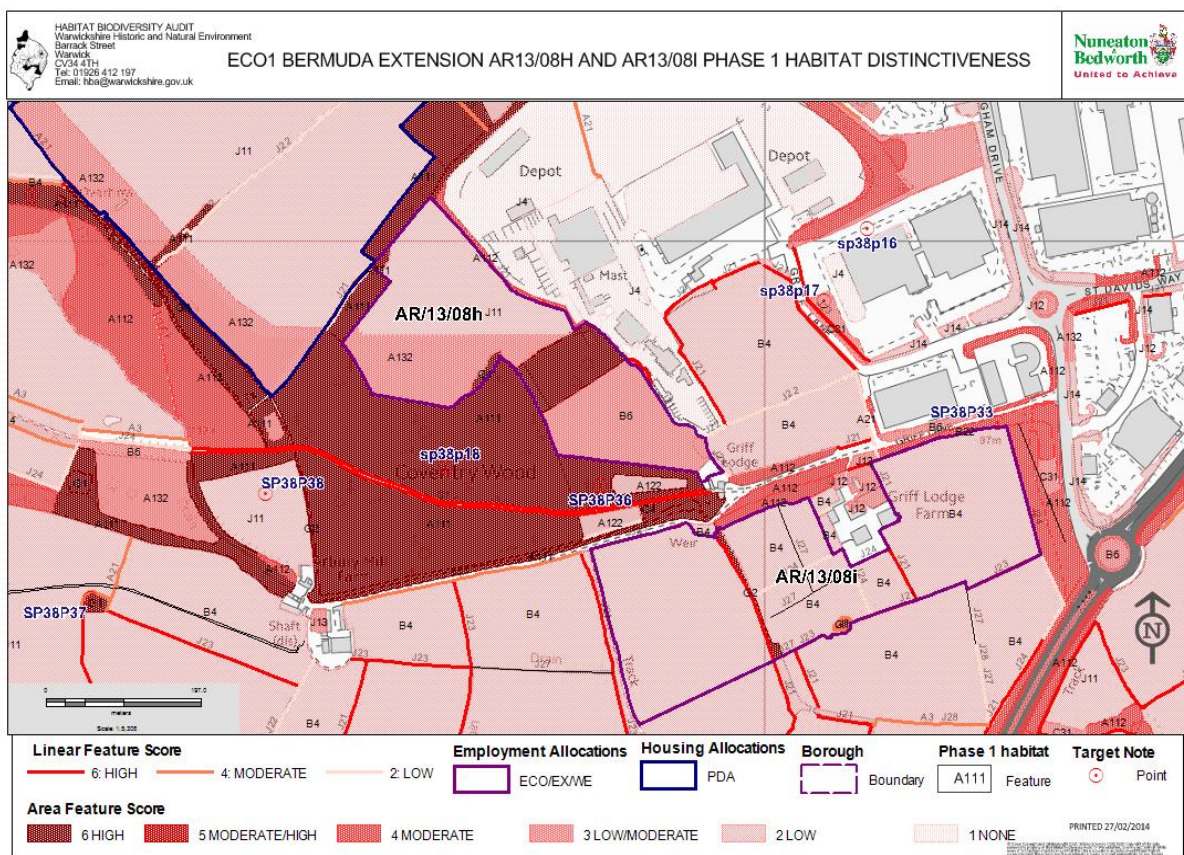
## Phase 1 Habitat Distinctiveness

Site AR/13/08h can be divided into four main habitat categories; Arable (J11), Mixed plantation (A132), Broad-leaved semi-natural woodland (A111) and semi-improved neutral grassland (B6). There is also a pond (G1) on the site. There is a linear boundary feature comprising the broad-leaved plantation (A112) alongside the Bermuda park development.

The habitats with the highest feature scores are the semi-natural woodland areas connected to Coventry Wood and the pond. The mixed plantation and semi-improved grassland are of moderate distinctiveness and the arable and agriculturally improved grasslands (B4) nearby have the lowest distinctiveness.

Site AR/13/08i consists of three improved grassland fields (B4) with low biodiversity value. The habitats with high features scores are the remaining hedgerows with trees (J23) and the pond (G1) at the southern end of the middle field.

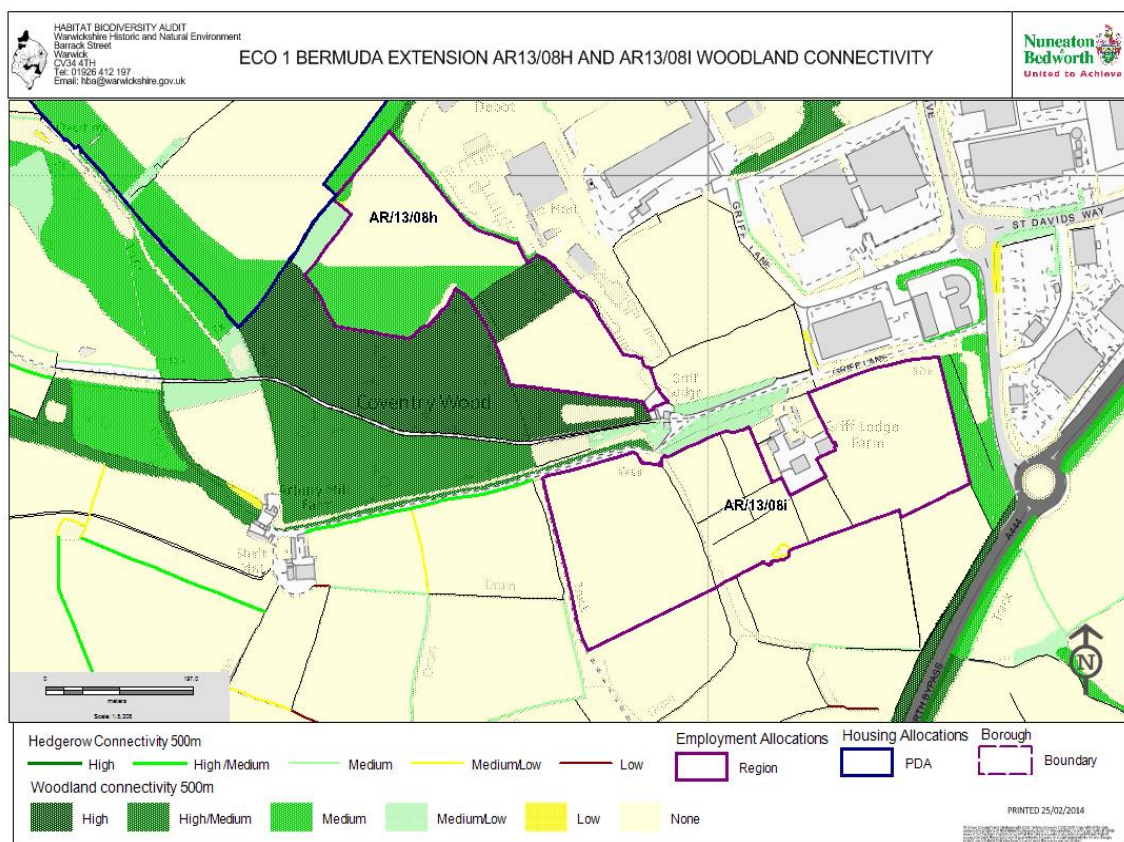
Beyond are more improved grasslands some of which have had their boundaries removed (J27). Along the northern boundary of the site is the edge of the Coventry Wood broad-leaved semi-natural woodland (A111) and the extended broad-leaved plantation (A112) along Griff Lane. Beyond, the plantation merges into a semi-natural grassland verge (B22), noted as species-rich (Target note SP38P38), with a range of natural grassland flowers. The hedgerows along Griff Lane have been noted as species rich (J231) (Target note SP38p17) and have been identified as a potential Local Wildlife Site (SP38P2).



## Phase 1 Habitat Connectivity

The habitat connectivity map for woodlands and hedgerows shows the high level of connectivity for Coventry Wood gradually declining as the woodland areas disperse into the surrounding countryside.

The connectivity shows the importance of having the plantation woodland around the Coventry Wood ancient woodland area. The other main feature is the decline in the hedgerow connections around the whole area, with the majority of hedgerows showing medium to low connectivity and in some cases the complete loss of hedgerow field boundaries.

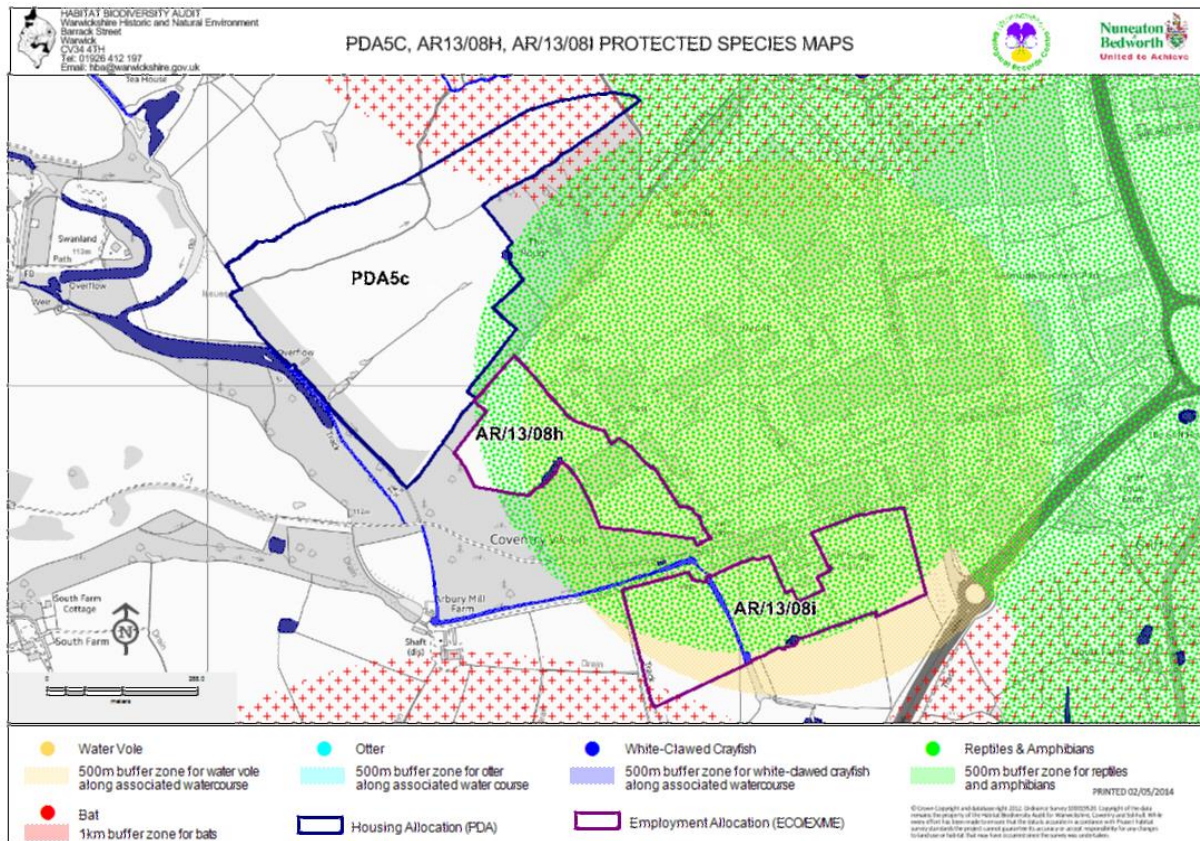


## Protected Species

There are no protected or important fauna records within the site boundaries. There are records of protected species nearby. These include badger, water vole, grass snake and common lizard, great crested newt, smooth newt and common frog. There are also records of notable species: wall and small heath butterflies and veteran trees, in the surrounding area.

