Protecting and Enhancing Weston and Crewe Green's Natural Environment

Cheshire Wildlife Trust

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Acknowledgements

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Introduction

The primary aim of our national and local biodiversity policies is to bring nature back into recovery and leave it in a better state than that in which we inherited it. The focus is protection and enhancement at the landscape scale as well as developing healthy ecological networks by delivering strategic habitat creation developers, landowners, conservation charities and individuals will all be encouraged to play their part. The planning system has a central role in this, particularly regarding biodiversity strategies and the delivery of biodiversity net gain, but also through development control.

The success of national plans will depend on the contributions of local communities toward achieving social, economic and environmental objectives and working to protect and enhance their local environment. Local level planning will be a key factor in determining whether the aims of national strategies are realised by identifying local priorities for nature conservation that should be considered during the planning process. Neighbourhood Planning provides an important opportunity for communities to participate in the planning system and shape their local environment for future generations. Identifying and evaluating local environmental opportunities and constraints at a neighbourhood level grants communities an informed position and enables them to better protect their valuable natural assets.

Biodiversity Policy Overview

The State of Nature Report

In 2013 the State of Nature Partnership published its first 'State of Nature Report' with the key aim of 'diagnosing the causes of wildlife decline'. In successive updates, the UK was ranked amongst the most nature-depleted countries in the world, and many of the observed SoN measures suggested that the decline of nature has continued in the last decade; as of the latest report (2023), 1 in 6 species are now threatened with extinction.

The 25 Year Environment Plan (25YEP)

In 2018, as part of the DEFRA 25 Year Environment Plan, the government pledged to improve the environment within a generation, leaving it in a better condition than they inherited it in. A key goal of the plan is to achieve a growing and resilient network of land, water and sea that is richer in plants and wildlife through the creation of a Nature Recovery Network. The newest revision, the Environment Improvement Plan 2023, details how DEFRA will collaborate with landowners, communities and businesses to deliver their goals for improving the environment, halting the decline in our biodiversity, and allowing wildlife to thrive. These goals are set to be achieved through a number of mechanisms including the planning system (via the National Planning Policy Framework) and through the Environment Act (2021).

The National Planning Policy Framework (NPPF)

The NPPF, first published in 2012 and most recently updated in 2024, draws on the principles set out above. 'To protect and enhance our natural, built and historic environment' is one of the three core objectives in the revised NPPF 2024 (paragraph 8c). In the recent revisions of the NPPF there has been a shift in policies from 'no net loss' to a 'measurable net-gain in biodiversity', referring to the use of a Biodiversity Net Gain (BNG) metric to measure mandatory biodiversity gains. Alongside BNG is the

establishment of ecological networks at the local level, underpinned by the protection and enhancement of local biodiversity assets. Non-strategic local policies and strategic policy guidance related to ecological networks and biodiversity net-gain are enshrined in the NPPF (2024) paragraphs 187-195.

The Environment Act (2021)

The Environment Act sets out a new environmental governance framework as the UK leaves the European Union's environmental policy and legislative structures. The Act mandates new systems for target-setting, planning, monitoring and reporting with the aim of improving our natural environment. As with the shift toward biodiversity net-gain and ecological networks supported in the NPPF, the Environment Act includes the establishment of Biodiversity Net Gain, and the introduction of the Local Nature Recovery Strategies (LNRS).

Biodiversity Net Gain (BNG)

BNG is a new framework mandated by the Environment Act (2021) aimed at providing funding and opportunities for nature recovery in England through the planning system. It requires developers to provide a 10% biodiversity net-gain - either onsite, offsite, or through statutory credits – secured at the point planning permission is granted for new development. It is applicable to all developments applied for under the Town and Country Planning Act 1990 and to Nationally Significant Infrastructure Projects (likely from 2025).

Local Nature Recovery Strategy (LNRS)

Each LNRS is a regional or county-level strategy for nature recovery that consists of a statement of biodiversity principles as well as a map of nature recovery opportunity areas. For the area that it covers, the strategy will: (i) map the most valuable existing habitat for nature, (ii) map specific proposals for creating or improving habitat for nature and wider environmental goals, and (iii) agree priorities for nature's recovery. It is anticipated this local network will then inform a national Nature Recovery Network (NRN).

Local policy

At a local level, ecological networks are enshrined in the existing Cheshire East Local Plan (July 2017) Policy SE 3 – Biodiversity and Geodiversity. Local sites and assets identified at the neighbourhood planning level are also safeguarded under Policy SE3. Cheshire East Council (CEC) have also adopted a Site Allocations and Development Policies Document (SADPD, December 2022). Within the SADPD, 'Policy ENV 1 – Ecological Network' seeks to strengthen the protection of ecological networks across the borough while 'Policy ENV 2 – Ecological Implementation' requires development to deliver an overall net-gain for biodiversity. To supplement Policy ENV 2, CEC produced an Ecology and Biodiversity Net Gain Supplementary Planning Document (SPD, July 2024) to provide guidance on how to achieve Biodiversity Net-Gain from new development in Cheshire East.

Ecological Networks

In 2010, Professor Sir John Lawton submitted a report to DEFRA entitled 'Making Space for Nature: A review of England's Wildlife Sites and Ecological Network'. The report identified a need for change in our approach to wildlife conservation; shifting from trying to retain what we have to one of large-scale habitat restoration and recreation underpinned by the re-establishment of ecological processes and ecosystem services, for the benefits of both people and wildlife. The report identified that this vision will only be realised by working at local scales in partnership with local people.

The natural environment is fundamental to well-being, health, and the economy, and provides us with a range of ecosystem services such as food, water, raw materials, flood defences, air quality and carbon sequestration. Biodiversity underpins most, if not all, of these ecosystem services. Anthropogenic pressures on the environment are likely to continue to increase, requiring us to manage these important natural resources in ways that deliver multiple benefits. This includes increasing agriculture's ability to store carbon, improving floodwater management and supporting biodiversity.

The provision of these ecosystem services and biodiversity have been declining significantly due to England's wildlife and semi-natural habitats having become increasingly fragmented and isolated. The ecological networks (Figure 1) put forward by Sir John Lawton have shaped the thinking around 'Nature Recovery Networks'. Nature Recovery Networks are now widely recognised as an effective way to conserve wildlife in environments that have been fragmented by human activities and bring nature back into recovery.

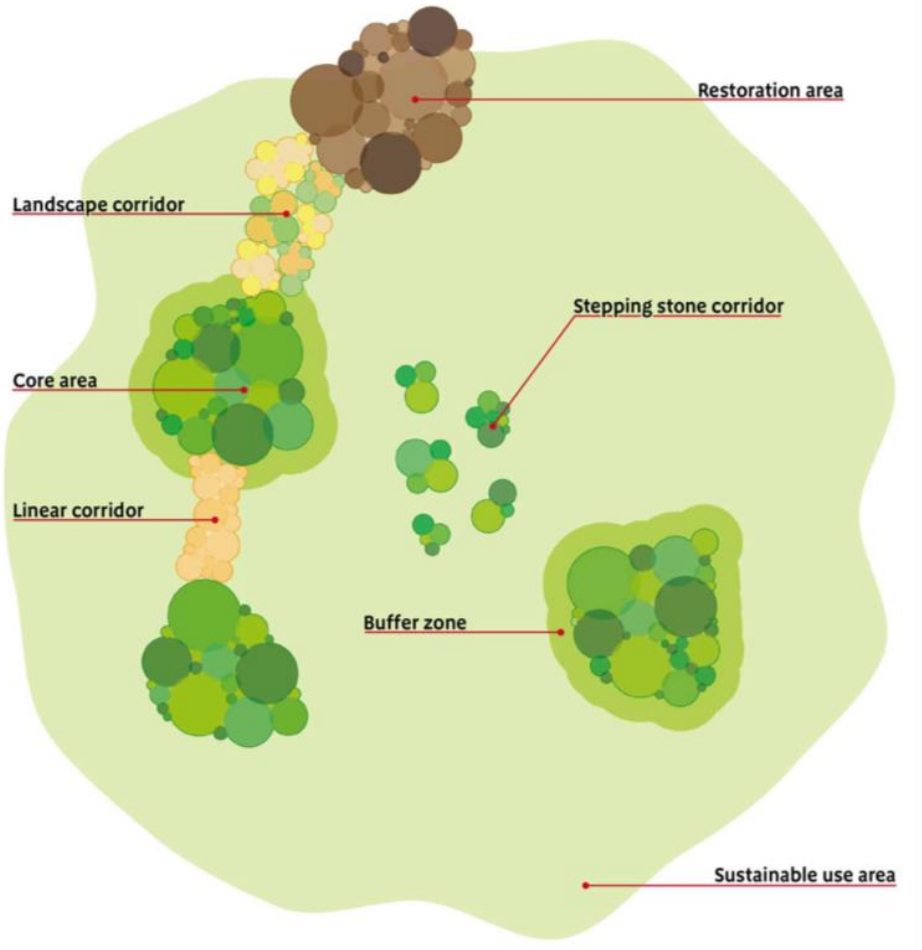


Figure 1. The components of ecological networks (Making Space for Nature report)

Ecological Networks / Nature Recovery Networks in policy

As discussed, the principles of establishing coherent ecological networks are now embedded within many planning and policy documents. The NPPF (2024), includes specific guidance on conserving, restoring and enhancing ecological networks including:

- Paragraph 187 - Planning policies and decisions should contribute to and enhance the natural and local environment by:
    a) Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
    b) Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
    c) Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
    d) Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;
    e) Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
    f) Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- Paragraph 188 - Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.
- Paragraph 192 - To protect and enhance biodiversity and geodiversity, plans should:
    a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
    b) Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Objectives of the Study

In order to protect and enhance the natural environment it is important to first identify the natural assets that exist within a neighbourhood. This report aims to identify the core, high and medium ecological value sites for nature conservation within the Weston and Crewe Green Neighbourhood Planning (NP) area. High value sites are recommended for protection through the neighbourhood planning process and medium value sites could be considered as biodiversity opportunity areas subject to further evaluation. Medium and high value sites should also act as an alert in the planning system, triggering full evaluation and assessment, should they be proposed for future development. The report also aims to identify the main local and regional ecological networks within the NP area and recommends these are safeguarded within the neighbourhood plan. Additionally, it identifies key features associated with the landscape character of the Weston and Crewe Green area so they can be referenced in neighbourhood planning policies.

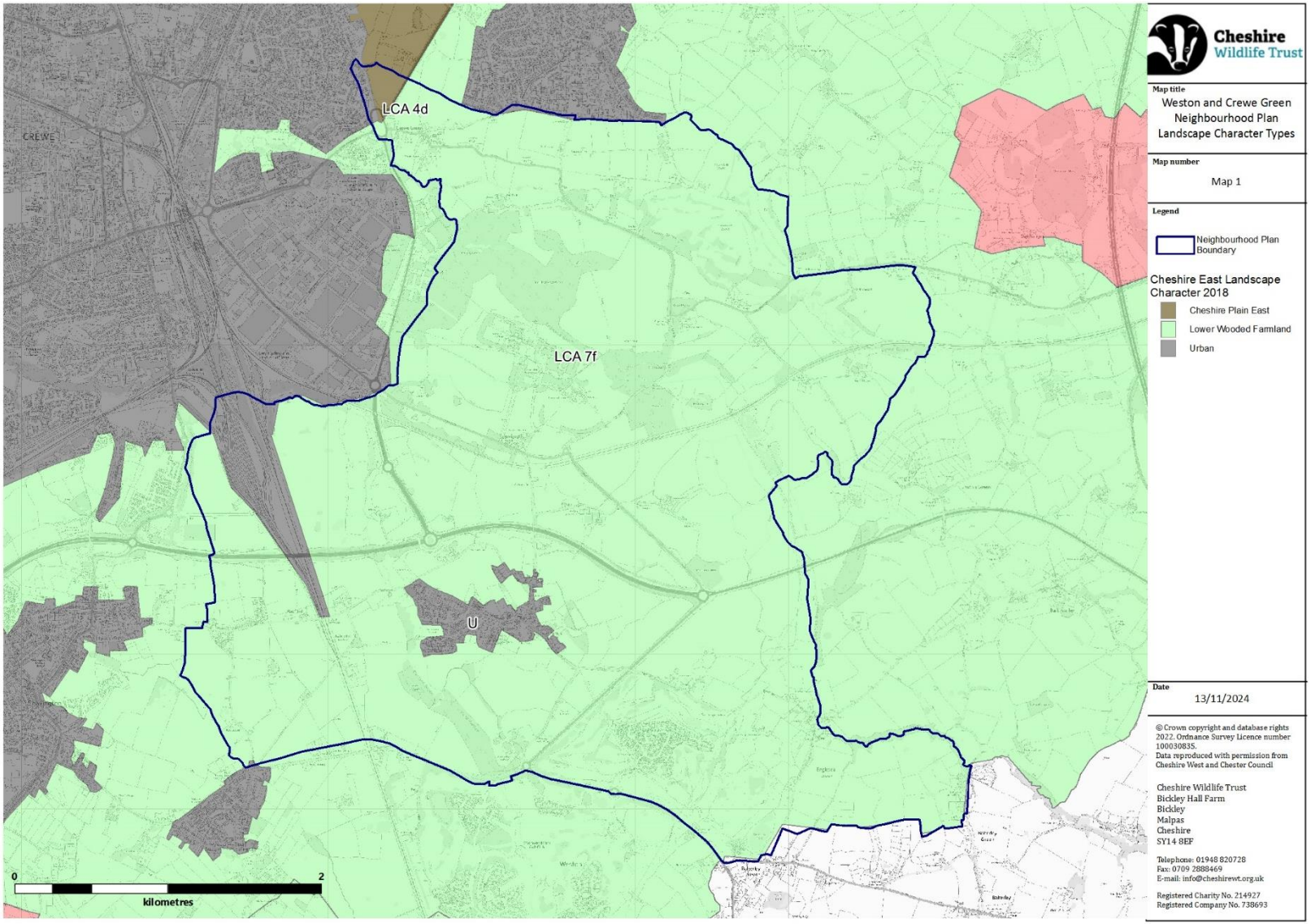
Weston and Crewe Green's Landscape Character Assessment

