

Protecting and Enhancing Mobberley's Natural Environment



Cheshire
Wildlife Trust

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Acknowledgements

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Contents

| | |
|--|----|
| Acknowledgements | 2 |
| Introduction | 5 |
| Biodiversity Policy Overview | 5 |
| Ecological Networks..... | 7 |
| Objectives of the Study..... | 9 |
| Mobberley’s Landscape Character Assessment..... | 10 |
| Map 1 – Cheshire East Landscape Character Typology 2018..... | 11 |
| LCT 5: Wooded Estates and Meres..... | 12 |
| General Description | 12 |
| Landscape Guidance | 12 |
| LCA 5d: Tatton and Rostherne (including Hall, Deer Park & National Nature Reserve) | 13 |
| LCT 7: Lower Wooded Farmland | 13 |
| General Description | 13 |
| Landscape Guidance | 13 |
| LCA 7b: Ringway (including Ashley Styal and Manchester Airport’s second runway)..... | 14 |
| LCA 7d: Marthall (including Peover Eye, Jodrell Bank & Swettenham heath) | 15 |
| LCT 9: Mossland..... | 15 |
| General Description | 15 |
| Landscape Guidance | 15 |
| LCA 9a: Lindow Moss (Peat extraction, country park & bog sites)..... | 16 |
| LCT 10: River Valleys..... | 16 |
| General Description | 16 |
| Landscape Guidance | 16 |
| LCA 10a: Lower Bollin (including Styal Country Park & Quarry Bank Mill) | 17 |
| Natural Area..... | 18 |
| National and Regional Ecological Network..... | 19 |
| Habitat Network Mapping | 19 |
| Map 2 – National Habitat Network..... | 20 |
| Ecological Network for Cheshire East 2022 | 21 |
| Natural Course Ecological Network Tool 2020..... | 22 |
| Local Habitat Distinctiveness and Wildlife Corridor Network..... | 25 |
| Methodology..... | 25 |
| Maps | 26 |

Protecting & Enhancing Mobberley’s Natural Environment

| | |
|--|----|
| Map 3 – Terrestrial Habitats of Principal Importance | 27 |
| Map 4 – Land Cover (2007) | 28 |
| Map 5 – Agricultural Land Classification..... | 29 |
| Map 6 – Designated Sites of Nature Conservation..... | 30 |
| Map 7 – Ancient Woodland and Traditional Orchards | 31 |
| Map 8 – Meres, Mosses and Other Peat Soils..... | 32 |
| Map 9 – Habitat Distinctiveness..... | 33 |
| Map 10 – Indicative Wildlife Corridors | 34 |
| Results & Discussion..... | 35 |
| High Distinctiveness Habitats..... | 35 |
| Woodland..... | 35 |
| Grassland..... | 37 |
| Wetlands | 39 |
| Traditional Orchard..... | 41 |
| Medium Distinctiveness Habitats..... | 41 |
| Woodland..... | 41 |
| Grassland..... | 42 |
| Field Ponds, Drains, Scrapes and Watercourses | 42 |
| Hedgerows and Scattered Trees..... | 42 |
| Wildlife Corridor Network..... | 43 |
| Protection of the Wildlife Corridor and other High and Medium Distinctiveness Habitat | 44 |
| Recommendations for Creating a Coherent Ecological Network..... | 46 |
| Conclusion..... | 51 |
| Appendices..... | 53 |
| Appendix 1 – Natural England Ecological Network Model Interpretation | 53 |
| Appendix 2 - Habitats, LCM2007 Classes and Broad Habitat Sub-classes for LCM2007 (CEH) | 56 |
| Appendix 3 – Meres & Mosses LPS / NIA: Methodology for Mapping Extant Meres & Mosses | 59 |
| Appendix 4 – Local Wildlife Site Definition of Positive Management | 60 |

Introduction

Neighbourhood Planning provides an important opportunity for communities to 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

In 2011 the government published Biodiversity 2020, a 'strategy for England's Wildlife and Ecosystem services', which built on the recommendations of a previous government 'Natural Environment' white paper. The mission of the Biodiversity 2020 strategy was 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.' While the Biodiversity 2020 strategy has now been superseded its aims and outcomes built a foundation for, and have been adopted into, more recent and forthcoming environmental policy. Achieving the outcomes set out in Biodiversity 2020 remains an important undertaking if the national decline of natural assets is to be halted and reversed.