We do not anticipate that protected or locally rare and endangered species will preclude the proposed development sites from proceeding. However, should the proposal go ahead, we recommend that protected species are taken into

consideration through more detailed ecological assessments. Please note that an absence of species records does not mean absence of species.



## Recommendations

The key habitat feature is the Coventry Wood LWS Ancient Woodland, but the Local Wildlife Site citation for the wood notes that the site is not suitably managed. It is strongly recommended that some form of sympathetic woodland management and restoration is done, including removing the recent plantation area within the centre of The Rough and restoring it to its previous mosaic of open habitats. The recently planted mixed woodland does act as a suitable buffer and an important woodland landscape connectivity feature, and this should be retained.

The section of semi-natural woodland bisecting AR/13/08h should be retained as part of the local wildlife site to prevent reducing the size of the LWS.

It is recommended that consideration should also be given to retaining the corridor of damp semi-improved grassland which is a remnant of the former permanent grassland that was once a feature of the area. This area of grassland properly managed can be returned to better quality damp neutral semi-improved grassland and a possible inclusion into the LWS to provide a mosaic of woodland, grassland and wet areas.

The ponds on and in the LWS itself were noted as silting up, so the proper restoration of all the ponds in the area is recommended.

The final consideration should be given to retaining and restoring the declining hedgerow system in the area which was also a feature of the historical and biological landscape of the area. The hedgerows are also the key habitat connectors between Coventry Wood and the smaller surrounding woodland areas.

The hedgerows and grass verge along Griff Lane are important habitats and wildlife corridors and should be retained and protected. The species-rich hedgerows along Griff Lane should be considered for LWS status and surveyed.

## **9.2.**

## **MAP REF: ECO2 BERMUDA EXTENSION AR13/08J, AR13/08K AND WB/01/08**

**Area:** AR/13/08j 15.02 hectares, AR/13/08k 24.17 hectares and WB/01/08 2.03 hectares.

### **Overview**

Sites AR/13/08j, AR13/08k and WB/01/08 are mainly areas of open grassland between the Bermuda industrial estate along St George's Way and the housing development along the Coventry Road.

### **Key Features**

- Semi-improved grasslands
- Open mosaic habitats

### **Designated Sites**

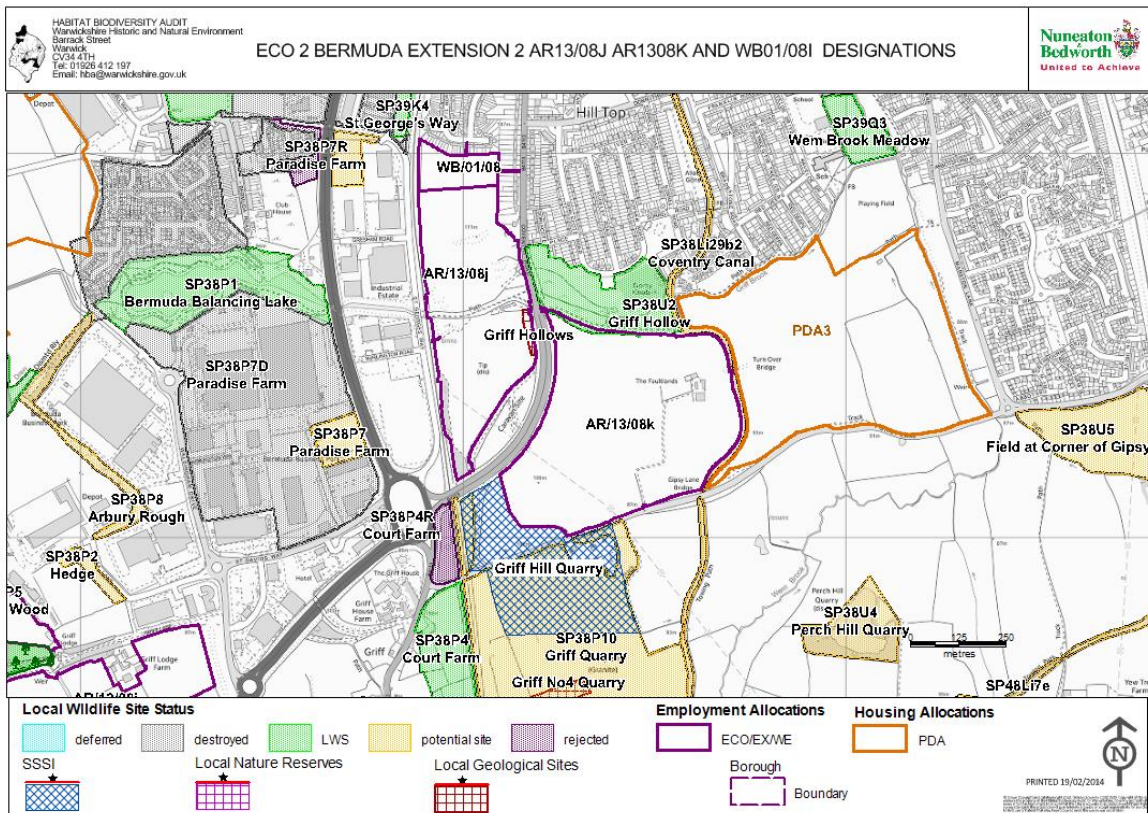
SP38U2 Griff Hollow LWS is a 5.7 hectare mosaic site consisting of scrub, tall herb mire, neutral grassland and acid grassland. The mire and the acid grassland are the most important vegetation types present; both are rare habitat types in the County. The site has recorded 85 plant species including Climbing Corydalis (*Ceratocarpus claviculata*), noted as a Warwickshire rarity. Water Vole, Common Lizard and three species of county rare invertebrates have been recorded on the site.

The Local Wildlife Site is public open space bordered to the north by the Hill Top housing estate. The land to the south and south-east is arable farmland. The Coventry Canal which is a potential Local Wildlife Site forms the eastern edge of the LWS. There are no similar habitat mosaic sites in the vicinity. Some quarries to the south and west have areas of post-industrial habitats. These include Griff Hill Quarry SSSI a geological conservation review site noted for its complex and unique igneous sequence of rocks and the associated potential Local Wildlife Sites SP38P10 Griff Quarry and Griff No4. Quarry. Any excavations into natural geology would be of potential interest for purposes of recording and/or museum collecting.

The Local Geological Site of Griff Hollows lies within AR/13/08j. The site encompasses the three sides of the cliff which forms the eastern side of what is now the landfill site. The exposure faces exhibit part of a thick sill comprising weathered coarse grained lamprophyre.

SP39K4 St George's Way is the last remaining local wildlife site to the north west of site WB/01/08. It was previously joined to SP383 Paradise LWS which has since been destroyed by development. There remains a potential local wildlife site immediately south of St George's – SP38P9.

The Coventry Canal potential local wildlife site runs alongside the eastern boundary of AR/13/08k.



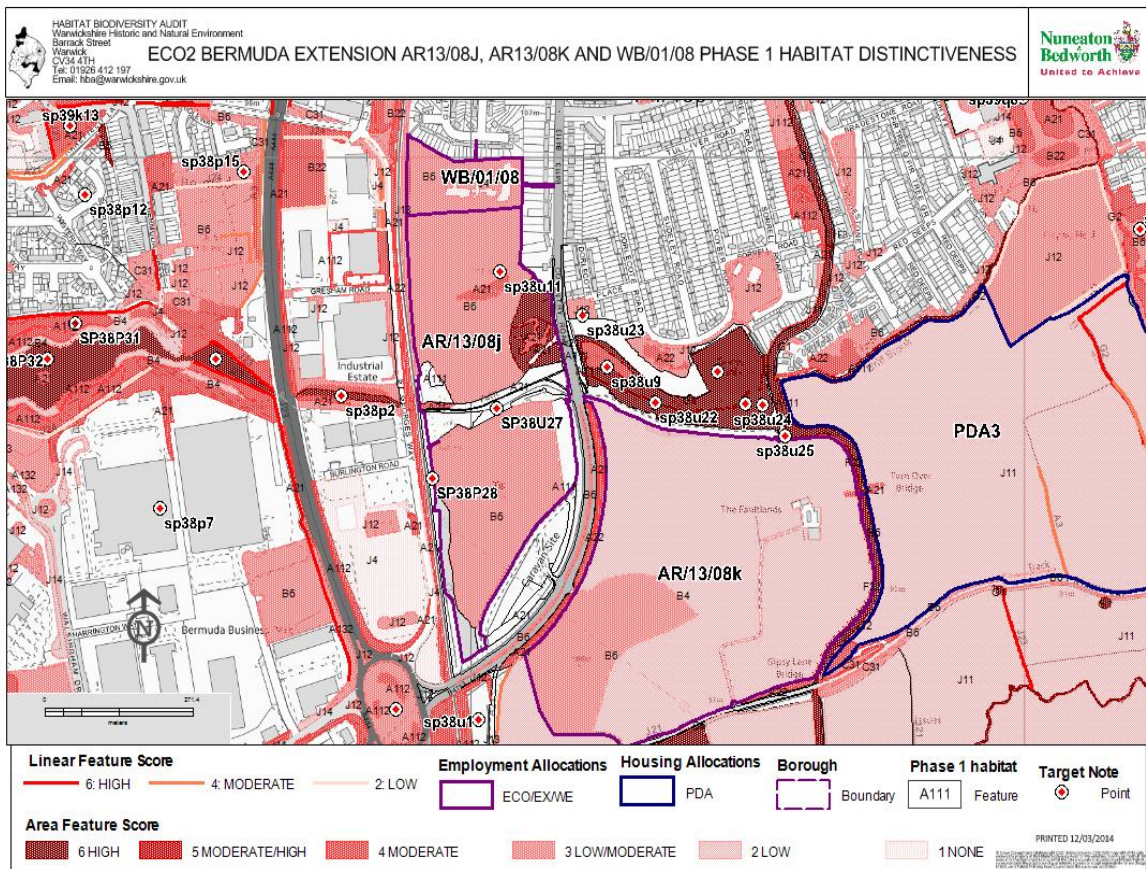
## Phase 1 Habitat Distinctiveness

The three sites consist mainly of poor semi-improved grassland (B6) which have moderate distinctiveness. Site AR/13/08k has the lowest distinctiveness of the three sites with improved grassland (B4) covering a large area of the site. Site AR/13/08j has the most diversity in terms of habitat distinctiveness, which includes small patches of dense continuous scrub (A21) and semi-natural woodland (A111). This an area of a former quarry site, with old quarry spoil now partially covered in scrub and young trees. The areas of poor semi-improved grassland are bordered by scattered and continuous scrub, which develops into a mosaic of semi-natural woodland with mature hawthorns.

This site is typical of post-industrial habitats which are recognised as a UK BAP priority habitat - Open Mosaics (Defra, 2010) on Previously Developed Land (JNCC/Defra, July 2010). The site has a range of plant species associated with disturbed land, comprising a mix of introduced scrub species such as Butterfly-bush (*Buddleja davidii*) and Snowberry (*Symphoricarpos albus*) and native species such as Dog Rose (*Rosa canina*), Broom (*Cytisus scoparius*) and Common Gorse (*Ulex europaeus*). On the more exposed mineral soils, the acid conditions favour plants such as Sheep's Sorrel (*Rumex acetosella*), Mouse-ear Hawkweed (*Pilosella officinarum*) and Foxglove (*Digitalis purpurea*). Also noted here are some interesting and extensive bryophyte and *Cladonia* lichen floras. Open mosaic sites are also noted as important habitats for reptiles and invertebrate species.

Site AR/13/08k has less diversity / habitat distinctiveness than does AR/13/08j consisting mostly of improved grassland with an area noted as being poor-semi improved (B6). The site does border The Coventry Canal (G1) to the east which is an important wildlife corridor through the area, and the Griff Hollows LWS to the north which has a variety of habitats including areas of tall ruderal (C31), wetter habitats along the Griff Brook and the Coventry Canal, including marshy grassland (B5); and drier areas of scrub (A21 and A22), with semi-natural grassland including small areas of acid grassland (B12).