At a national level, Weston and Crewe Green parish lies within National Character Area (NCA) 61 – Shropshire, Cheshire and Staffordshire Plain; a largely pastoral area of rolling plain which is important for food production. Especially important is dairy farming which is well suited to the damp lush pastures that are found on the glacial till clay soils.

More locally, CEC produced a Landscape Strategy in 2018 which incorporates 14 Landscape Character Types (LCTs). Different aspects such as geology, landform, soils, vegetation and land use have been used to identify recognisable patterns that have then been categorised into different LCTs. This Landscape Strategy is intended to be used as a basis for planning and the creation of future landscape strategies as well as raising public awareness of landscape character and creating a sense of place.

The Landscape Character Assessment for Cheshire East (Map 1) identifies two LCTs within the Weston and Crewe Green Neighbourhood Planning area. The vast majority of Weston and Crewe Green falls within the 'Lower Wooded Farmland' LCT, with a small area of the parish falling within the 'Cheshire Plain East' LCT. Each LCT is subdivided into smaller Landscape Character Areas (LCAs), the details of which are given below.

Map 1 – Cheshire East Landscape Character Typology 2018



LCT 7: Lower Wooded Farmland

General Description

This character type covers a large area extending from High Leigh and Arley in the north, east to Poynton and Congleton and as far south as Audlem. This gently rolling landscape type has many similarities with the Cheshire plain, yet it has a greater concentration of woodland and a slightly higher settlement density. Land use is a mix of arable and pasture and the landscape is very rural. The overall strategy for this landscape is to conserve the woodland and trees which give the landscape its wooded character, and to protect the valued semi-natural habitats, heritage features, and the rural character which has been lost in some places due to suburbanisation and the presence of major transport corridors.

LCA 7f: Barthomley Character Area

This gently undulating character area is located south of Sandbach and runs as far west as Nantwich and east as far as Alsager. The area is heavily influenced by its close proximity to Crewe and the development of this railway town, in particular the rapid expansion that it underwent in the 20th century. The communications network has had a massive impact on the character of this area, with major highways such as the A500 and M6 traversing the area, as well as the railway network.

There is a concentration of woodland at Crewe Hall (listed Grade I) in the park and garden (listed on the English Heritage register as Grade II), comprised of a mixture of broadleaved and conifer species. Woodland cover is limited elsewhere in the area, although some tree-lined watercourses are present such as Englesea Brook, and there are two small areas of ancient woodland (Deans Rough and Riders Wood). There are also mosslands in the area, including Henbury Lee and Monneley Mere.

LCT 4: Cheshire Plain East

General Description

This large expanse of flat and very slightly undulating land comprises a large proportion of the Cheshire East landscape. Woodland cover is low, with small coverts scattered intermittently across the area, however numerous hedgerow trees create the perception of a well-treed landscape. It is a working, farmed landscape with field patterns comprising a mix of medieval enclosure and post medieval improvement bound by hedgerows with mature trees. The settlement pattern is predominantly low-density villages and dispersed farms, with influences from adjacent urban areas.

LCA 4d: Wimboldsley Character Area

The large urban centres of Northwich, Middlewich, Sandbach and Winsford dominate this character area, which extends from Northwich south as far as Crewe. This is a predominantly flat landscape with relatively few hedgerow trees or dominant hedgerows. This combines with the low woodland cover typical of the type to create an open landscape with long views in all directions to a distant skyline, with the Pennine Hills visible to the east and the Sandstone Ridge to the west.

Natural Area

Natural Areas as defined by English Nature (now Natural England) in 1996 are a series of biogeographical units reflecting ecological integrity, land-form, land-use and cultural influences. Their boundaries usually correspond to those of the Landscape Character Areas although they normally encompass multiple LCAs as they are generally larger.

Weston and Crewe Green, along with most of Cheshire, the northern half of Shropshire and part of northwest Staffordshire sit within the Meres and Mosses Natural Area. This is an expansive area of gently rolling agricultural plain which at the end of the last ice age was largely underwater. Although the vast area of water eventually drained away it left behind a wetland landscape of meres, mosses, meandering rivers and ponds. This landscape is recognised as being of international importance for its wetland wildlife.

National and Regional Ecological Network

Habitat Network Mapping

Natural England's 'Nature Networks Handbook' is an integrated framework for creating ecological networks for wildlife and people. It aims to provide practical recommendations that support the delivery of the Biodiversity 2020 Strategy, the Natural England Conservation Strategy (C21) & the DEFRA 25YEP. The National Habitat Network Mapping Project is a spatial tool developed as part of the Handbook. It provides a national overview of the distribution of habitat networks for the following 19 separate priority habitats:

- Upland calcareous grassland
- Lowland calcareous grassland
- Reed-beds
- Lowland meadows
- Upland hay meadows
- Purple moor-grass and rush pastures
- Lowland dry acid grassland
- Lowland heathland
- Upland heathland
- Upland flushes fens & swamps
- Lowland fens
- Lowland raised bog
- Blanket bog
- Limestone pavements
- Coastal sand-dunes
- Coastal shingle
- Maritime cliff & slope
- Saltmarsh
- Semi-natural Ancient Woodland

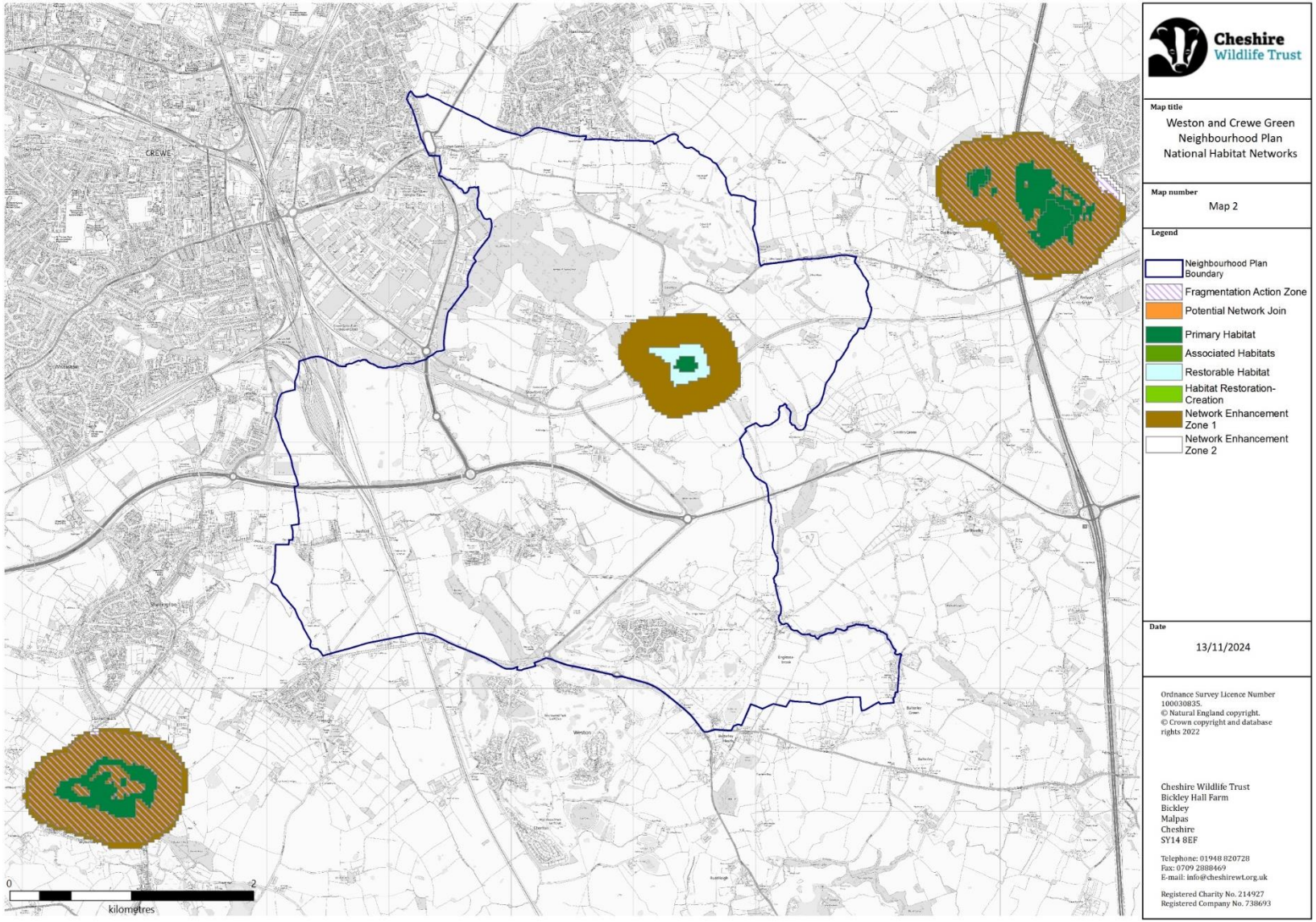
The Key components of the National Habitat Network map are:

- **Primary Habitat** – Existing patches of priority habitat for each habitat network e.g. lowland heathland;
- **Associated Habitats** – Other habitat types that form a mosaic or an ecologically coherent grouping;
- **Habitat Created-Restored** – Habitat where restoration or creation of new habitat is underway;
- **Restorable Habitat** – Habitats that are currently degraded but have the potential to be restored;
- **Network Enhancement Zones** – These are areas that should be prioritised for actions to buffer priority habitat/habitat networks;
- **Fragmentation Action Zone** – Smaller fragmented areas of habitat that have the potential to be enlarged or joined with other habitat patches, and;
- **Potential Network Joins** - Potential locations for action to create network links.

The maps are intended for use at a national level and to feed into the development of ecological networks at a local level. They should be used in conjunction with other data sets and local knowledge to help improve the ecological resilience of habitats and habitat networks. The National Habitat Network in the vicinity of Weston and Crewe Green is shown in Map 2.

In March 2025 Natural England are due to roll out Local Nature Recovery Strategies which, once completed, should inform a national Nature Recovery Network. Until then, the 'Nature Networks Handbook' is the preferred methodology at scales above the local level.

Map 2 – National Habitat Network



National Habitat Network Mapping has highlighted an area of lowland fen Primary and Restorable Habitat in the NP area, adjacent to Crewe Hall. Two further networks occur in close proximity to the parish boundary, to the south-west and north-east. These Primary and Restorable Habitats are buffered by Network Enhancement Zones and Fragmentation Action Zones; where opportunities to enhance the habitat network should be prioritised. This could be through the restoration of degraded habitat or through the expansion of existing habitat.

Ecological Network for Cheshire East 2022

As part of the Cheshire East Site Allocations and Development Policies Document (SADPD, December 2022), which contains detailed policies to protect and enhance the natural environment, a map of the ecological network within the borough has been produced (Figure 2). The ecological network is associated with SADPD Policy ENV 1 and incorporates existing protected sites and priority habitats and identifies areas to restore and buffer the network. CEC aims for the ecological network to assist in the provision of nature conservation and ecosystem services that are essential for sustainable development, including water management, carbon capture and access to nature. The policy does not seek to stifle or preclude development, but to deliver benefits for biodiversity from development, thereby securing ecological enhancement in the borough.

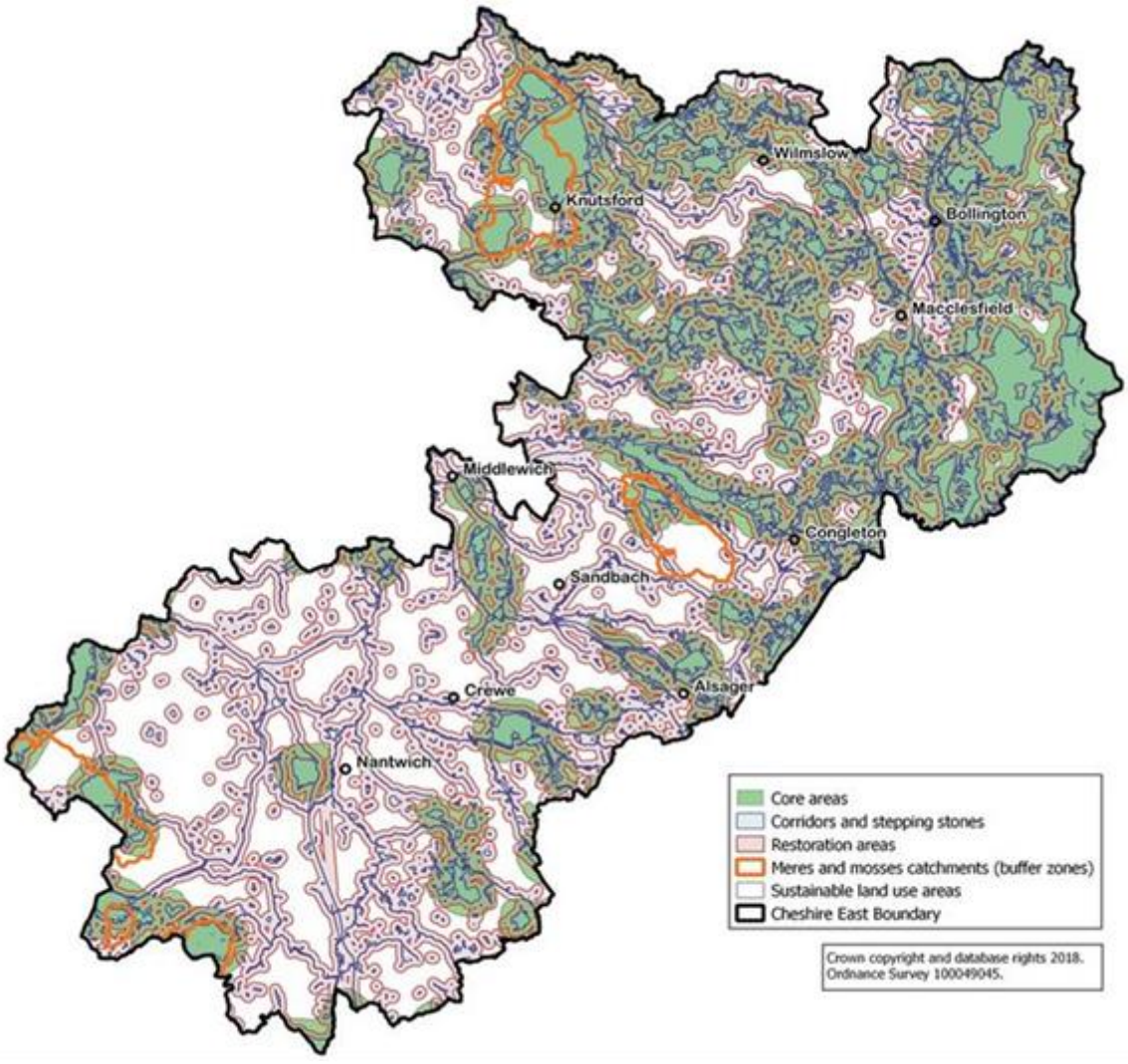


Figure 2. Ecological Network for Cheshire East 2022

In line with the existing Local Plan (Part One), new development will be expected to protect, conserve, restore and enhance the components of the ecological network for the borough. The existing designated sites (statutory and non-statutory) and priority habitats are essential components of the network and need to be protected and conserved. The purpose of the SADPD Policy ENV 1 (Ecological Network for Cheshire East; Figure 2) is to ensure that development proposals should:

- Increase the size, quality or quantity of priority habitat within core areas, corridors or stepping stones;
- Within corridors and stepping stones, improve the connectivity of habitats for the movement of mobile species;
- In restoration areas, improve the structural connectivity, resilience and function of the network;
- In buffer zones within core areas and around protected meres and mosses, minimise adverse impacts from pollution and disturbance.

Additionally, areas of ecological value may be designated within neighbourhood plans and where relevant, policies for them within neighbourhood plans will also be applied when considering planning applications that might affect them. As specified in the Ecology and Biodiversity Net Gain Supplementary Planning Document (SPD, July 2024); the Ecological Network Map associated with Policy ENV 1 should also be used to inform the strategic significance of habitat creation when delivering biodiversity net-gain using the DEFRA metric.

Outside the planning system the ecological network is intended to inform land management, investment decisions and priorities such as agri-environment schemes, river catchment partnership plans and NGO (non-government organisation) landscape scale initiatives. The Cheshire East Ecological Networks identify broad networks for the whole borough, whereas the wildlife corridors identified in this report (Map 10) are more specific to ecological networks that are important for conserving and enhancing biodiversity at a local scale.

Local Habitat Distinctiveness and Wildlife Corridor Network

Methodology

The local ecological network mapping relates directly to habitat distinctiveness; the principal component of biodiversity quality used by DEFRA to determine biodiversity net-gain. Habitat distinctiveness is based on an assessment of the distinguishing features of a habitat or linear feature, including the consideration of species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats. The distinctiveness band of each habitat is preassigned by DEFRA and the bands are based upon the UK habitat classification system. A combination of simple rules and expert judgement have been used to assign each habitat type to the appropriate distinctiveness band. While DEFRA uses five bands of distinctiveness (very high, high, medium, low and very low), for the purposes of this exercise the very high and high distinctiveness bands have been merged to leave only four bands.

Habitat data from the sources listed below was attributed to one of the four distinctiveness categories listed in Table 1 below:

Table 1. Habitat type bands (Defra July 2019)

Habitat Type Band	**Habitat Distinctiveness**	**Broad Habitat Type**	**Colour on Map**
Very high or high ecological value	Very High or high	• Designated nature conservation sites (statutory and non-statutory); • Endangered or Critical European red List habitats; • Priority habitat (with the exception of arable field margins) as defined in Section 41 of the NERC (Natural Environment Council) Act, and; • 'Rare' habitats in the UK with a high proportion unprotected by designation.	Red
Medium ecological value	Medium	• Arable field margin priority habitat; • Non-priority habitats with significant wildlife benefit; • Semi-natural habitats and habitats with the potential to be restored to priority quality, and; • Field ponds.	Orange
Low ecological value	Low	Agricultural and Urban land use of lower biodiversity value but may still form an important part of local ecological network	n/a
Very low ecological value	Very Low	Urban land use with artificial structures which are un-vegetated, sealed/unsealed surface or built linear features of very low biodiversity value.	n/a

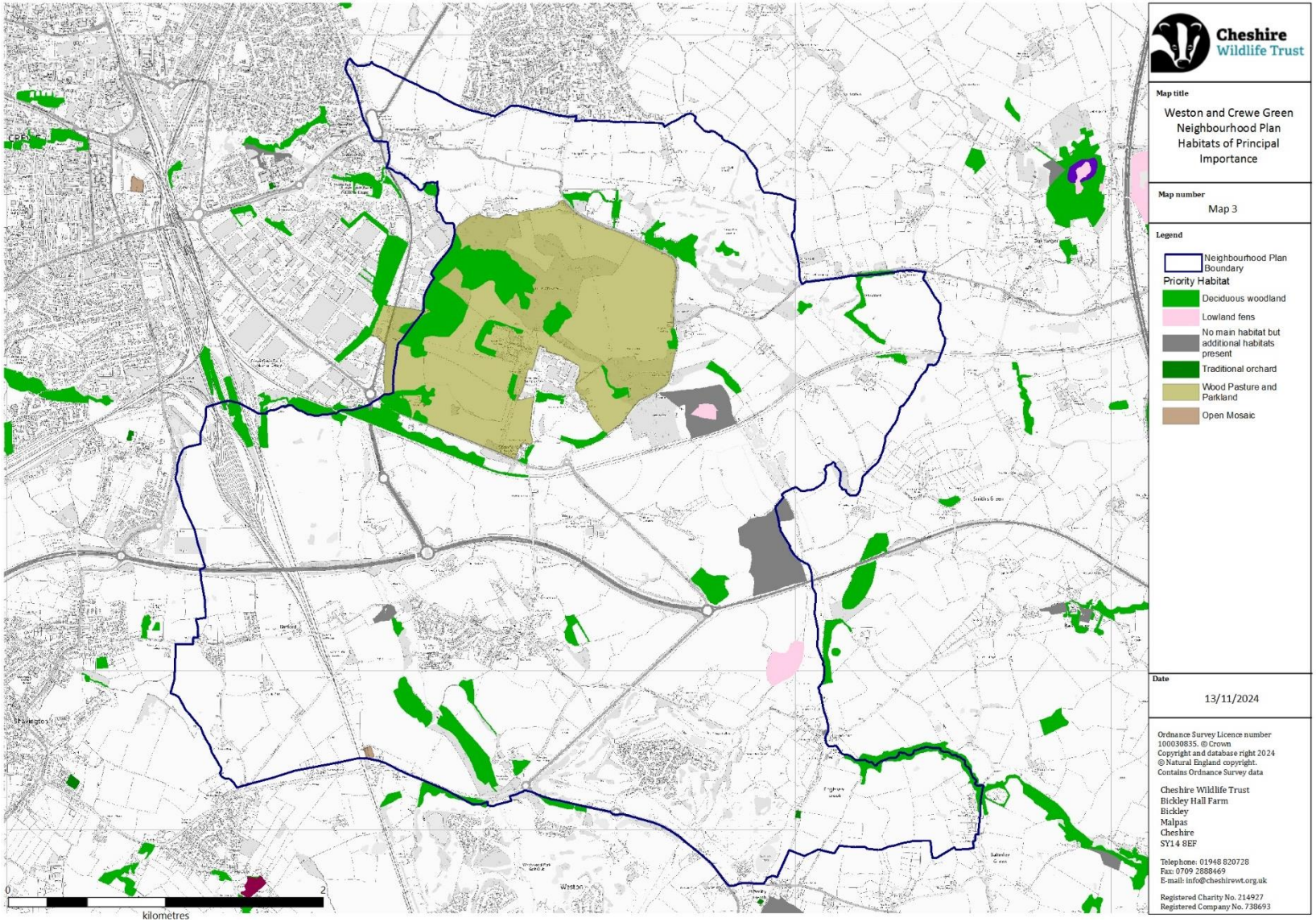
Data sources used to produce the habitat distinctiveness maps included:

1. Several licensed and open data sets:
    a. Priority Habitat Inventory (PHI) – Natural England 2019 (last updated 20 October 2020) – High and medium confidence habitats (as defined on the PHI by NE) were classified as high distinctiveness. Low confidence habitats were classified as medium distinctiveness unless other supporting data was available.
    b. Land Cover Map (LCM2019) – Centre for Ecology and Hydrology 2019. Priority habitats (principal importance) and semi-natural habitats classified as medium distinctiveness (data included in Appendix 1).
    c. Agricultural Land Classification (ALC) – Natural England 2017 (last updated 19 February 2019) – Grade 4 classified as medium distinctiveness, Grade 5 classified as high distinctiveness (adjusted where other supporting data was available).
    d. Designated Sites of Nature Conservation (including International Sites, Sites of Special Scientific Interest, Local Wildlife Sites/Sites of Biological Importance and Local Nature Reserves) – Natural England and CWT/CE Local Authority. All were classified as high distinctiveness.
    e. Ancient woodlands – Natural England 2019 (last updated 20 November 2022) – classified as high distinctiveness.
    f. Meres and mosses and other peat soils – Meres and Mosses Landscape Partnership scheme 2016 – Functional Ecological Units, river valley peat and destroyed (historical) peat classified as medium distinctiveness (supporting information included in Appendix 2).
    g. Cheshire Tithe Maps Online – Using maps from Cheshire Archives looking for woodlands that could be potential Ancient Woodlands due to presence over a long period of time but haven't been formally identified. Classed as medium distinctiveness.
2. Open source aerial imagery (Microsoft Bing ™ Imagery and Google Earth) was used to validate and review the habitats by eye.
3. The Weston and Crewe Green Land Character Assessment and Natural England's National Habitat Network categories were mapped and the results were used to inform the conclusions.
4. Information from recent planning applications in Weston and Crewe Green were researched and species records have been incorporated where appropriate. Ecological records were also obtained (where available) from, the National Biodiversity Network (NBN) Atlas and the Woodland Trust's Ancient Tree Inventory (accessed 11/2024).