WB/01/08 consists entirely of poor semi-improved grassland (B6) typical of neglected grasslands consisting mainly of coarse grasses such as False Oat Grass (*Arrhenatherum elatius*) and Cock's Foot (*Dactylis glomerata*) typically with Cow Parsley (*Anthriscus sylvestris*), Common Nettle (*Urtica dioica*) and Hogweed (*Heracleum sphondylium*). As a consequence of its condition, site WB/02/08 has as low to moderate distinctiveness.

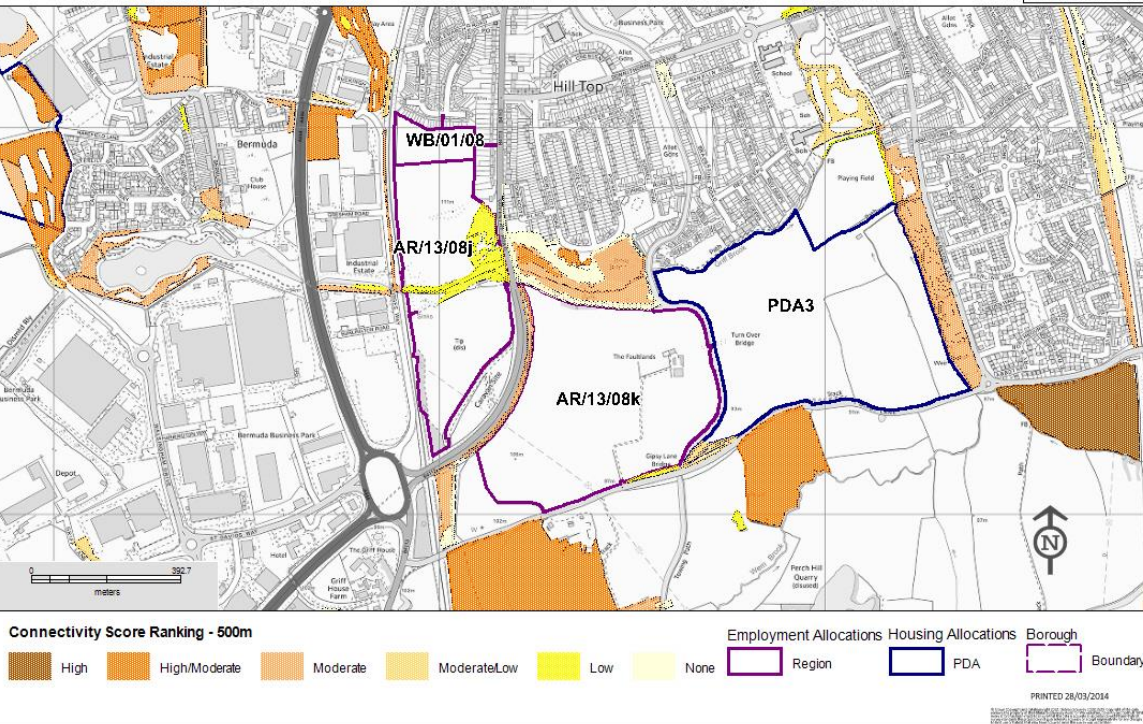
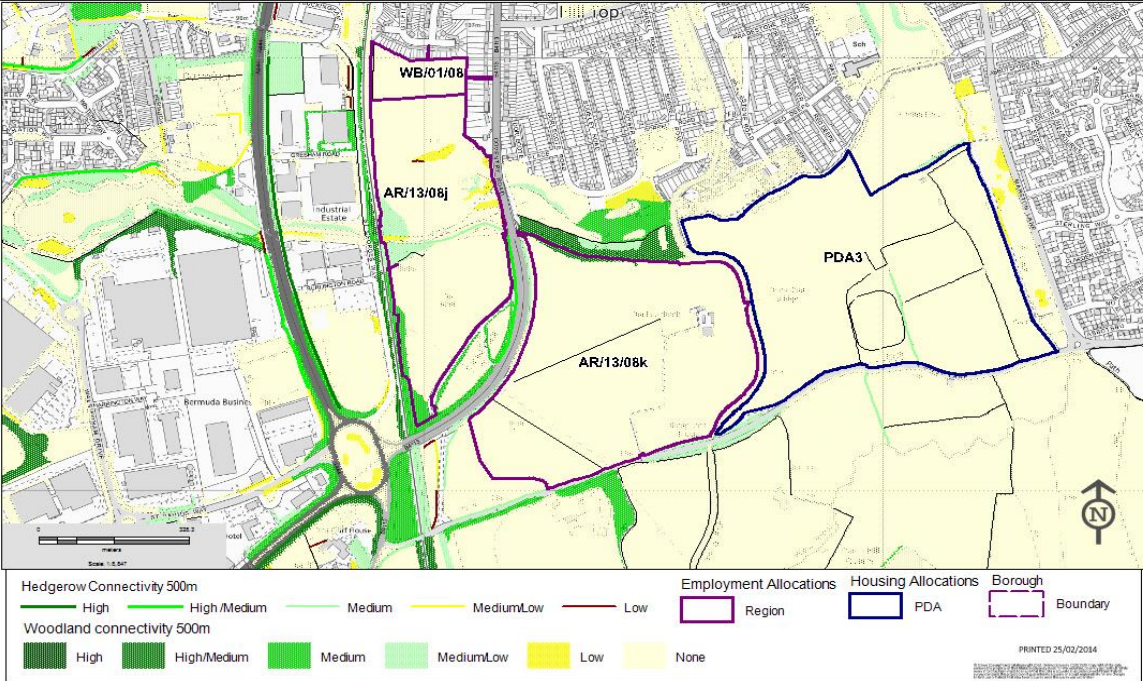




## **Phase 1 Habitat Connectivity**

Woodland and hedgerow habitat connectivity through the sites is generally low to non-existent. The few remaining areas of connectivity are around Griff Hollow LWS and along St George's Way south to the A444/B4113 roundabout. The small areas of scrub and woodland have become isolated and no longer function as connected wildlife corridors.

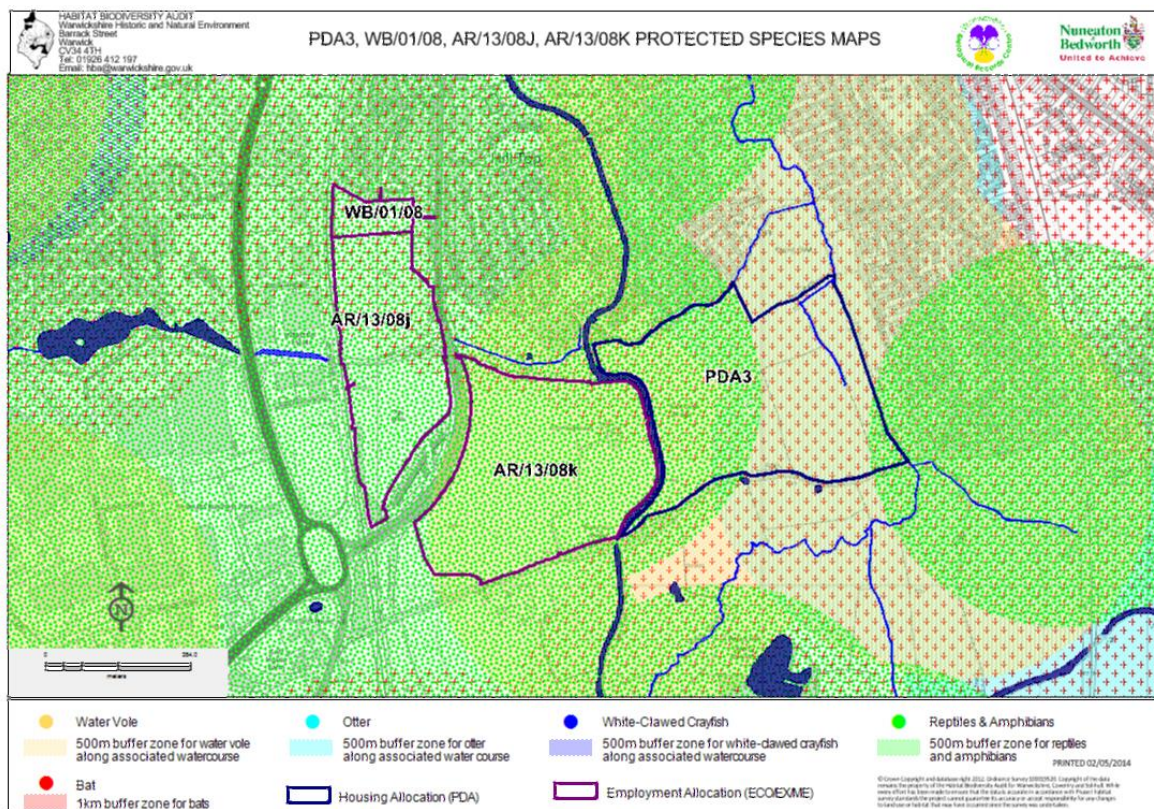
The 500 metre grassland connectivity map clearly shows the habitat corridor between Griff Hollow LWS through site AR/13/08j and through to Bermuda Balancing Lake LWS, however the grassland connectivity between the LWS is low to moderate. Griff Quarry SSSI and potential local wildlife sites to the south of site AR/13/08k is an important area of grassland which has narrow grassland corridor with a low to moderate connection to Griff Hollow.



## Protected Species

There are historic records of common lizard and grass snake within site AR/13/08j, and more recent records of these species very close to the site. There are records of common frog and Wall butterflies within site AR/13/08k. There are records of watervoles in the canal running alongside this site. There are further records of protected species nearby including bats (indeterminate species), badger, otters, watervoles, grass snakes and common lizards. There are also two county rare plants, climbing corydalis (*Ceratocarpus claviculata*) and white ramping fumitory (*Fumaria caperolata*), in the surrounding area.

We do not anticipate that protected or locally rare and endangered species will preclude the proposed development sites from proceeding. However, should the proposal go ahead, we recommend that protected species are taken into consideration through more detailed ecological assessments. Please note that an absence of species records does not mean absence of species.



## Recommendations

A new potential Local Wildlife Site on site AR13/08J or as an extension to Griff Hollow LWS. The site meets the UK BAP criteria for field recognition of the habitat as an open mosaic habitat. The open mosaic habitat criteria are:

1. The area of open mosaic habitat is a least 0.25 ha in size.
2. Known history of disturbance at the site or evidence that the soil has been removed or severely modified by previous use(s) of the site. Extraneous materials/substrates such as industrial spoil may have been added.
3. The site contains some vegetation. This will comprise early successional communities consisting mainly of stress tolerant species. Early successional communities are composed of (a) annuals, or (b) mosses/liverworts, or (c) lichens, or (d) ruderals, or inundation species, or (f) open grasslands, or (h) heathland.
4. The site contains un-vegetated loose bare substrate and pools may be present.
5. The site show spatial variation, forming a mosaic of one or more early successional communities (a)-(h) above (criterion 3), plus bare substrate within 0.25 ha.