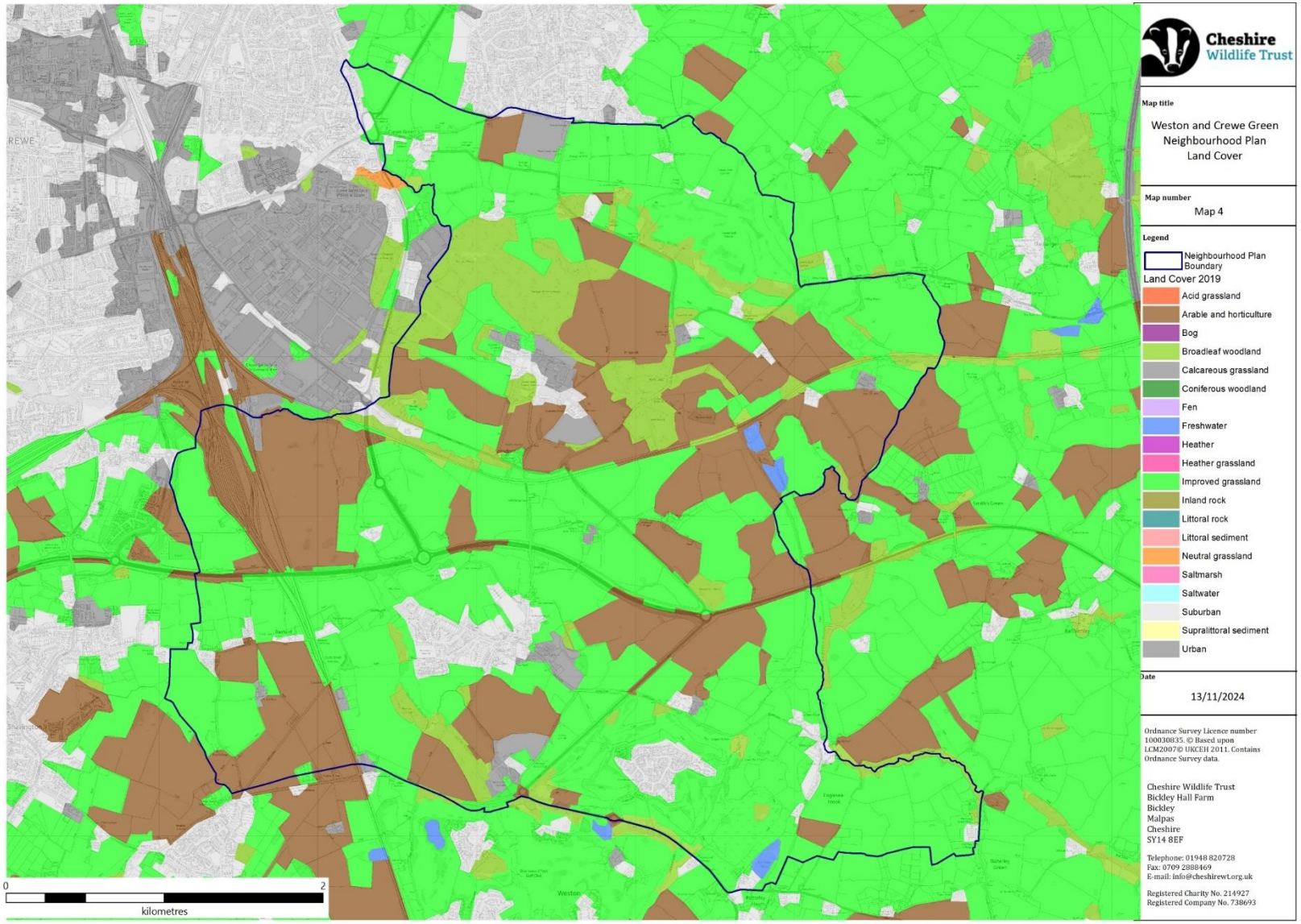
Maps

The suite of maps produced during the local ecological network mapping exercise are included below.

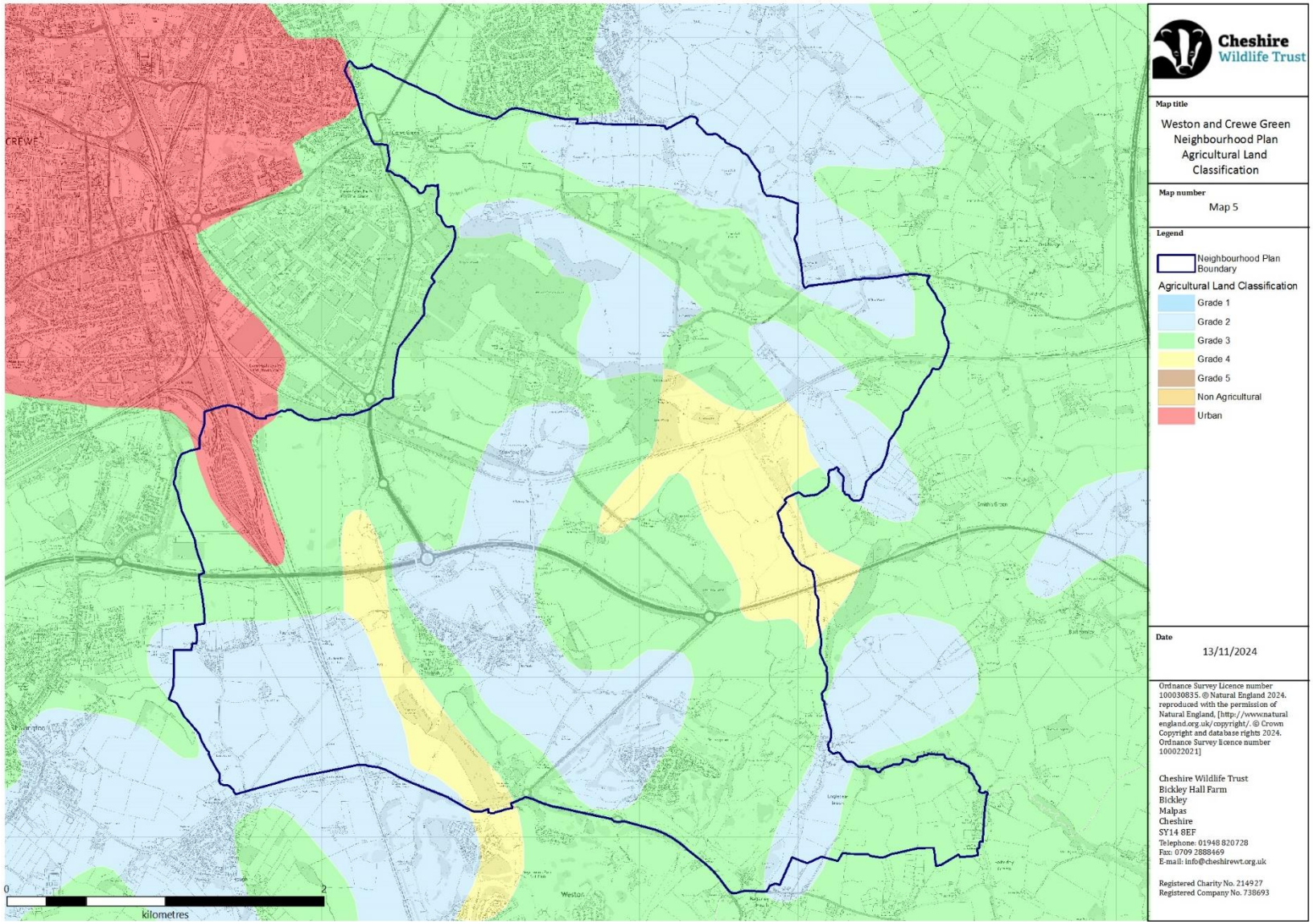
Map 3 – Terrestrial Habitats of Principal Importance



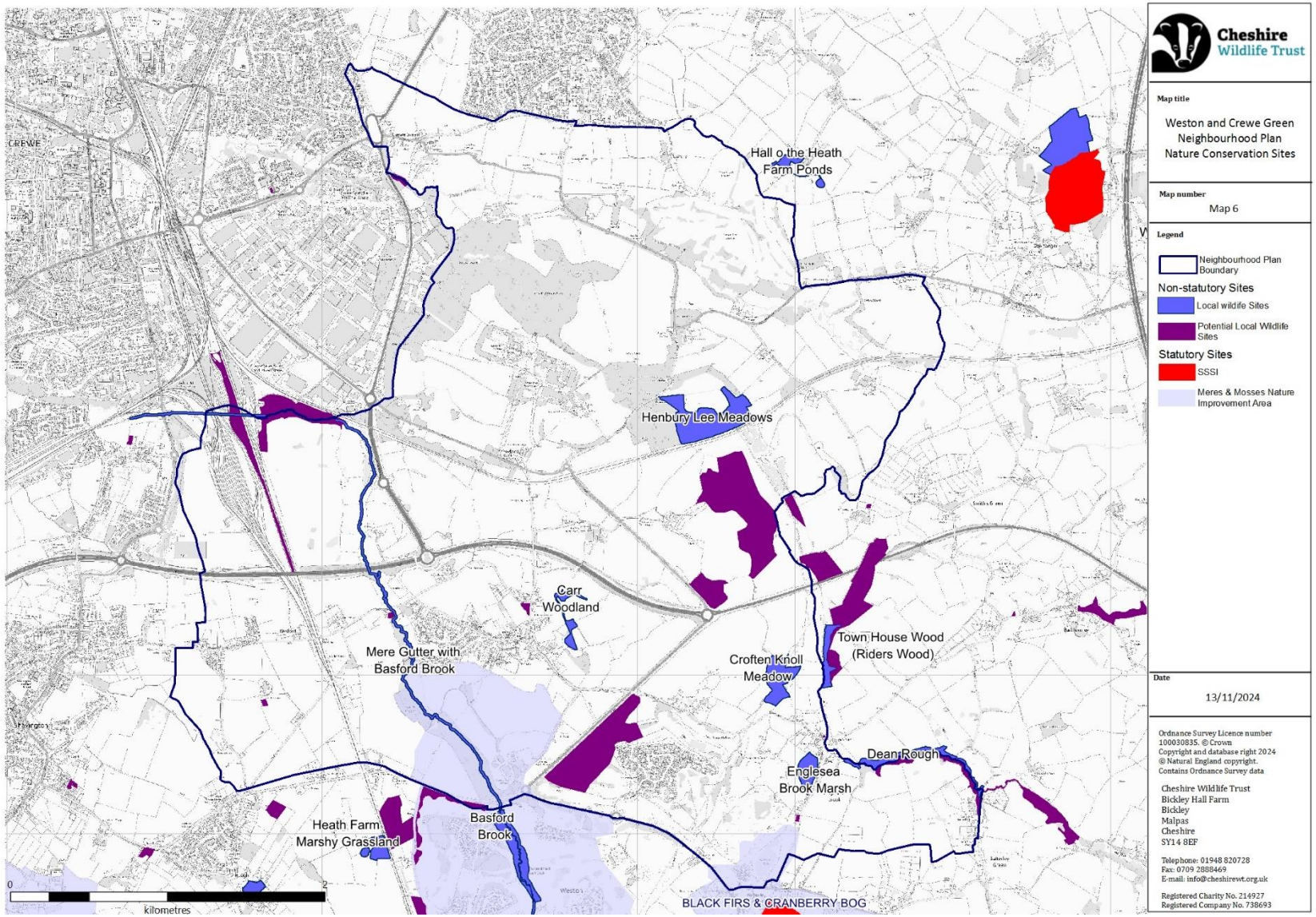
Map 4 – Land Cover



Map 5 – Agricultural Land Classification

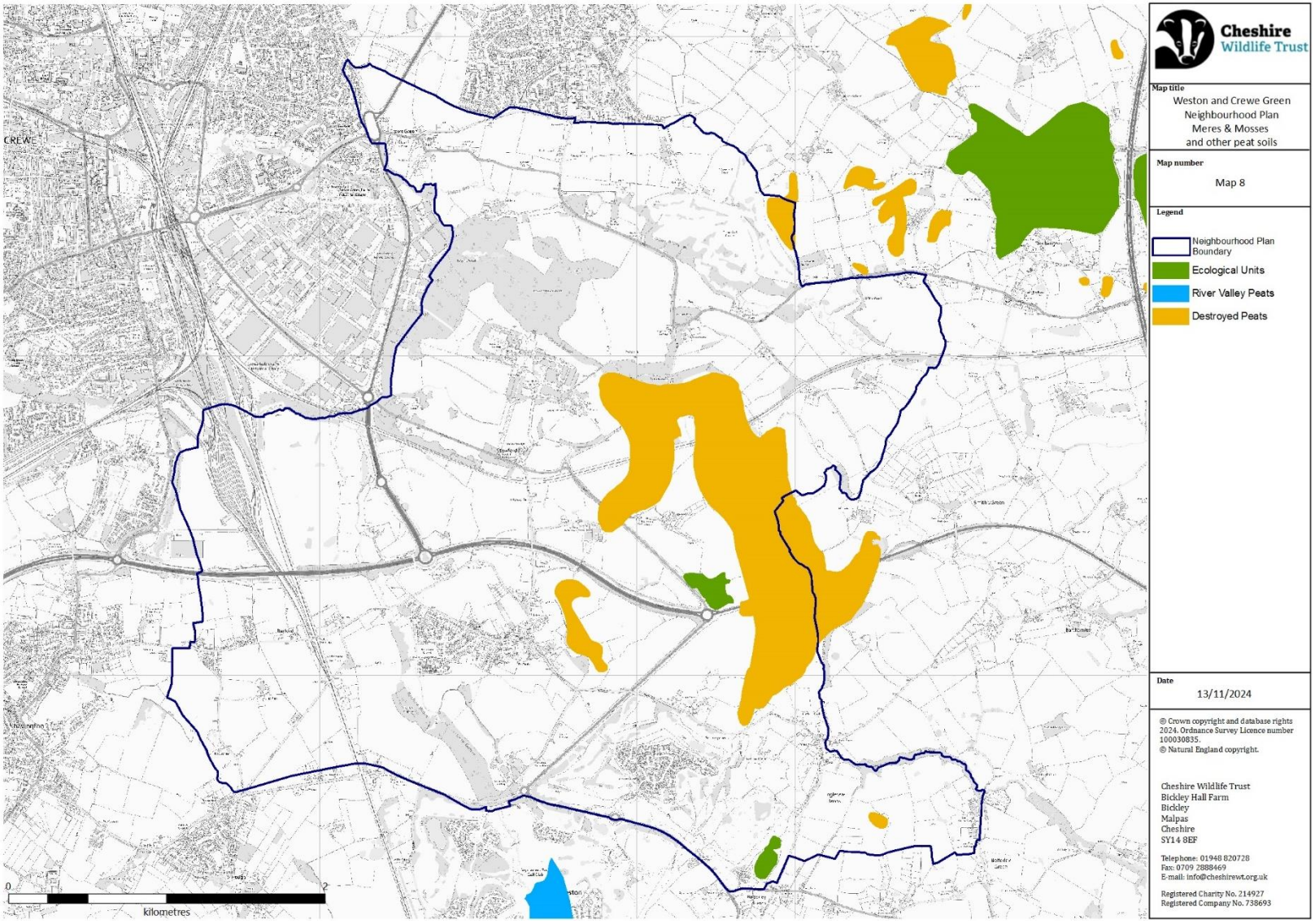


Map 6 – Designated Sites of Nature Conservation

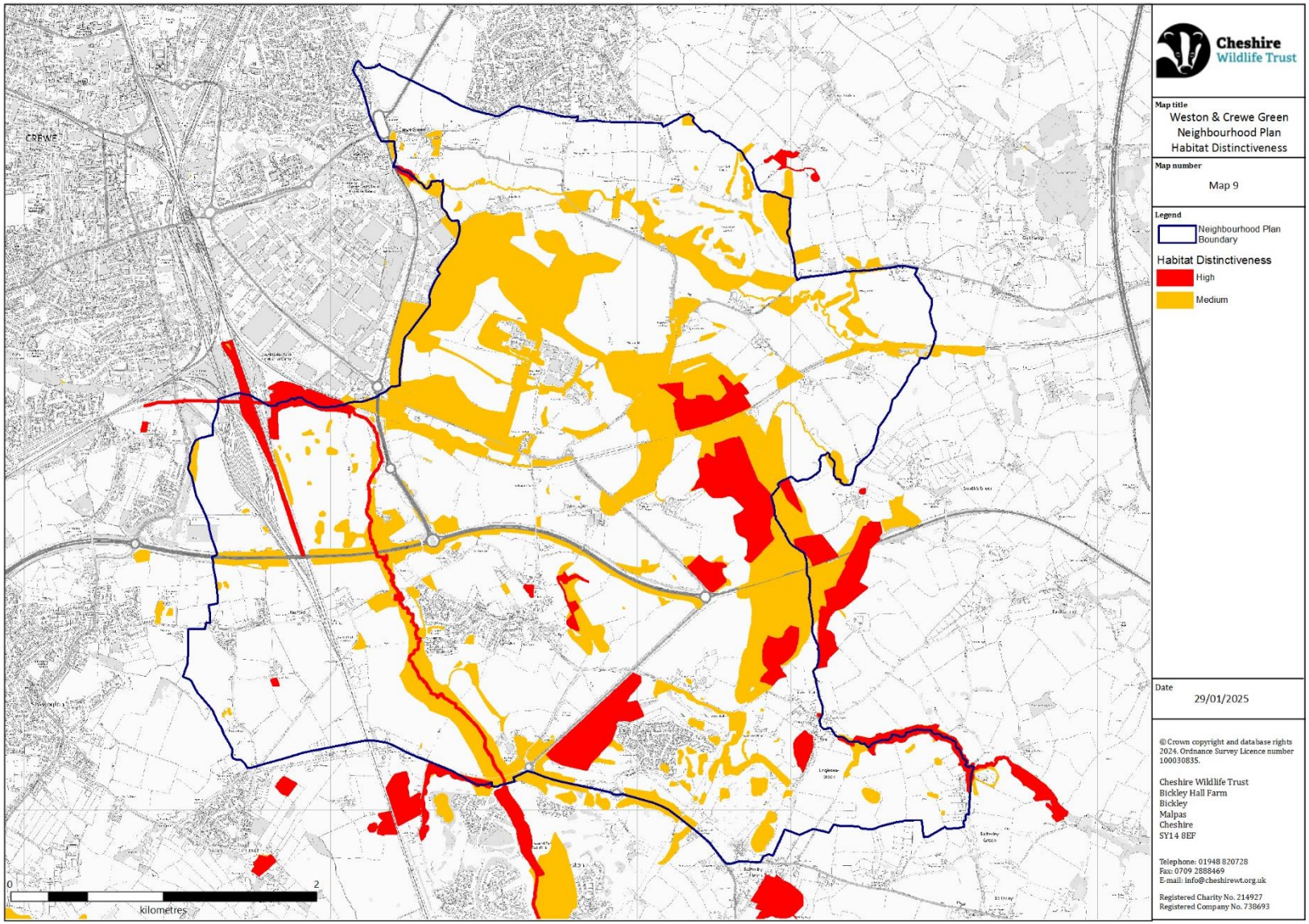


Map 7 – Ancient Woodland and Traditional Orchards

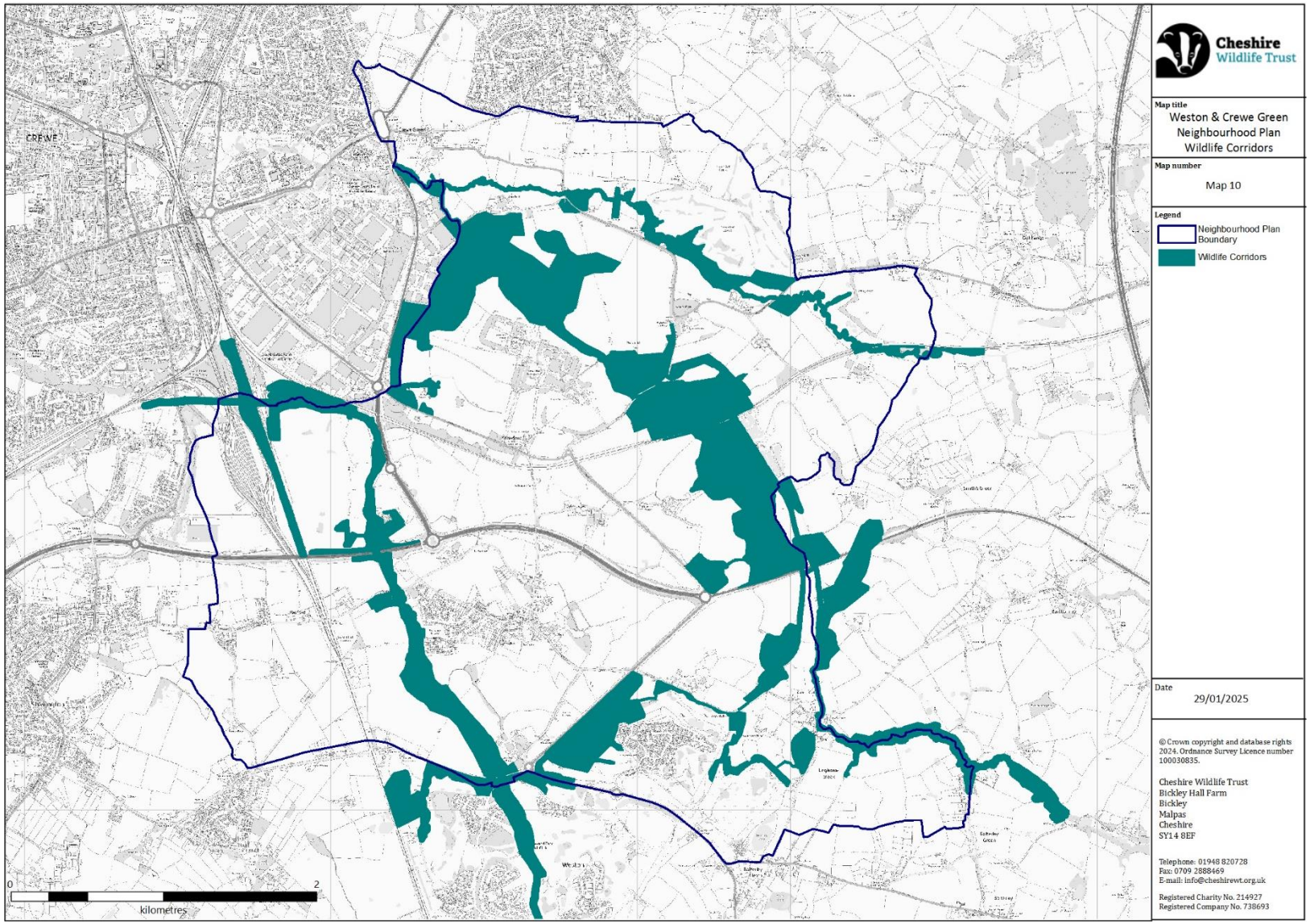
Map 8 – Meres, Mosses and Other Peat Soils



Map 9 – Habitat Distinctiveness



Map 10 – Wildlife Corridor Network



Results & Discussion

High Distinctiveness Habitats

Areas of high distinctiveness habitat are shown on Map 9 – Habitat Distinctiveness (mapped in red). These are natural or semi-natural habitats which are of significant or critical importance to wildlife due to their high biodiversity and ecological value. They should be a priority for conservation and appropriately managed in order to maintain or enhance their ecological features. Habitats of high distinctiveness within the Weston and Crewe Green NP area are discussed in detail below.