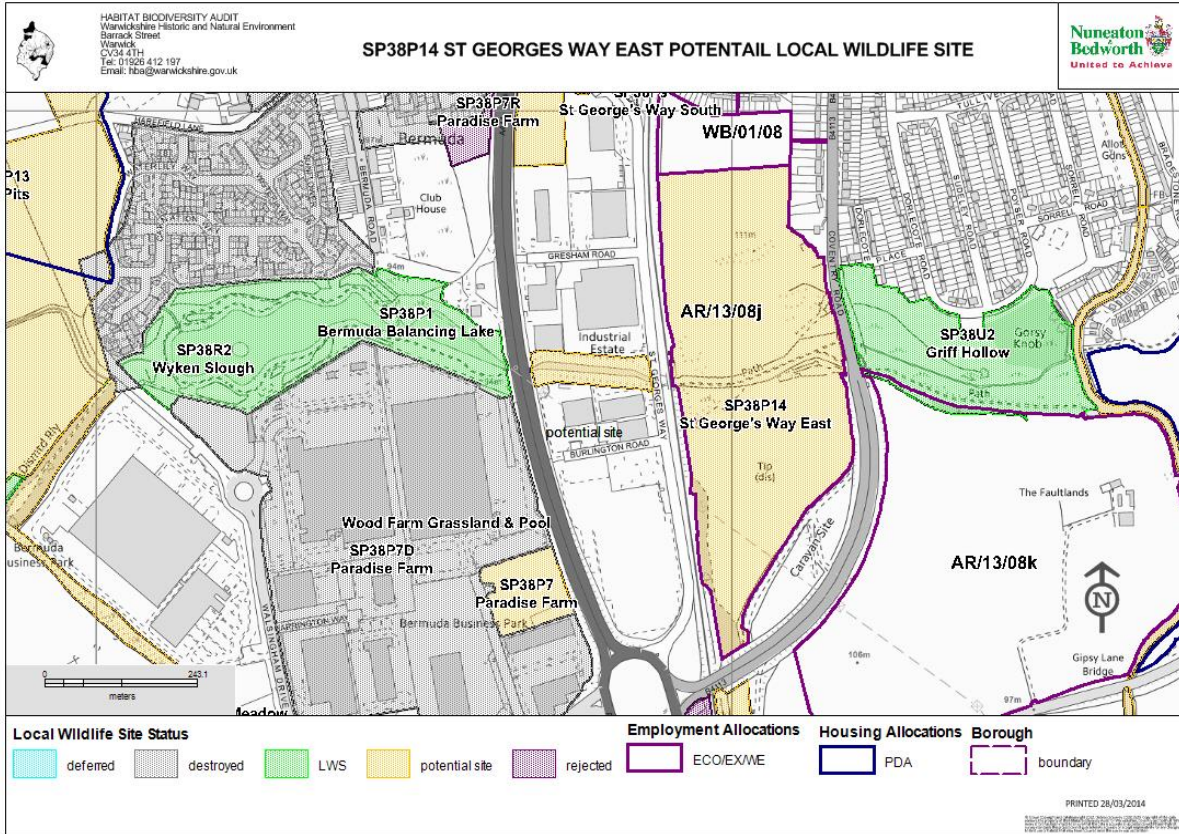
The proposed designated site would be assessed as a post-industrial local wildlife site under The Green Book site selection criteria (Habitat Biodiversity Audit, 2014 p.96). The site would provide an area of public open space acting as a buffer between the nearby area of housing along the Coventry Road to the east and the Bermuda Industrial Estate to the west. The key function of the proposed site would provide an important wildlife corridor from the Bermuda Balancing Lake LWS to Griff Hollow LWS along the canal arm link to the Coventry Canal.

The extent of the site would be determined by the survey and in agreement with the Borough planning authority, but consideration should also be given to maintaining the habitat connectivity between Griff Hollow LWS and Griff Quarry SSSI and Griff Quarry pLWS to the south.

The Local Geological Sites of Grff Hollows should be retained and a management secured to enhance the site.

There are no site specific recommendations for WE/01/108.

At the nearby pLWS SP38P9 extend the existing St George's Way LWS to the south in order to merge the pLWS with St Georges Way LWS to create a larger single LWS.



### **9.3. MAP REF: ECO3 PROLOGIS EXTENSION EX/19/08**

**Area:** 5.29 hectares

#### **Overview**

Site EX/19/08 is a grass field enclosed by hedgerows with trees and a woodland plantation. To the south of the site is the Prologis warehouse park development and to the west the site borders the Mercers Meadow housing estate. To the north are open arable fields and to the east are similar areas of rough grazing land with broad leaved plantation woodland and a series of ponds scattered throughout the area.

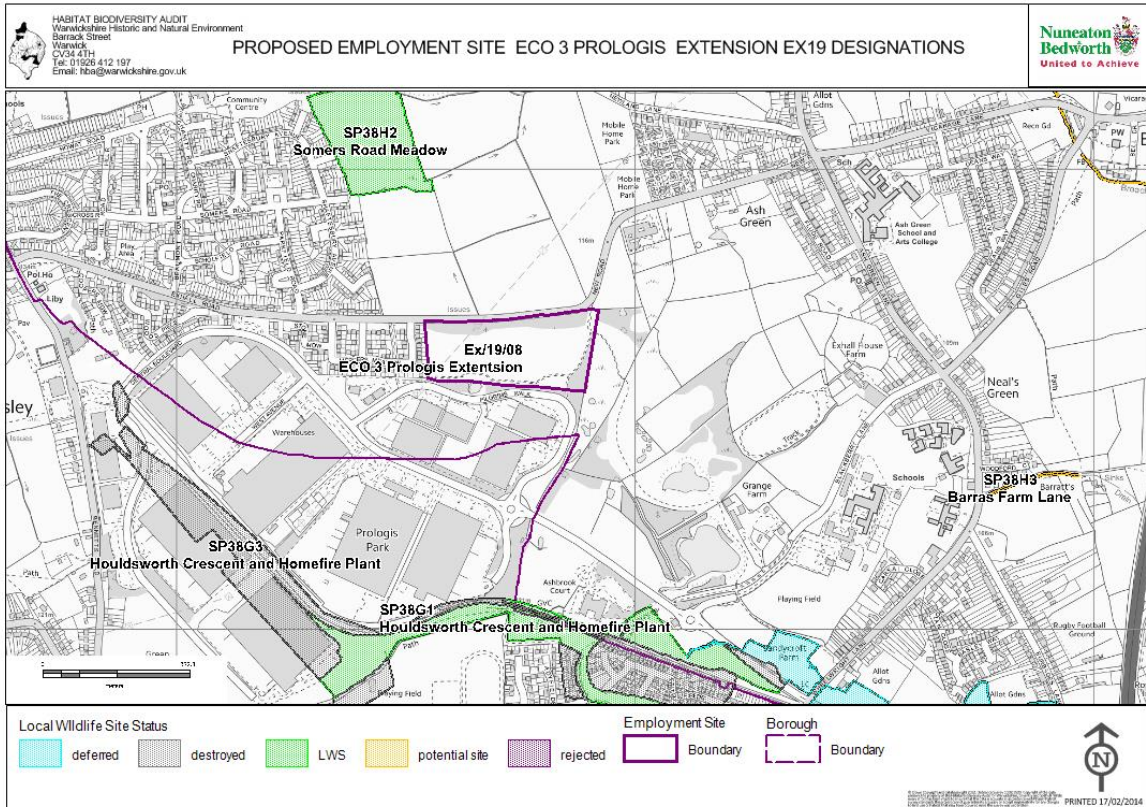
#### **Key Features**

- Semi-improved neutral grassland
- Broad leaved plantation
- Intact hedgerows with trees
- Ponds complex

#### **Designated Sites**

Site EX/19/08 is not on or immediately adjacent to any designated sites. The Prologis warehouse development to the south has partially destroyed the old Houldsworth Crescent and Homefire Local Wildlife Site SP38G1 which has been reduced from 19.5ha to 6.6ha. The now smaller Houldsworth Crescent Corridor LWS still contains a long corridor of floristically diverse post-industrial habitats which follow the old loop line to Keresley Colliery. The site is mostly within Coventry City but there is a small section in Nuneaton and Bedworth consisting of reed swamp, sallow scrub and some sub-calcareous semi-improved grassland.

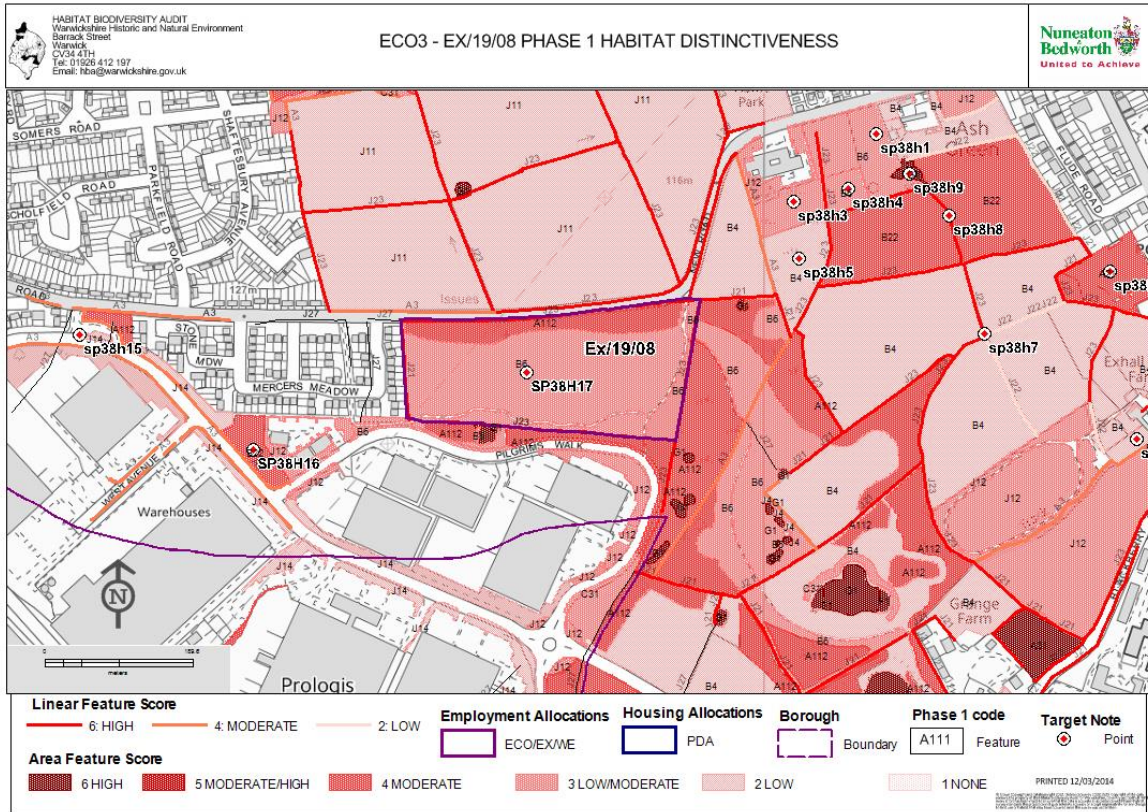
To the north is an isolated Local Wildlife Site Somers Road Meadow SP38H2. The site was in the process of being adopted as a conservation meadow with village green status at the time of the survey by local residents from Keresley Newlands.



## Phase 1 Habitat Distinctiveness

The EX/19/08 consists mainly of poor semi-improved grassland (B6) and an area of broadleaved semi-natural woodland (A112) both of which have moderate feature scores. The field is periodically cut by mower and is composed mainly of coarse grasses, but with scattered forbs including Common Knapweed (*Centaurea nigra*), Cut-leaved Cranesbill (*Geranium dissectum*) and Red Clover (*Trifolium pratense*), as well as docks, nettles and Common Ragwort (*Senecio jacobaea*). Locally frequent Soft Rush (*Juncus effusus*) indicates that there are some wetter areas within the site.

The whole site is surrounded by intact hedgerows (J21) and hedgerows with trees (J23), which have high feature scores. A pond to the south of the site (G1) and two ponds to the east have high feature scores. The grassland is typical of rough grazing pasture in close proximity to urban areas that is in gradual decline.