Woodland

Many woodlands in Cheshire are isolated, fragmented and impoverished, which makes the woodlands that are present particularly important features for biodiversity in the region. This vital habitat represents the majority of the Habitats of Principal Importance (listed on the Priority Habitats Inventory; PHI) recognised by Natural England within the Weston and Crewe Green NP area, as shown on Map 3. The priority woodland habitat is largely concentrated around Crewe Hall, with some areas visible on the Cheshire Tithe maps c.1840 as plantation woodland.

These mature woodland sites form a sizable area of connected habitat which benefits many species of wildlife including badgers, birds and bats. Several important woodland bird species have been recently recorded in the area, including the Birds of Conservation Concern (BoCC) UK red listed fieldfare and spotted flycatcher, as well as the amber listed bullfinch, dunnock, song thrush, and sparrowhawk[1]. Additionally, five species of bat have been recorded nearby including common and soprano pipistrelle, noctule, and brown long-eared bats[2].

There is further priority woodland habitat near Weston Village (Map 3) including a significant stretch along Basford Brook and a small pocket located within Carr Woodland Local Wildlife Site (LWS). This LWS is home to an alder carr woodland, with rowan, hawthorn and elder in the understorey, and a swamp community dominating the ground flora[3]. Hedgehogs have been recorded at multiple locations around Weston[4], where this highly threatened mammal ('near threatened' on IUCN's Red List) will use woodland edges, hedgerows and gardens to forage for food and for shelter.

Additionally, there are two LWS in the Weston and Crewe Green NP area which contain ancient woodland habitat (i.e. thought to be at least 400 years old) listed in the Ancient Woodland Inventory (AWI), at Dean Rough and Town House Wood (Riders Wood) (Map 6 and 7). Ancient woodlands are defined as irreplaceable habitats in the NPPF due to the time taken for them to acquire their diverse flora and fauna. These LWS represent good examples of ancient clough woodland with canopies dominated by oak and ash, and understories comprised of hazel, wych elm, beech and hawthorn. There is a rich ground flora present at both of these LWSs including the ancient woodland indicator species bluebell, ramsons, dog's mercury and wood anemone; with lords and ladies, pignut, and opposite-leaved golden saxifrage also present at Town House Wood (Riders Wood).

[1] NBN Atlas data.
[2] Planning documents, application reference 18/6389C.
[3] Carr Woodland LWS citation, last surveyed 2010.
[4] NBN Atlas data.

These high-quality woodlands support many species of wildlife, including important assemblages of woodland birds; notably, the BoCC red listed tree pipit has being recently recorded nearby. The plentiful deadwood habitat in these woodlands support numerous fungi, lichen and insect species, and provides vital foraging and roosting/nesting habitat for bats and birds. Unfortunately, the biodiversity value of these LWSs is threatened by the invasive non-native species (INNS) Himalayan balsam[5] and other undesirable species such as sycamore[6]. Sycamore became naturalised in the UK after it was introduced centuries ago and it provides an important food source for many animals; but it has rapidly colonised many woodlands, due to its highly fertile seed, outcompeting native species.

Other important woodlands in the area have been identified as pLWS (potential LWS, Map 6); i.e. sites that are highly likely to be selected but have not yet been formally surveyed against the LWS criteria. These pLWS include: a woodland on underlying peat substrates at Meremoor Moss, extensions to both ancient woodlands in the east of the NP area, two woodland sites adjacent to the railway line in the west of the NP area, and a small field corner woodland near Weston Village.

Wetlands

As can be seen on Map 8, there are significant peat deposits in the Weston and Crewe Green NP area. Many of Cheshire's peatlands developed in wet hollows left by the Ice Age, where the waterlogged conditions have prevented decomposition. The resulting organic matter, known as peat, can contain mosses, trees, other wetland plants that have accumulated throughout its history. Where peatlands have not been drained or degraded, they retain a characteristic flora and fauna including many rare and threatened species; although, even degraded sites can be of value for nature conservation.

According to the PHI, there is lowland fen at two LWSs and one pLWS in the area (Map 3 and 6) which lie on peat substrates (Map 8); this rare and important habitat develops where drainage is impeded. According to the LWS citations, Croften Knowl Meadows contains an area of fen with different rush species present, however no fen habitats are listed on the Henbury Lee Meadows LWS citation[7]. There is a large pLWS, located between the two LWSs, which has been selected for its possible fen habitat[8]. Meremoor Moss pLWS is another important peat body in the NP area, although it has been colonised by woodland and does not presently contain any mossland species.

There are important wetland habitats along Mere Gutter and Basford Brook, parts of which are designated as LWSs (Map 3). Mere Gutter is a small watercourse which flows out of Betley Mere, changing its name to Basford Brook near Weston village. Mere Gutter with Basford Brook LWS remains one of three known key sites for native crayfish in Cheshire[9]. Basford Brook LWS was designated for its aquatic and marginal vegetation including a reedbed, which provide excellent potential cover for water vole[10], which have been recently recorded in the Weston and Crewe Green NP area[11]. Both white-clawed crayfish and water vole are priority (Section 41) species in England, and the former is also globally threatened and listed as endangered on the IUCN Red List of Threatened Species.

[5] NBN Atlas data.
[6] Citations for Dean Rough LWS and Town House Wood (Riders Wood) LWS, last surveyed 1998 and 1997, respectively.
[7] Citations for Croften Knoll Meadow LWS and Henbury Lee Meadows LWS, last surveyed 2019 and 2012, respectively.
[8] Planning documents, application reference 20/1709N.
[9] Mere Gutter with Basford Brook LWS citation, last surveyed 2010.
[10] Basford Brook LWS citation, last surveyed 2010.
[11] NBN Atlas data.

Grassland

Species-rich grasslands are the fastest disappearing semi-natural habitat in the UK. Similar to other counties, the vast majority of the grassland found on farms in Cheshire is now species poor "improved" grassland which has been modified by extensive fertiliser use and reseeding, resulting in very low biodiversity levels. In contrast, areas of species-rich grassland will support populations of declining pollinators including moths, specialist grassland butterflies and solitary bees and hoverflies. There are no grassland habitats listed on the PHI in the NP area (Map 3), but there are several LWS and pLWS which are home to highly important grassland habitats (Map 6).

Croften Knoll Meadows LWS contains a mosaic of grassland habitats, with an unimproved species-rich community occurring on the steepest slopes and less diverse marshy habitat present in wet flushes; there are many meadow grasses and herbs present at this site, including quaking grass, Devil's-bit scabious, self-heal and meadowsweet. Similarly, Englesea Brook Marsh LWS is home to a mixture of marshy and neutral grassland habitats with a species-rich ditch running through the site; notable species at this LWS include water crowfoot, brooklime, birds-foot trefoil and knapweed[12].

Additionally, just outside the NP area, there are three sites which contain marshy and/or neutral grasslands at: Hall O'the Heath Farm Ponds LWS, Basford Brook LWS, and Heath Farm Marshy Grassland LWS. The latter site supports a number of breeding butterfly and dragonfly species as well as grass snakes[13], and there is a pLWS in close proximity which has been selected for its grassland habitat which also supports grass snakes[14].

There are other important grasslands present at five pLWS in the area (Map 6); including the former Gorsty Hill Golf Course pLWS near Wychwood Village and the large pLWS in the east (between the railway and A500; Meremoor Old Sand Pits pLWS). In addition to the species detailed above, these grassland sites provide a vital resource for numerous grassland and farmland bird species which have been recently recorded in the area, including the BoCC red listed linnet, skylark, starling, swift and yellowhammer[15].

Traditional Orchard

Traditional orchards are a quintessential component of the historic English landscape. These habitats provide excellent conditions for biodiversity to thrive and can support assemblages of rare species. Three traditional orchards were identified within the NP area on Map 7, with a further five located just outside the boundary, and all these sites have been identified as pLWS. However, according to more recent information, a traditional orchard on Englesea Brook Lane has been removed[16]. Orchards are becoming increasingly rare due to neglect, the intensification of agriculture and increasing pressure from development. Those remaining orchards will provide important habitat for bird assemblages, such as the BoCC red listed mistle thrush, greenfinch and fieldfare which have been recently recorded in the Weston and Crewe Green NP area[17].

[12] Englesea Brook Marsh LWS citation, last surveyed 2020.
[13] Heath Farm Marsh Grassland LWS citation, last surveyed 2019.
[14] Data derived from multiple sources (CWT, Priority Habitat Inventory, HS2).
[15] NBN Atlas data.
[16] Planning documents, application reference 21/3526N.
[17] NBN Atlas data.

Medium Distinctiveness Habitats

Woodland

Many of the woodlands within the Weston and Crewe Green NP area have been classified as high distinctiveness habitats, as discussed above, because they occur within a LWS and/or are listed on the Ancient Woodland or Priority Habitat inventories (AWI, PHI). There are other important woodlands in the area which will also support many species of wildlife, such as those around Crewe Hall (Map 4). There are also pockets of scrub and woodland present at the Crewe Golf Course which act as stepping-stone habitats to the grassland and pond habitats found at Hall O'the Heath Farm Ponds LWS (Map 9). These areas will be less disturbed and/or less intensively managed than the surrounding amenity grassland, and therefore they provide potential habitat for small mammals and birds.

Grassland

The areas of neutral and low-productivity grassland, which are not designated (Map 6), have been identified using land cover information (Map 4 and 5) and subsequently refined using Google Satellite imagery. It is therefore advisable for surveys to be undertaken to ascertain the condition of these grassland habitats[18]; it is possible that some areas could be species-rich and/or have locally or nationally rare species present, which could make them high distinctiveness habitats. The majority of these medium distinctiveness grasslands are located along the Basford Brook corridor and in the east (i.e. within ALC Grade 4 areas; Map 5). Good quality and rough grasslands such as these provide essential foraging habitat for highly threatened bird species and are crucial for their conservation, including the BoCC red listed lapwing and house martin which have been recently recorded nearby[19].

Field Ponds, Drains, Scrapes and Watercourses

Aquatic habitats contribute to the permeability of the landscape for wildlife; they are essential for the survival of aquatic invertebrates, riparian mammals and provide breeding habitat for amphibians (e.g. great crested newts). Larger waterbodies are likely to be valuable for both breeding and overwintering birds as well as foraging bats. The many brooks which flow through Weston and Crewe Green, with sources and tributaries outside the parish, help to create links to the wider landscape. These watercourses support many species of local wildlife, including protected species (water vole, white-clawed crayfish) and foraging birds such as kingfisher and the BoCC amber listed grey wagtail[20]. The non-designated aquatic habitats within the NP area have been highlighted as medium distinctiveness habitats (Map 9) and should always be retained and buffered where possible when land is developed.

Hedgerows and Scattered Trees

Hedgerows are rarely included in the habitat distinctiveness mapping as it is difficult to gauge the wildlife value of a hedge from aerial mapping. However, many of the field parcels within Weston and Crewe Green are bounded by a significant network of hedgerows, which form important corridors for foraging bats, small mammals, amphibians and many invertebrate species including pollinators, as well as providing valuable nesting and foraging habitat for many woodland and farmland bird species.

[18] Excluding those covered areas in the Crewe Green parish walkover survey, carried out by CWT surveyors on 25/09/2024.
[19] NBN Atlas data.
[20] NBN Atlas data.

Wildlife Corridor Network

Wildlife corridors are a key component of wider ecological networks as they provide connectivity between core areas of high wildlife value and habitats of high distinctiveness and enable species to move between them to feed, disperse, migrate and reproduce. The results of the National Habitat Network Mapping project (2018) and Ecological Network for CE (2022) provide a broad map of the networks across England and CE respectively. The Wildlife Corridor Network identified in this report (Map 10) supplement these, while also being more specific to ecological networks that are important for conserving and enhancing biodiversity at a local scale.

The Wildlife Corridor Network for Weston and Crewe Green links areas of valuable habitat with good connectivity within the NP area, including woodlands, watercourses and grasslands. Some of the mapped corridors cross over roads where direct connectivity will not be maintained, however the maximum gap is less than 30 metres meaning more mobile species should not be affected. Some of the hedgerows within identified corridors may not be species rich as they run through intensively farmed land, and high inputs of agrochemicals associated with intensively managed land could potentially be negatively affecting the species composition, particularly at ground level. Increasing hedgerow diversity and implementing wildlife friendly management regimes, as well as creating rough grassland buffers would help improve the ecological connectivity of the hedgerow network.

The network of field boundary hedgerows and agricultural drainage ditches within Weston and Crewe Green provide linear connectivity between high and medium distinctiveness habitats, which would otherwise be separated by extensive areas of land predominantly of low habitat distinctiveness and potentially restrict the ability of wildlife to disperse. In addition to their intrinsic ecological value a good hedgerow network also adds to the landscape character value. This study has identified other areas of high or medium habitat distinctiveness (Map 9) that lie outside the Wildlife Corridor Network but form essential ecological stepping stones. These areas primarily comprise ponds and semi-natural woodlands and facilitate the movement of more mobile species throughout the wider landscape.

Protecting the Ecological Network

The indicative boundary of the Wildlife Corridor Network shown in Map 10 is likely to require refinement should detailed survey work be undertaken. A 15-metre-wide buffer has been incorporated around any high distinctiveness habitat in order to ensure the corridors are substantial enough to protect the valuable habitats identified in Map 9. This buffer protects vulnerable habitats from the effects of encroachment by external pressures such as increased anthropogenic disturbance, light pollution, ground water/aquatic pollution, domestic pet predation and the spread of invasive non-native plant species or garden cultivars.

Any potential development proposals in the NP area **must avoid high distinctiveness habitats, core wildlife areas and the wildlife corridor network**. Any development adjacent or in close proximity to these areas must incorporate substantial mitigation to minimise the residual effects on wildlife while also seeking to enhance the overall condition of habitats in order to achieve a measurable net-gain for biodiversity. This can be achieved by:

- Prioritising a scheme design that retains and enhances important semi-natural habitats and key features for biodiversity, whilst improving the permeability and function of the site for wildlife by creating new resources within and new connections to the wider landscape.

- Embedding out of bounds areas and dark corridors along watercourses, woodland edges and hedgerows into the environmental design of the scheme.
- Ensuring all external lighting is directional, low spillage and wildlife friendly.
- Ensuring the scheme drainage strategy directs run-off away from sensitive environmental assets and does not promote pollution propagation pathways; especially for habitats that are dependent on hydrology (i.e. running/standing water, peatlands, floodplain grazing marshes).
- Incorporating Sustainable Drainage Schemes (SuDS) which can provide additional wildlife habitat, provide measurable net-gains for biodiversity and prevent flooding. However, SuDs may hold polluted water so should not drain directly into running or standing water unless an extensive filtration or settlement system is in place.
- Ensuring only UK and Northern Ireland sourced and grown nursery stock of native plant and tree species be used in the landscaping of developments.
- Incorporating species specific mitigation measures where appropriate such as:
    - Hedgehog-friendly fencing, to allow hedgehogs to move from one area to another;
    - South facing banks or bunds for reptiles, butterflies and other invertebrates, and;
    - Bee bricks, bat or bird boxes, ideally made of highly durable material e.g. woodcrete.

It is extremely important that the highlighted 'medium distinctiveness' areas be thoroughly evaluated in the development process. They should be re-classified as 'high distinctiveness' habitat where appropriate and should not be built on (as stipulated in the Local Plan and the NPPF). In order to achieve a 'net gain' for biodiversity, significant compensation will likely be required (and difficult to achieve) if these areas are lost to development, assuming avoidance and mitigation strategies have been applied in line with the guidance set out in the NPPF.

Recommendations for Creating a Coherent Ecological Network

Not all sections of the Weston and Crewe Green wildlife corridor provide high quality habitat, and measures to improve its ability to support the movement of species is a priority. Enhancement of the corridor may be facilitated by opportunities arising through the planning process (e.g. Biodiversity Net Gain or other ecological compensation via Section 106 Agreements or Planning Conditions), government incentives (such as agri-environment schemes) or the aspirations of the local community working with local businesses and landowners. Following adoption of the Weston and Crewe Green Neighbourhood Plan, CWT advises that the following recommendations should be actioned in order to protect and enhance habitats which contribute to the creation of a coherent ecological network:

1. Create and expand links between the existing wildlife corridor network

There is currently good connectivity between nature conservation sites across the Neighbourhood Planning area. It is recommended that the wildlife value of existing hedgerows, agricultural drainage ditches and field ponds are enhanced to extend and join these existing corridors to other identified areas of medium and high distinctiveness habitats. To achieve this, hedgerows could be managed less intensively including; less frequent cutting or cutting on rotation with additional trees planted or managed as standards in order to increase species and structural diversity. Drainage channels that regularly contain standing or flowing water can be specifically managed for wildlife under Countryside Stewardship, BNG and Environmental Land Management (ELMs). Semi-natural woodlands can be left to expand and regenerate naturally, increasing coverage and connectivity across the NP area while also providing biodiversity benefits arising as a result of the diverse structure of natural tree growth.

2. Improve the quality of the wildlife corridor network and assess against Local Wildlife Site selection criteria

The areas within the wildlife corridor network shown on Map 10 incorporate, where possible, all of the locally designated Local Wildlife Sites for CE, however it is highly likely that other land within the network will also meet the criteria for LWS selection. These areas (including those identified as pLWS on Map 6) should be designated if the selection criteria[21] are met, as LWS designation will provide a greater level of protection within the planning system. The wildlife corridor network should also ideally be in 'favourable condition'[22] in order to provide optimal breeding, foraging and commuting opportunities for the native species that currently utilise the network, and those that may subsequently colonise it. These areas should be surveyed by a qualified ecologist to identify specific management priorities, however some general priorities are included below:

- Wherever possible, highly degraded agricultural peatlands (i.e. intensive grassland or arable fields located on deep peaty soils) should be restored to modified or rewetted semi-natural habitats. Peatlands in degraded conditions emit significant amounts of greenhouse gases to the atmosphere as well as providing minimal flood protection/alleviation or benefits to biodiversity. Emissions can easily be reduced (avoided emissions) or reversed (carbon sequestration) by reverting the land use back to either a less intensive agricultural use (e.g.

[21] Giles, R. (2012) Local Wildlife Site Selection Criteria for the Cheshire region. Covering the districts of Cheshire West and Chester, Cheshire East, Wirral Halton and Warrington. Updated February 2014. Cheshire Wildlife Trust. [https://www.cheshirewildlifetrust.org.uk/wildlife/our-work-wildlife/our-work-wildlife/local-wildlife-sites]

[22] The definition of 'favourable condition' for various habitats is provided in the Farm Environment Plan (FEP) Manual (Natural England 2010). The definition of 'positive management' for Local Wildlife Sites is provided in Appendix 3.

light grazing, wetland hay meadow or silage) or a semi-natural wetland habitat (e.g. a rewetted bog). This will also increase the capacity of the land to protect/alleviate flooding and provide substantial benefits for biodiversity.

- Where agricultural peatlands cannot be restored, it is essential that the water table is kept at or as close to the surface of the ground level for the majority of the year. This can be achieved by reducing the scale and capacity of drainage channels and installing bunds where appropriate. Again, although not as significantly as restoration, this will reduce emissions, improve flood alleviation, and improve the land for biodiversity.
- Drainage ditches and watercourses within intensively farmed land should be buffered by semi-natural areas to provide riparian habitat and reduce pollution runoff (4 - 6 metres is recommended). This will benefit any populations of otter using the watercourses, as well as provide breeding, foraging and commuting areas for other species. It will also improve water quality and bank stability while decreasing siltation resulting in a reduction in the need to dredge.
- Hedgerows that are not already in good condition (particularly those that form part of the wildlife corridor) should be restored or re-instated using locally native species such as hawthorn, blackthorn, hazel and holly (using 60-90cm high 'whips' which have a good rate of survival and tree guards or stock fencing). New sections of hedgerow should incorporate a tree every 30m (on average) which can be demarked so as not to be inadvertently flailed. Non-native invasive plant species should be removed by a specialist contractor and a bespoke management plan put in place to ensure they do not return.
- Hedgerows in intensively farmed land should be buffered by semi-natural areas to provide additional wildlife friendly habitat (2 metres from the centre of the hedge is the minimum requirement under cross compliance regulations, however 4 - 6 m is recommended) and improve the diversity of ground flora species.
- Cutting or grazing of all semi-natural grassland should be carried out to retain the wildlife value. This will enable more herb growth within the sward, prevent more competitive species from taking hold and prevent grasslands from eventually scrubbing over. Where cutting is used as a method of management it should be carried out after flowering plants have set seed. Where farmland birds such as skylark are breeding, cutting outside of the nesting season (March to September inclusive) will avoid the destruction or abandonment of nests. Under the Wildlife and Countryside Act 1981 it is an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Conversion of semi-natural grassland to arable land should be avoided.
- Field ponds which have become overgrown and choked with vegetation should be cleared out to allow light to penetrate, to provide areas of open water and allow a more diverse marginal flora to develop (with the remaining tree/scrub cover around 10 - 15%). These measures will also benefit amphibians, invertebrates and mammals. Ideally no more than one third of the pond should be dredged in a single year so that existing biodiversity is retained and enhanced. Waste vegetation should be left at the side of the ditch for 24 hours before removal to allow any fauna to return to the water. **Prior to any work professional advice should be sought and ponds should be assessed to ensure existing wildlife is not impacted, including great crested newts which use ponds for breeding and may also be present in rank vegetation or under brash piles around the banks, or roosting bats which may be roosting in trees surrounding ponds.**

- Invasive non-native species (listed on Schedule 9 of the WACA) should be prevented from colonising Weston and Crewe Green's semi-natural habitats. Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant or otherwise cause these species to grow in the wild. NBN Atlas returned confirmed records of invasive non-native plant species (INNPS) Himalayan balsam in Weston and Crewe Green, which spreads particularly effectively along watercourses. INNPS colonise rapidly and will outcompete native woodland, grassland and wetland flora and any existing or future stands of INNPS should be managed by a specialist contractor to control their spread.
- It is also likely that other Schedule 9 INNPS such as variegated yellow archangel, montbretia and Spanish hybrid bluebells are present in the area, as they easily spread from domestic gardens. If present they should be eradicated by, or under the supervision of, a specialist contractor. New and existing householders should be educated of the problems with the encroachment of INNPS or non-native garden cultivars into semi-natural habitats and avoid inadvertently planting any invasive species in their gardens, especially where they adjoin open areas, semi-natural habitats, or watercourses.

3. Protect, enhance, and connect areas of high/medium value which lie outside the wildlife corridor

Opportunities should be explored to restore, expand, and create more wildlife friendly habitat, especially where connectivity with other areas of valuable habitat can be achieved or where important sites can be buffered. Larger areas of better-connected habitat support larger and more resilient species populations while helping to prevent local extinctions.

Ways to enhance connections or to buffer sites could include the restoration of hedgerows, allowing semi-natural woodland to expand through natural regeneration, creation of wetland scrapes or ponds, creation of low maintenance field margins and sowing locally sourced (local genetic stock) wildflower meadows[23]. These should be focused on connecting the corridor, to close the gaps between high value habitats and break up large areas of low distinctiveness.

Woodland expansion is desirable to buffer Weston and Crewe Green's existing woodlands. New plantations that are isolated from existing woodland are of limited value due to slow colonisation by woodland species, whereas planting woodland corridors between existing woodlands (or letting woodlands expand and merge naturally) creates valuable habitat links for the dispersal of species. The creation, expansion or enhancement of woodland stepping stones between existing core woodland areas also enhances links across the landscape for more mobile species.

There are opportunities to enhance the wildlife corridor, such as those set out in the UK Government England Trees Action Plan. **However, it is vitally important that tree planting should only occur on species-poor habitats away from existing (non-woodland) priority or semi-natural habitats, watercourses or aquatic habitats such as ditches and ponds and any other habitats of value to specific wildlife. Specialist ecological advice should always be sought before any tree planting is undertaken to ensure no unintended negative effects to biodiversity arise as a result.**

[23] Cheshire Wildlife Trust can provide advice and seeds for locally sourced wildflower meadow creation.