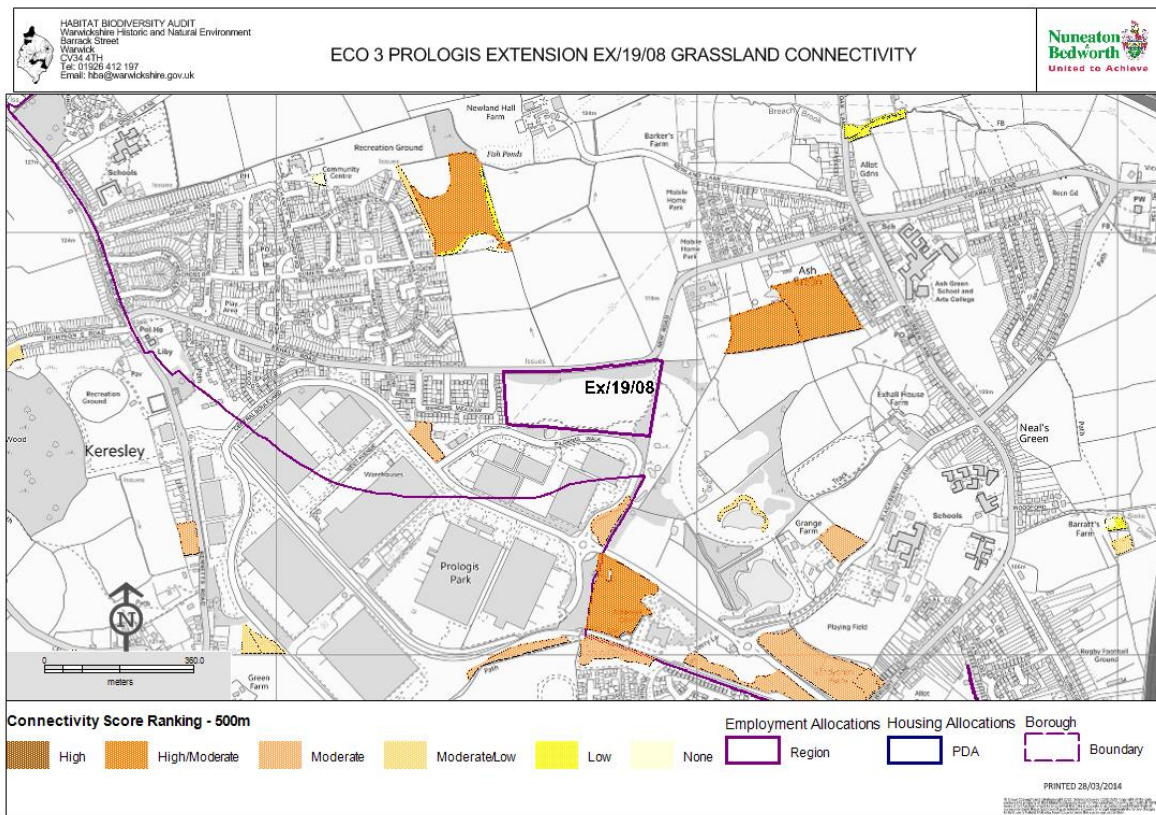
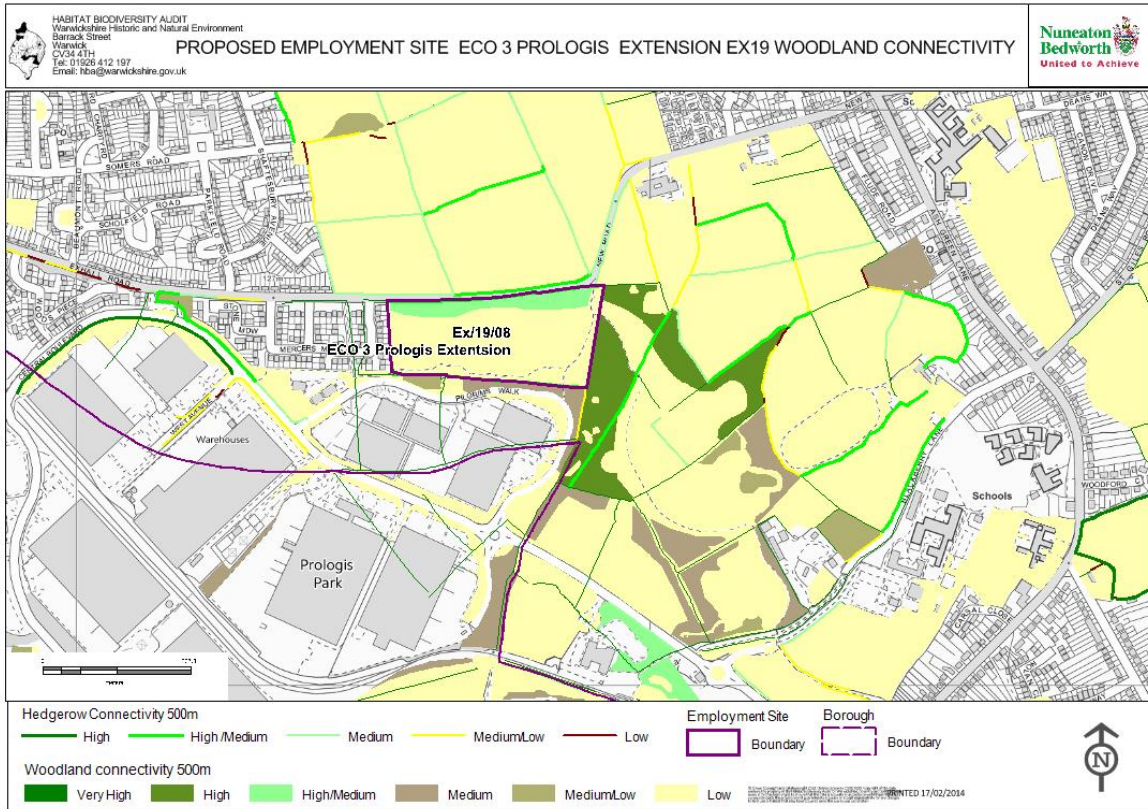


## Phase 1 Habitat Connectivity

The woodland and hedgerow connectivity map for the land around EX/19/08 show a general decline in overall connectivity, with only the plantation woodland adjacent to the site having a high connectivity score. From these woods the connectivity declines, with areas of woodland becoming more isolated.

There is no grassland connectivity associated with the site.

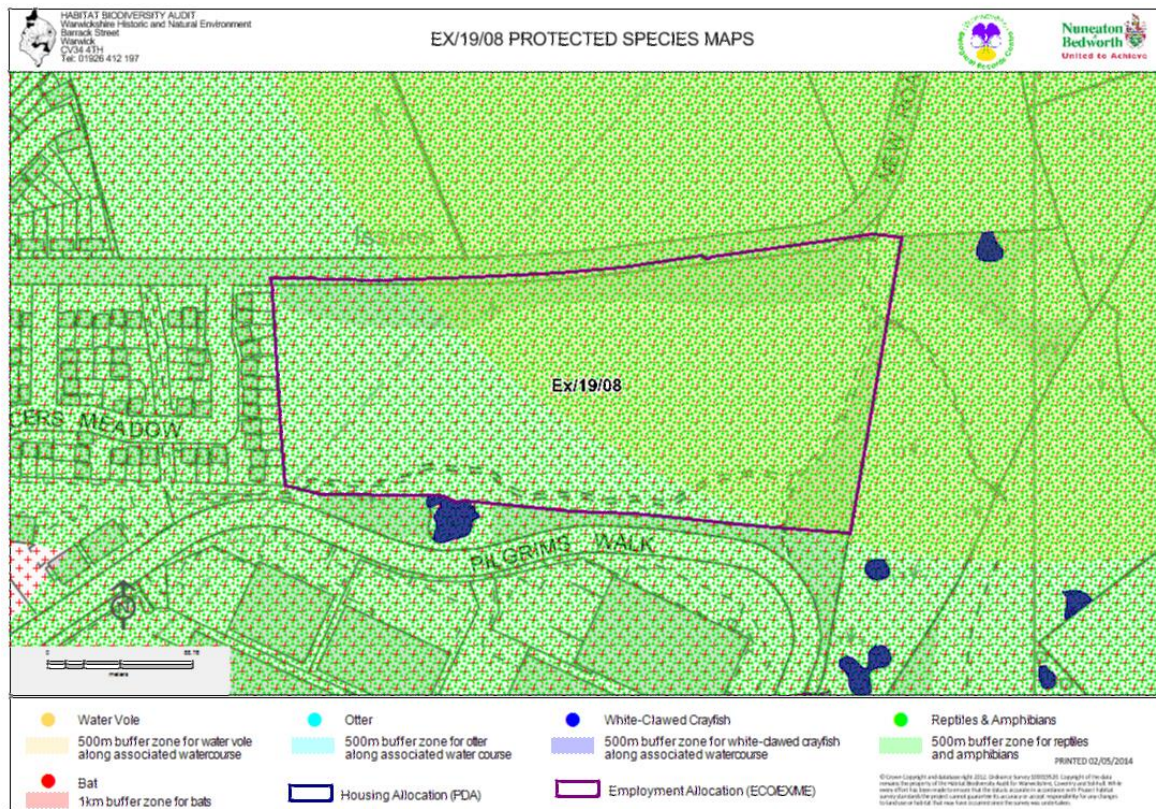




## Protected Species

There are no protected or important fauna records within site Ex/19/08. There are many records of great crested newts nearby, as well as smooth newts, common frog, grass snakes, common toads, bats (soprano pipistrelle, common pipistrelle and brown long eared) and watervole. In addition there are several notable species records in the surrounding area, namely hedgehog, brown hares and wall and small heath butterflies.

We do not anticipate that protected or locally rare and endangered species will preclude the proposed development sites from proceeding. However, should the proposal go ahead, we recommend that protected species are taken into consideration through more detailed ecological assessments. Please note that an absence of species records does not mean absence of species.

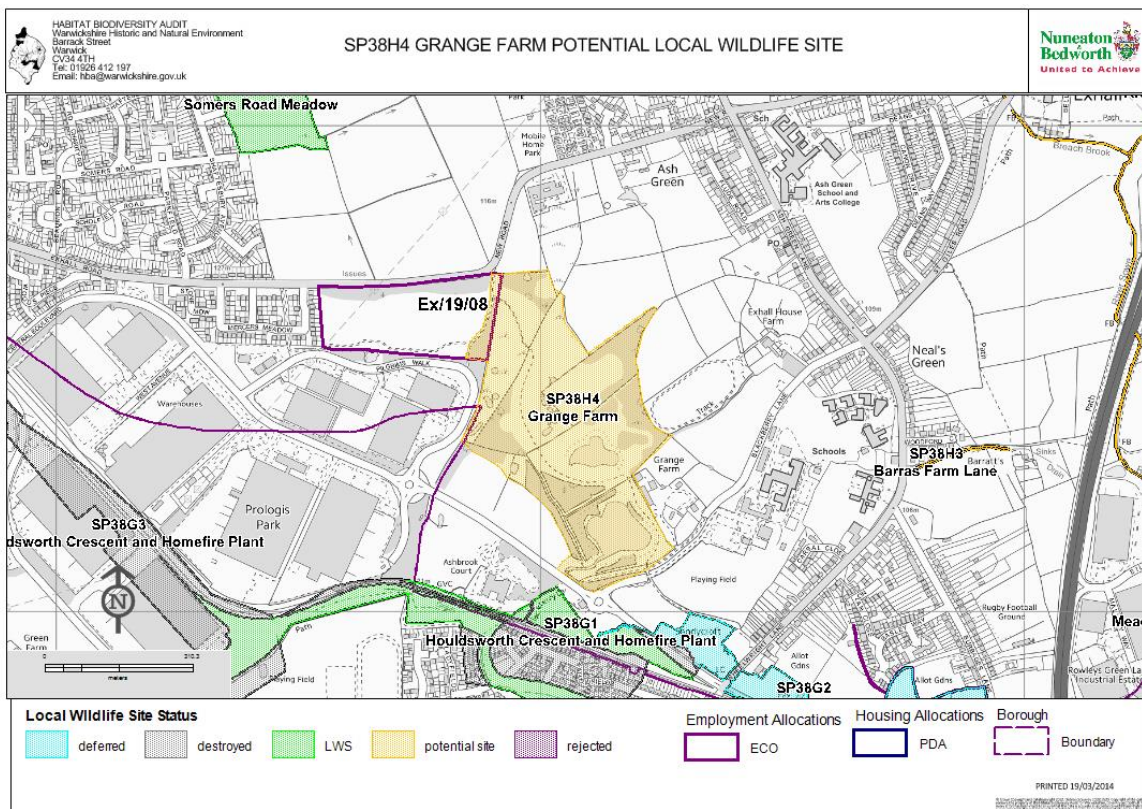


## Recommendations

The EX/19/08 Prologis extension will continue to impact on the semi-natural grassland habitats remaining in the area and will further reduce the woodland and hedgerow connectivity. Consideration should be given to the impact of the development on the area of adjoining woodland, grassland and pond complex at Grange Farm on the eastern side of the site, known locally as Keresley Country Park. Further surveying is required for this area as a potential Local Wildlife Site which would act as a green buffer between the Prologis Park development and the open farmland to the east towards Blackberry Lane and Ash Green.