Professional advice should **always** be sought when creating new habitat particularly when designing the layout, position and composition of new woodland and how to use local woodlands as a reference. Well-designed new woodlands contain up to 40% open space (in the form of glades and rides) and up to 25% shrub species. For maximum benefit biodiversity rides should be east-west oriented (to maximise sunlight penetration) and at least 30 metres wide to avoid over-shading when the canopy closes. It is recommended that trees and shrubs should be sourced from the Forestry Commission seed zone, from seed collected from local stands or from the local seed zone (collections should be made under the Voluntary Scheme for Certification of Native Trees and Shrubs, endorsed by the Forestry Commission).

4. Protect the existing hedgerow network

Hedgerows that meet certain criteria are protected by The Hedgerow Regulations (1997). Under the regulations it is against the law to remove or destroy 'Important' hedgerows without permission from the Local Planning Authority and the removal of a hedgerow in contravention of The Hedgerow Regulations is a criminal offence. The criteria used to assess hedgerows relate to their value from an archaeological, historical, landscape or wildlife perspective. The regulations exclude hedgerows that have been in existence for less than 30 years, garden hedges and some hedgerows which are less than 20 metres in length. The aim of the regulations is to protect 'Important' hedgerows in the countryside by controlling their removal through a system of notification.

Any proposals that involve the removal of hedgerows, sections of hedgerows or their associated features (e.g. ditches, banks and standard trees) should be supported by an assessment to ascertain their status in relation to The Hedgerow Regulations. Should the Local Planning Authority grant permission for removal, compensatory hedgerows will be required; however, it is good practice to compensate for the loss of all hedgerows whether the hedgerow regulations apply or not. Like-for-like replacement is considered the minimum level of compensation, but it is likely that high value hedges in good condition will require a 3:1 replacement ratio.

Any new sections of hedgerow should be created following the guidance provided above. In-filling of gappy hedgerows will ensure greater connectivity, which will be of particular advantage to bats and small mammals. Ideally hedgerows should be cut on rotation (outside the nesting bird season) every three years towards the end of winter. This leads to increased flowering and allows plants to fruit and/or set seed, providing a greater food resource for invertebrates, mammals and birds. Some butterfly and moth species overwinter as eggs on shoots and twigs and are therefore severely impacted by annual flailing.

5. Measures to protect other species

It is advisable that developments provide wildlife permeable fencing as standard and encouraging householders to make holes in the bottom of their fences will also increase the permeability of the more urbanised areas in Weston and Crewe Green. This simple measure will help hedgehogs that could travel an average of 1 mile every night were their movement through suburban landscapes not impeded by impenetrable garden fences. Increasing the permeability of suburban landscapes in this way will also provide benefits for other species such as newts, toads and frogs. Wildlife permeable fencing should be complemented by educating and advocating for the use of non-toxic slug pellets by residents.

6. Ensure the requirement to secure a measurable biodiversity net gain is embedded in Neighbourhood Planning policies

Providing a measurable net gain for biodiversity is now mandatory for larger developments and also required under policy ENV 2 of the CE Local Plan[24]. In order to protect local natural assets, it is advisable that biodiversity net gain delivery policies form part of the Neighbourhood Plan. Any new green infrastructure arising as a result of biodiversity net-gain should take consideration of the recommendations set out in this report and how it can contribute to the wider ecological network.

7. Habitat mapping

It is strongly recommended that Weston and Crewe Green's Neighbourhood Planning area is mapped in detail using either the Phase 1 Habitat or the UK Habitat Classification System methodologies. This will provide an accurate, detailed picture of the habitats within the Neighbourhood Planning area and could be used to verify the results of the habitat distinctiveness mapping (Map 9) undertaken in this study. Detailed survey may identify additional habitats of principal importance or priority, high or medium distinctiveness habitat that have not been identified in this assessment. Areas identified as having medium value habitat in this report should be targeted for survey as a priority, to ensure they are not under or over-valued. On the ground surveys are advisable to help inform the exact position of the wildlife corridor network so that it can be properly protected under Neighbourhood Plan policies.

[24] SADPD 2022 Policy ENV 2 'Net gain: development proposals should provide for a net gain in biodiversity in line with the expectations of national policy and be supported by a biodiversity metric calculation'.
Local Plan Strategy 2017 Policy SE 3 seeks to 'make sure that there is no overall loss of biodiversity and geodiversity and seeks to utilise avoidance, mitigation, compensation and offsetting strategies to achieve this'

Conclusion

This study has highlighted that the important wildlife habitat in Weston and Crewe Green is predominantly associated with its many woodlands, wetlands and grasslands. By attributing habitat distinctiveness values to all land parcels in the Neighbourhood Planning area the study has provided important evidence that should be taken into consideration when planning decisions are made. However, it is strongly recommended that further (phase 1/UK Habitat Classification) habitat survey work is undertaken at the appropriate time of year, in order to supplement this study and to verify that 'medium value' habitats have not been over or under-valued.

Most importantly the study has highlighted a Wildlife Corridor Network which provides ecological connectivity between high-value habitats throughout and beyond the Weston and Crewe Green Neighbourhood Planning area. The Wildlife Corridor Network is likely to support a wide range of species including birds, amphibians (including protected and priority newt species), mammals (including protected and priority bat species), plants and invertebrates that are in decline both locally and nationally. These species depend on the existence and connectivity of semi-natural habitats highlighted in this report.

We recommend that the Wildlife Corridor Network (Map 10) is incorporated into the Weston and Crewe Green Neighbourhood Plan and protected from development, to ensure the guidance relating to ecological networks set out in NPPF (2024; paragraphs 187d, 188, 192a, 192b) is implemented at the local level in Weston and Crewe Green. If new habitats of high distinctiveness are subsequently identified in the Neighbourhood Planning area, or identified habitats of medium distinctiveness are shown to be undervalued, these areas should be protected by a 15-metre buffer zone to protect from development. Following adoption of the Weston and Crewe Green Neighbourhood Plan, CWT advises that a number of recommendations should be actioned in order to protect and enhance habitats which contribute to the creation of a coherent ecological network.

Any future development of sites which lie adjacent to a high distinctiveness habitat or a wildlife corridor will need to demonstrate substantial mitigation and avoidance measures to lessen any potential impacts on wildlife (in line with NPPF Para 193a; the avoidance, mitigation and compensation hierarchy), and seek to enhance these features where reasonable to do so (in line with NPPF Para 159, 192b; the provision of measurable biodiversity net gains and Local Nature Recovery Strategies). This can be achieved by prioritising a scheme design that retains and enhances the sites important semi-natural habitats and key features for biodiversity, while also improving the permeability and function of the site for wildlife by creating new resources within and new connections to the wider landscape. This should then be supplemented with bespoke mitigation where appropriate and with additional protective measures such as sensitive lighting designs, the provision of dark corridors and appropriate drainage strategies.

Protection and enhancement of Weston and Crewe Green's natural assets is of the utmost importance for nature conservation, ecosystem services and for the enjoyment of future generations. Therefore, future development in Weston and Crewe Green should respect and prioritise the natural environment with the most intact landscapes, in terms of biodiversity, landform and historical/cultural associations valued highly when planning decisions are made.

Appendices

Appendix 1 - Habitats, LCM2007 Classes and Broad Habitat Sub-classes for LCM2007 (CEH)

LCM2007 class	LCM2007 class number	Broad Habitat sub-class	Broad habitat sub-class code	Habitat Score
Broadleaved woodland	1	Deciduous	D	Medium
		Recent (<10yrs)	Dn	Medium
		Mixed	M	Medium
		Scrub	Sc	Medium
Coniferous Woodland	2	Conifer	C	Low
		Larch	Cl	Low
		Recent (<10yrs)	Cn	Low
		Evergreen	E	Low/Medium
		Felled	Fd	Medium
Arable and Horticulture	3	Arable bare	Aba	Low
		Arable Unknown	Aun	Low
		Unknown non-cereal	Aun	Low
		Orchard	O	Medium
		Arable barley	Aba	Low
		Arable wheat	Aw	Low
		Arable stubble	Ast	Low
Improved Grassland	4	Improved grassland	Gi	Low
		Ley	Gl	Low
		Hay	Gh	Low
Rough Grassland	5	Rough / unmanaged grassland	Gr	Medium
Neutral Grassland	6	Neutral	Gn	Medium
Calcareous Grassland	7	Calcareous	Gc	Medium
Acid Grassland	8	Acid	Ga	Medium

		Bracken	Br	Medium
Fen, Marsh and Swamp	9	Fen / swamp	F	Medium
Heather	10	Heather & dwarf shrub	H	Medium
		Burnt heather	Hb	Medium
		Gorse	Hg	Medium
		Dry heath	Hd	Medium
Heather grassland	11	Heather grass	Hga	Medium
Bog	12	Bog	Bo	Medium
		Blanket bog	Bb	Medium
		Bog (Grass dom.)	Bg	Medium
		Bog (Heather dom.)	Bh	Medium
Montane Habitats	13	Montane habitats	Z	Medium
Inland Rock	14	Inland rock	Ib	Medium
		Despoiled land	Ud	Medium
Salt water	15	Water sea	Ws	Medium
		Water estuary	We	Medium
Freshwater	16	Water flooded	Wf	Medium
		Water lake	Wl	Medium
		Water River	Wr	Medium
Supra-littoral Rock	17	Supra littoral rocks	Sr	Medium
Supra-littoral Sediment	18	Sand dune	Sd	Medium
		Sand dune with shrubs	Sds	Medium
		Shingle	Sh	Medium
		Shingle vegetated	Shv	Medium
Littoral Rock	19	Littoral rock	Lr	Medium
		Littoral rock / algae	Lra	Medium
Littoral sediment	20	Littoral mud	Lm	Medium

		Littoral mud / algae	Lma	Medium
		Littoral sand	Ls	Medium
Saltmarsh	21	Saltmarsh	Sm	Medium
		Saltmarsh grazing	Smg	Medium
Urban	22	Bare	Ba	Low
		Urban	U	Low
		Urban industrial	Ui	Low
Suburban	23	Urban suburban	Us	Low

Appendix 2 – Meres & Mosses LPS / NIA: Methodology for Mapping Extant Meres & Mosses

The mapping of 'Functional Ecological Units' is primarily based on topography, with use being made of LIDAR data. LIDAR is a remote sensing technique whereby an airborne survey using lasers generates detailed topographic data (known as a Digital Terrain Model / DTM). With approximately 70% coverage of the Meres & Mosses landscape.

Mapping of the Functional Ecological Units (FEUs) started with the identification of extant sites:

1. All designated sites, SSSIs and County (Local) Wildlife Sites, that are either a mere or a moss were included.
2. Beyond the designated sites, use was made of a detailed peat soils map for the area. From this dataset a distinction was made between likely moss peats and extensive areas of likely fen peat associated with some of the river valleys. The moss peat sites were then reviewed using aerial photography and divided into two categories: destroyed and de-graded. The former are sites under arable, intensive grassland or other land use, where any relict habitat, and potentially even the peat itself, have been lost – these were excluded. The de-graded sites are those supporting some form of relict habitat (e.g. extensive grassland, rush pasture or woodland) offering potential for restoration – these were taken forward as FEUs.
3. Finally, the 1: 10,000 scale OS base map was scanned for names alluding to meres and mosses. All waterbodies specifically called "Mere" were included in the mapping, but sites with names suggestive of meres (e.g. Black Lake) were ignored. A few sites were identified called "Moss" – however, because these were not shown on the peat soils map, these were excluded.

For each potential FEU the LIDAR data was manipulated to show land within a nominal 3 metres elevation of the lowest point on the site. The FEU was then defined as the obvious basin around the lowest point – i.e. the land where it should be possible to restore hydrological function and therefore a wetland habitat mosaic (generally a nominal 1.0 - 1.5 metres above the lowest point on the site). Where no LIDAR data was available, the likely boundary of the FEU was estimated from the peat soils data and aerial photography.

Appendix 3 – Local Wildlife Site Definition of Positive Management

In order for a Local Wildlife Site to be recorded as in positive management all four of the following should be met:

1. The conservation features for which the site has been selected are clearly documented.
2. There is documented evidence of a management plan/management scheme/advisory document which is sufficiently targeted to maintain or enhance the above features.
3. The management requirements set out in the document are being met sufficiently in order to maintain the above features. This should be assessed at 5-year intervals (minimum) and recorded 'not known' if the interval is greater than 5 years.
4. The Local Sites Partnership has verified the above evidence.