The maintenance of the woodland and where possible planting of new woodland and hedgerows along the corridors between the Prologis Park and the built up area along Ash Green should be considered to maintain a green corridor between the two.

Great Crested Newts have been recorded in the pond complex in the recent past and so a newt survey should be considered. This open space should also be considered as a new Potential Local Wildlife site that could be considered as an extension to the existing Houldsworth Crescent Corridor LWS. The combined site could also be put forward as a candidate Local Nature Reserve.



## 9.4. MAP REF: EX/05/08

Area: 3.15 hectares

### Overview

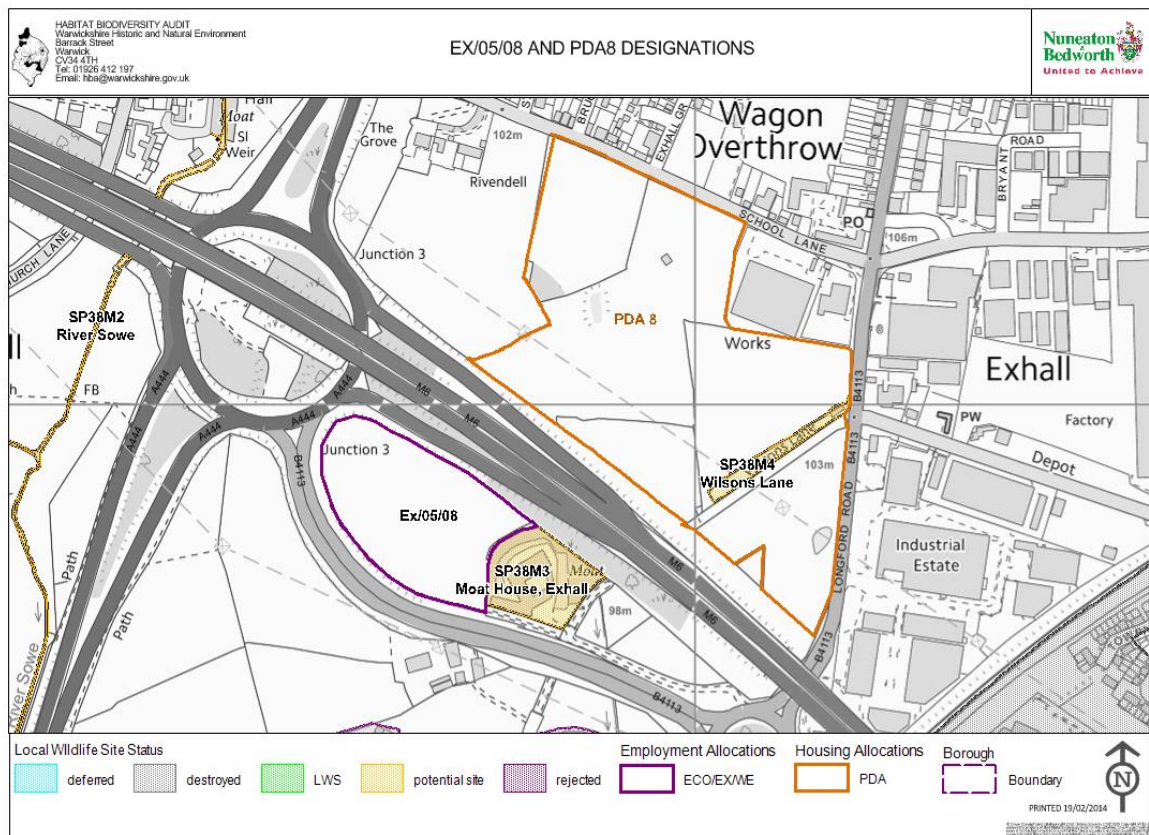
Site EX/05/08 is a small arable field located between the M6 Motorway and the B4113 Junction 3 A444/M6. To the south-east is an area of buildings surrounded by a moat and woodland plantation. To the south across the B4113 are fields of open grassland.

### Key Features

- Plantation woodland
- Semi-improved grassland road verge

### Designations

There are no designated sites in or close to EX/05/08. There is a potential Local Wildlife Site at SP38M3 Moat House, Exhall, bordering the site to the east.

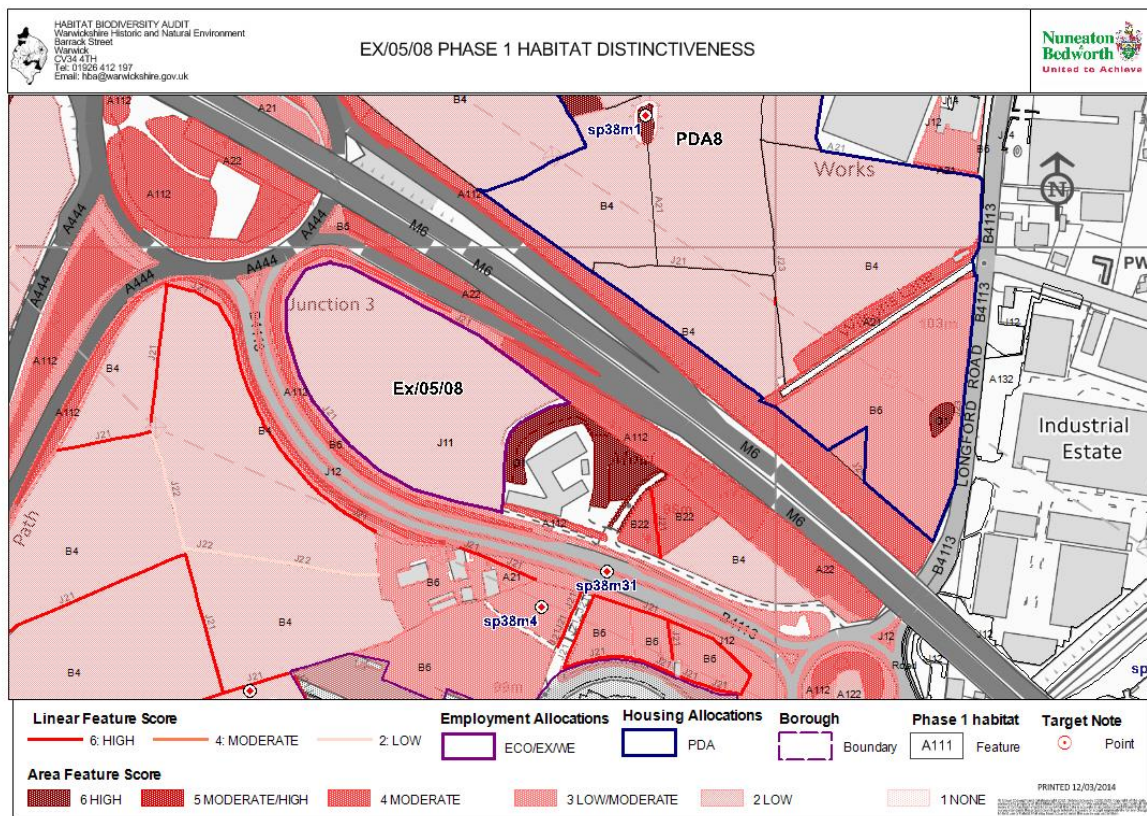


## Phase 1 Habitat Distinctiveness

The site is currently an arable field (J11) with low habitat distinctiveness. Surrounding the site is a linear broad-leaved plantation (A112) planted over the verge, which is poor semi-improved grassland (B6). The woodland plantation continues along the motorway, before being replaced by dense scrub (A22). The area of open water (G1) shown as The Moat on the map has a high distinctiveness score. Surrounding The Moat is a small area of semi-natural woodland which also has a high distinctiveness score.

South-east of The Moat are small fields of poor and semi-improved grassland (B6 and B22) these have moderate-high habitat distinctiveness scores. The larger grassland fields are generally improved grassland (B4) with low habitat distinctiveness

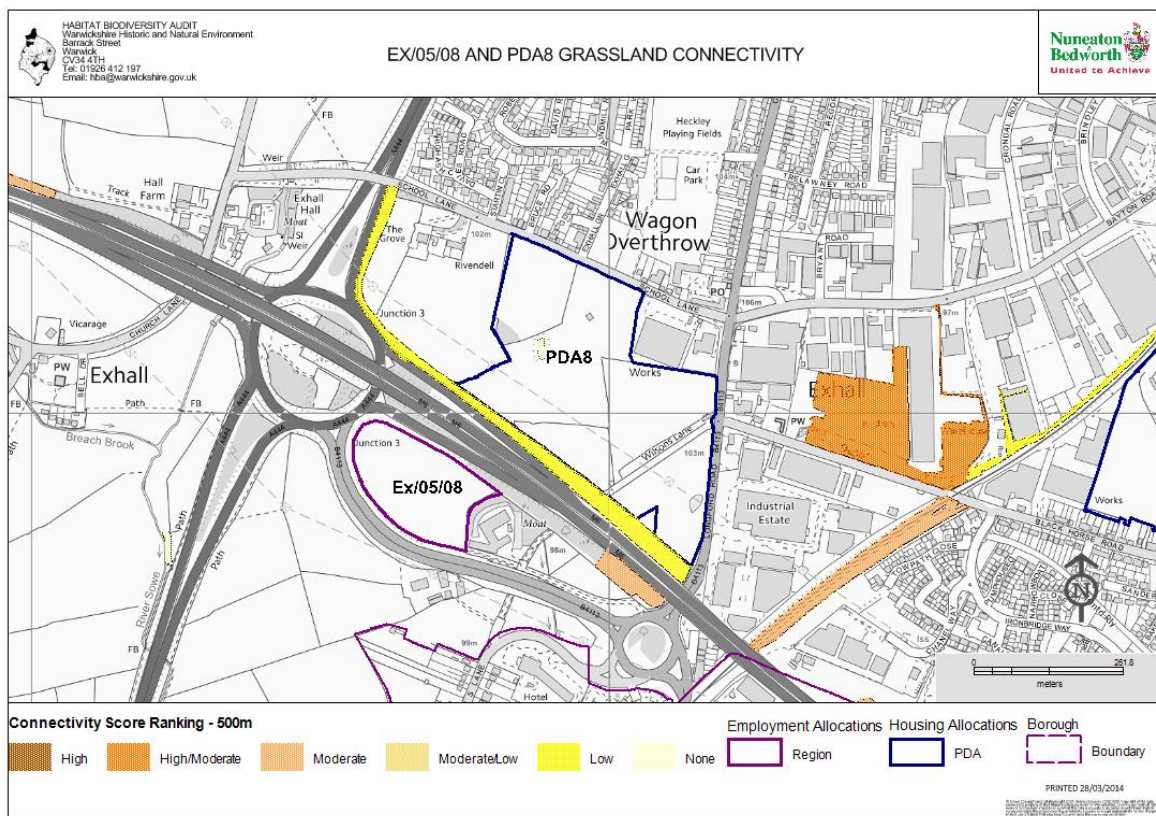
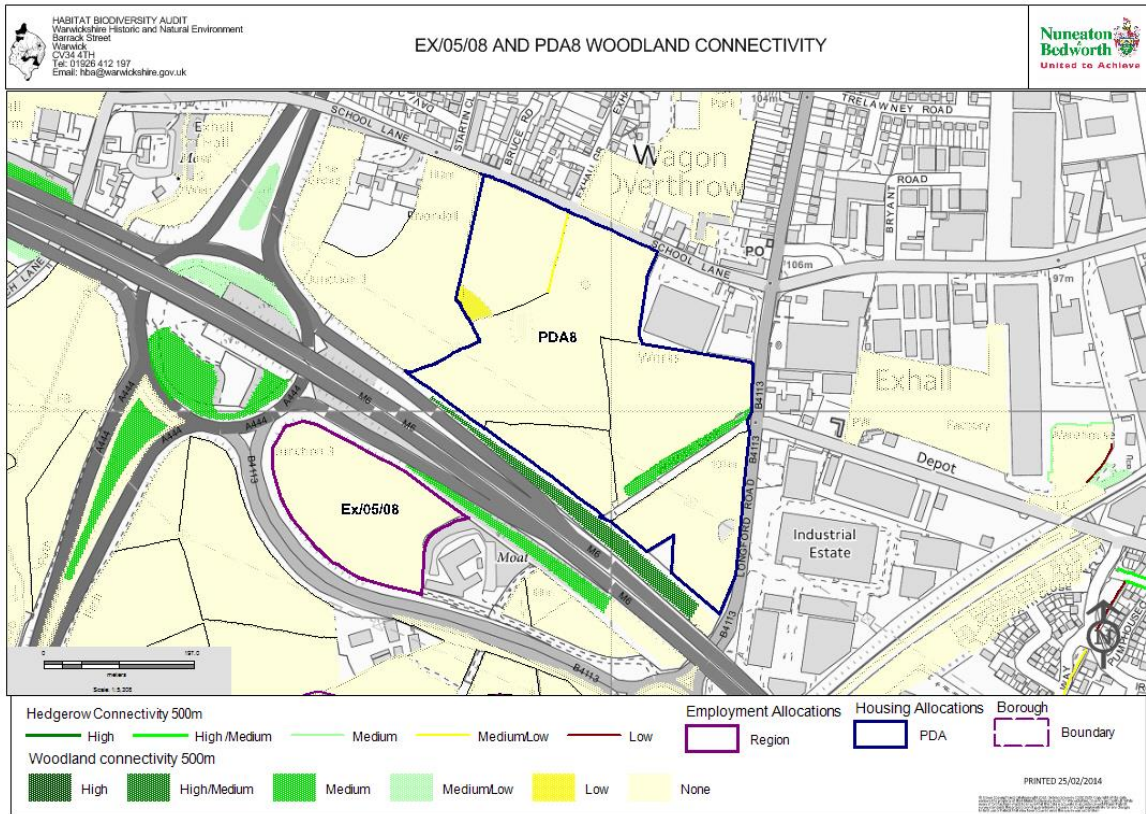
The site is enclosed by intact hedgerows (J21) which have high habitat distinctiveness.



## Phase 1 Habitat Connectivity

The woodland and hedgerow connectivity around the site is low or none existent due to the fragmentation of the land parcels across the area by the major and minor roads. Beyond the B4113 Longford Road, the built-up area has no recorded areas of green space.

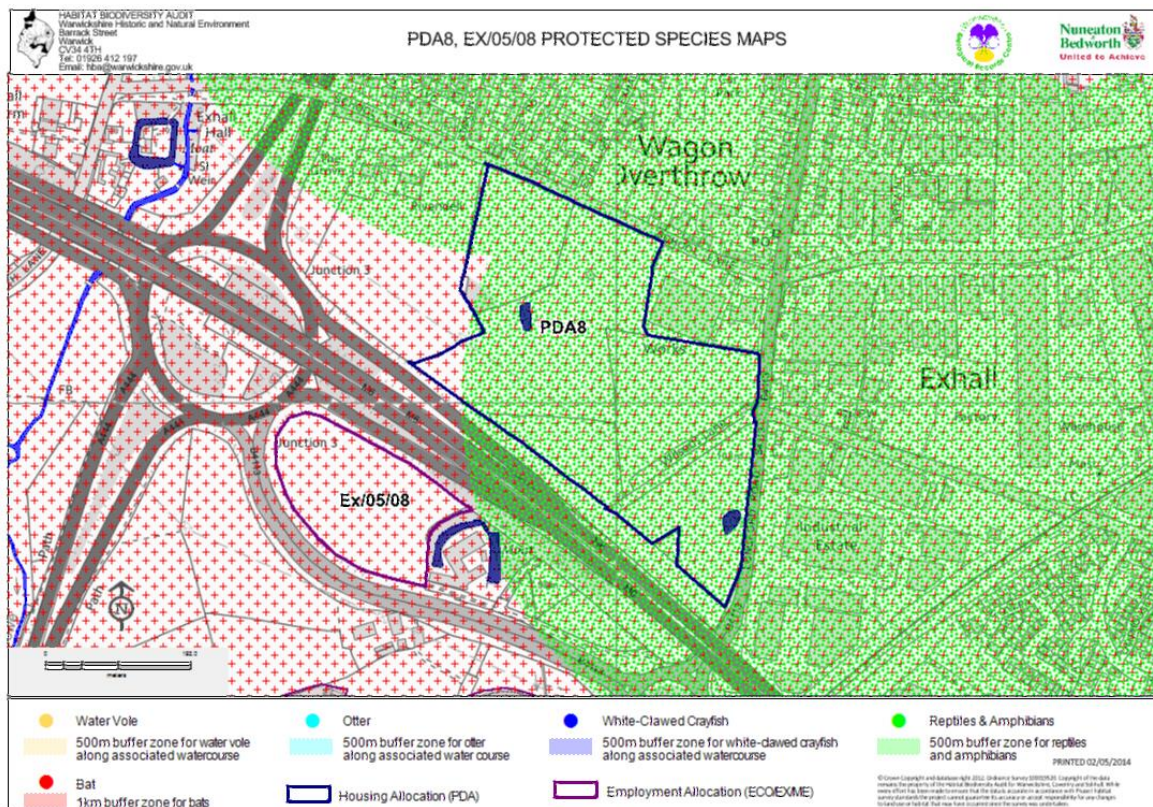
Grassland connectivity is low with only the verges providing a connectedness for this habitat



## Protected Species

There are no protected or important fauna records within site EX/05/08. There are nearby records of protected and notable species including bats, common frog, common toad, common lizard and small heath butterflies. There is also a historic record of a county rare plant, greater duckweed (*Spirodela polyrhiza*), on the other side of the railway.

We do not anticipate that protected or locally rare and endangered species will preclude the proposed development sites from proceeding. However, should the proposal go ahead, we recommend that protected species are taken into consideration through more detailed ecological assessments. Please note that an absence of species records does not mean absence of species.



## Recommendations

The site is an isolated arable field separated by roads from the nearby open fields to the south. The only suggestions for enhancing the area would be to maintain the road verges around the site as semi-improved grassland and consider having an area of public open space containing semi-improved grassland in the fields extending along the B44113 south of The Moat to the B4113/Bedworth Road roundabout. The potential local wildlife site SP38M3 Moat House should also be verified along with the plant and reptile species possibly still remaining on the site.

## **9.5. MAP REF: ECO3 EX/07/08**

**Area:** 3.14 hectares

### **Overview**

EX/07/08 Greenwood Farm is located at Burbage's Lane west-south-west of Bedworth and separated from the Coventry City boundary by Winding House Lane to the south. The site consists of three grassland fields separated by intact hedgerows. Immediately to the south and north of the site are allotments

### **Key Features**

- Semi-improved grassland
- Intact hedgerows
- Allotments

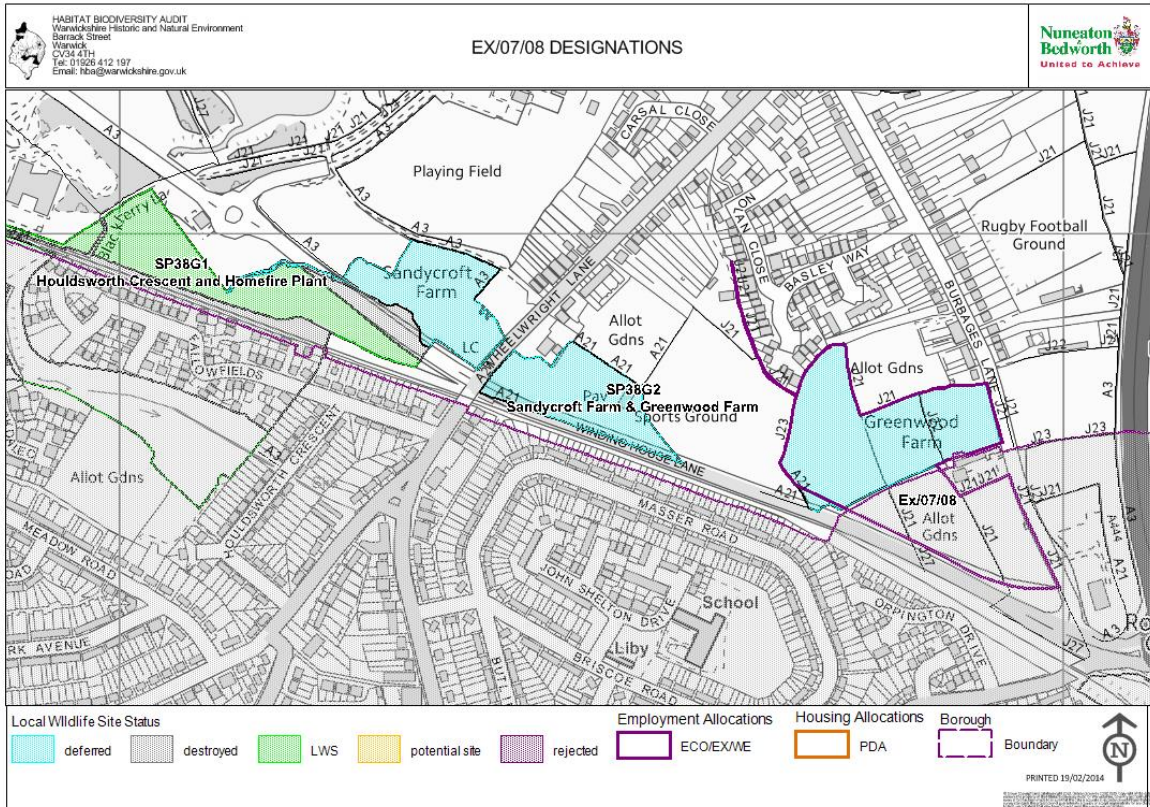
### **Designated Sites**

Sandycroft Farm and Greenwood Farm SP38G2 (part) 4.58 hectare site, was surveyed for LWS status in September 2003 but was deferred as it was decided by the LWS panel at the time that the site was impossible to assess due to the intensity of grazing. The panel recommended that the site required re-surveying in late spring or summer when there had been a period of no grazing on site. Permission to resurvey the site the following year was rejected by the landowner. This remains the current status of the site.

There is also another deferred site close by at Sandycroft Farm with the same site designation SP38G1. There is no record of this area having been surveyed. Part of the site has been destroyed where there is now bare ground.

To the west of Sandycroft Farm is the Houldsworth Crescent Corridor SP38G1 Local Wildlife Site. This LWS was resurveyed last year and submitted to the LWS panel in January 2014. The site has been reconfirmed as an LWS although reduced in size due to housing and industrial development, and also suffering from a lack of management. Despite these findings the site remains a valuable wildlife corridor and local green space with a moderately diverse flora and fauna.





## Phase 1 Habitat Distinctiveness

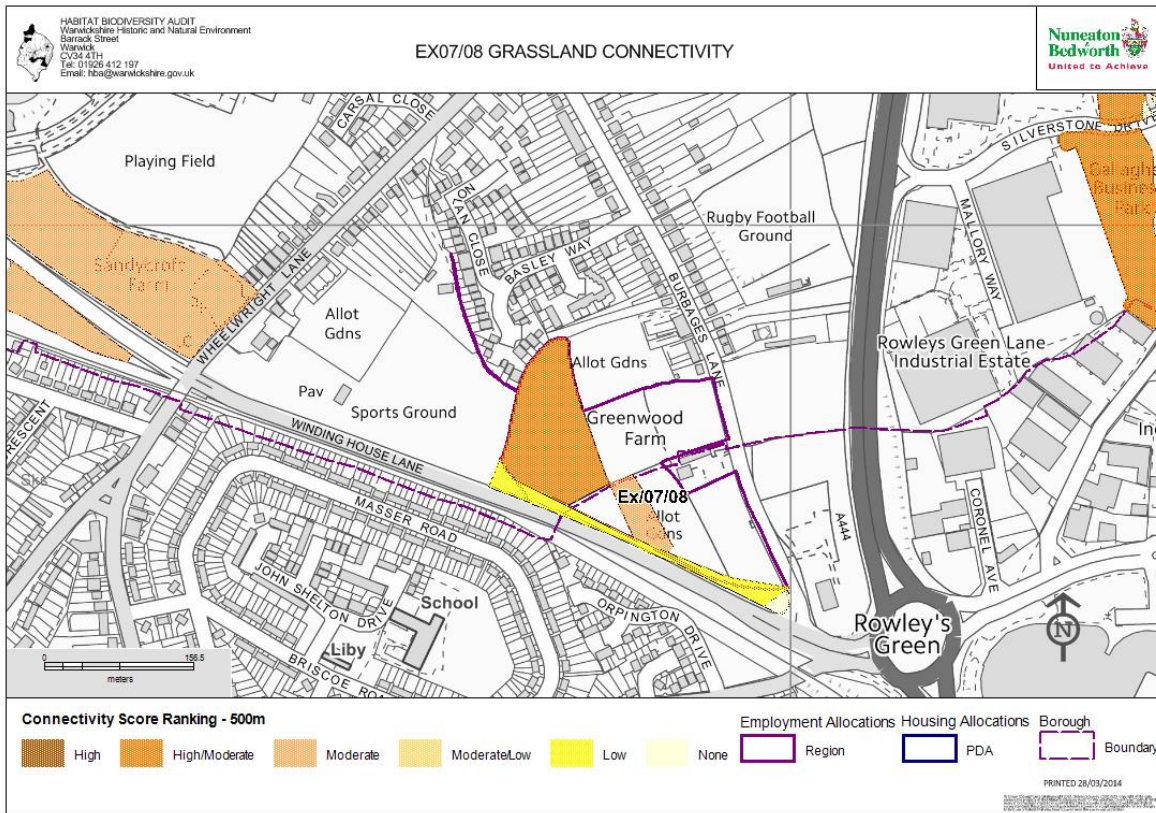
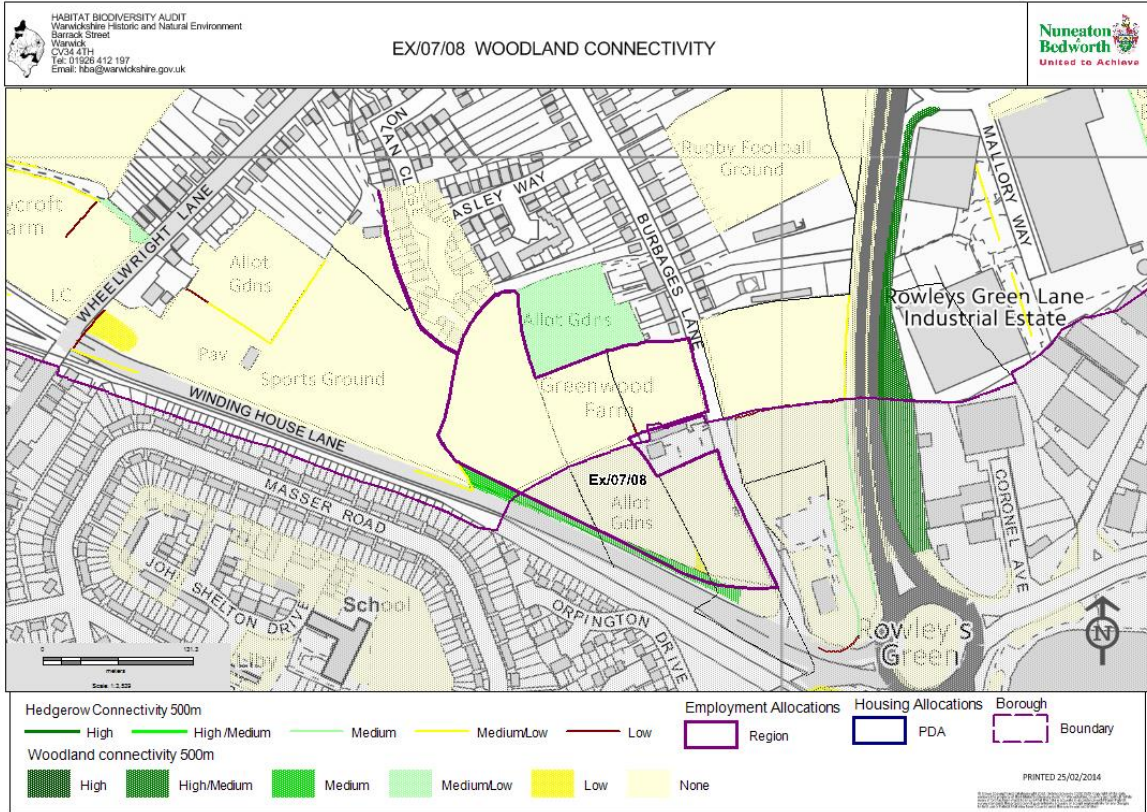
The fields making up the site are mainly semi-improved pastures heavily grazed by horses. The distinctiveness varies from high distinctiveness semi-natural neutral grassland (B22) to low distinctiveness improved grassland (B4).

The hedges are described as mostly tall and unmanaged with occasional mature trees (J21 intact hedgerows and A21 linear scrub).

To the south of the site are the allotment gardens (J112) with some abandoned plots which are becoming tall ruderal habitats (C31), which if left unmanaged will become scrub (A21/A22). This has happened to the area of allotment gardens to the north of the site where dense continuous scrub (A22) has become the main habitat type. To the west of the site is a cultivated field (J11).

## Phase 1 Habitat Connectivity

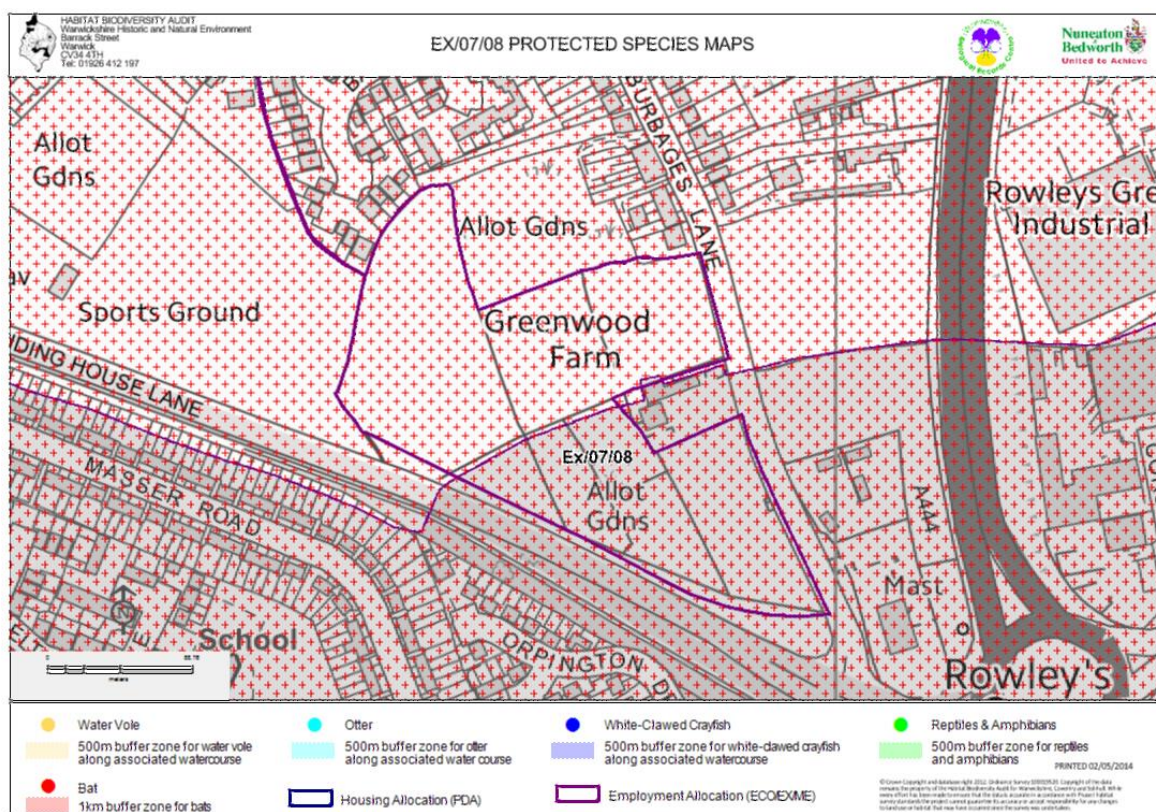
The site was part of a connected area of grasslands that went from Houldsworth Crescent to Greenwood Farm. These grasslands due to development and neglect have declined considerably in both extent and quality. The field margins do still remain intact but they have also become increasingly fragmented across the area showing a decline from high to moderate, to low connectivity.



## Protected Species

There are no protected or important fauna records within site Ex/07/08. There are records of protected and notable species in the surrounding area including bats (soprano pipistrelle, brown long eared and indeterminate species), common frog, common toad, great crested newt and smooth newt, and small heath, wall and dingy skipper butterflies. There is also a historic record of a county rare plant, small cudweed (*Filago minima*), nearby.

We do not anticipate that protected or locally rare and endangered species will preclude the proposed development sites from proceeding. However, should the proposal go ahead, we recommend that protected species are taken into consideration through more detailed ecological assessments. Please note that an absence of species records does not mean absence of species.



## Recommendations

Due to the increasing development in the area, site EX/07/08 will continue to cause habitat loss and fragmentation as has been described with the Houldsworth Crescent LWS. EX/07/08 is currently the site for a deferred Local Wildlife Site that has not been revisited since 2003. In this time the site has further deteriorated, but to what extent is unclear and it is also uncertain about how much biodiversity still remains. The main recommendation would be to survey the remaining pLWS areas of both Greenwood Farm and Sandycroft Farm

with a view to seeing if any of the site can be retained as a wildlife corridor and urban green space, connecting with the Houldsworth Crescent Corridor LWS.

There is also scope for improving and creating hedgerow and linear tree features along the corridor. The creation of an urban green area through these sites would also create a natural buffer between the housing developments along Winding House Lane along the Coventry City boundary and the southern edge of Bedworth.

The allotments along the boundaries of the site should also be considered for retention, as allotments are considered as one of the habitat action plan (HAP) for Warwickshire.