In 2013 the State of Nature Partnership (SoNP), consisting of 25 conservation organisations, published its first 'State of Nature Report' with the key aim of 'diagnosing the causes of wildlife decline'. When the first update was published in 2016 the UK was ranked amongst the most nature-depleted countries in the world. By the time of the most recent update in 2019, the SoNP had grown to include over 70 partners drawn from conservation NGOs, research institutes, and the UK and national governments. Unfortunately however, many of the observed SoN measures suggested the decline of nature has continued in the most recent decade and that there has been no let-up in the net loss of nature in the UK.

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; a national network of wildlife-rich places. The government aims to achieve the goals of the 25 Year Environment Plan through a number of mechanisms including the planning system (via the NPPF) and through the Environment Act.

The Environment Improvement Plan 2023 has now also been released, which is the first revision of DEFRA's 25 Year Environment Plan. This review builds on the 25YEP vision with a new plan detailing how DEFRA will collaborate with landowners, communities and businesses to deliver their goals for improving the environment; and they have set out interim targets to measure progress along the way. The targets for some of the original 25YEP goals have been expanded and more specific details have been added to increase the potential of the 25YEP. Their central goal remains the same, to halt the decline in our biodiversity and allow wildlife to thrive; the next review is scheduled for 2028.

The National Planning Policy Framework (NPPF), first published in 2012 and subsequently updated in 2018, 2019 and most recently in 2021, draws on the principles set out above. 'Protecting and enhancing our natural, built and historic environment' is one of the three core objectives in the revised NPPF 2021 (paragraph 8c). In the recent revisions of the NPPF there has been a shift from 'no net loss

policies', to policies that mandate a 'measurable net-gain in biodiversity', i.e. referring to the use of a Biodiversity Net Gain (BNG) metric to measure biodiversity gains. Accompanying this shift toward providing a biodiversity net-gain is growing support for establishing coherent ecological networks at the local level, in order to strategically underpin the protection and enhancement of local biodiversity assets. Non-strategic local policies and strategic policy guidance related to ecological networks and biodiversity net-gain is enshrined in the NPPF (2021) paragraphs 120a, 174d, 179a and 179b.

The Environment Act (2021) 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 a mandatory requirement for developers to provide a 10% biodiversity net-gain as a condition of planning permission for new development applicable to all development under the Town and Country Planning Act 1990 and (from 2025) Nationally Significant Infrastructure Projects, and;
- The introduction of a new national system of spatial strategies for nature known as Local Nature Recovery Strategies (LNRS). Each strategy will, for the area that it covers; map the most valuable existing habitat for nature; map specific proposals for creating or improving habitat for nature and wider environmental goals, and; agree priorities for nature's recovery. It is anticipated this local network will then inform a national Nature Recovery Network (NRN).

At a local level, ecological networks are enshrined in the existing Cheshire East Local Plan (adopted 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 have also now 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, Cheshire East Council also produced a Biodiversity Net Gain Supplementary Planning Document (SPD, April 2021) that is in the process of being adopted. This SPD provides detailed guidance on achieving Biodiversity Net-Gain from new development and sets out how this can be achieved in Cheshire East.

The primary aim of our national and local strategic biodiversity policy is to bring nature back into recovery and leave it in a better state than in which we inherited it. The primary focus is protection and enhancement at the landscape scale; developing coherent ecological networks by delivering strategic habitat creation incentivised through biodiversity net-gain, with developers, landowners, conservation charities and individuals playing a part. The planning system has a central role in this, particularly in regard to spatial biodiversity strategies and the delivery of net-gain, but also through development control. At a local level Neighbourhood Planning will be a key factor in determining whether the aims of national strategies such as DEFRA's 25 Year Environment Plan are realised, by identifying local priorities for nature conservation that should be considered during the planning process. Although this is a national plan its success will depend on the contributions of local communities toward achieving social, economic and environmental objectives and working to protect and enhance their local environment.

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 and therefore we need to learn how to manage these important natural resources in ways that deliver multiple benefits, for example; achieving profitable and productive farming while also adopting practices which enhance carbon storage, improve floodwater management and support biodiversity.

England's wildlife and semi-natural habitats have become increasingly fragmented and isolated, leading to significant declines in the provision of certain ecosystem services and biodiversity. Ecological networks (Figure 1) and '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.

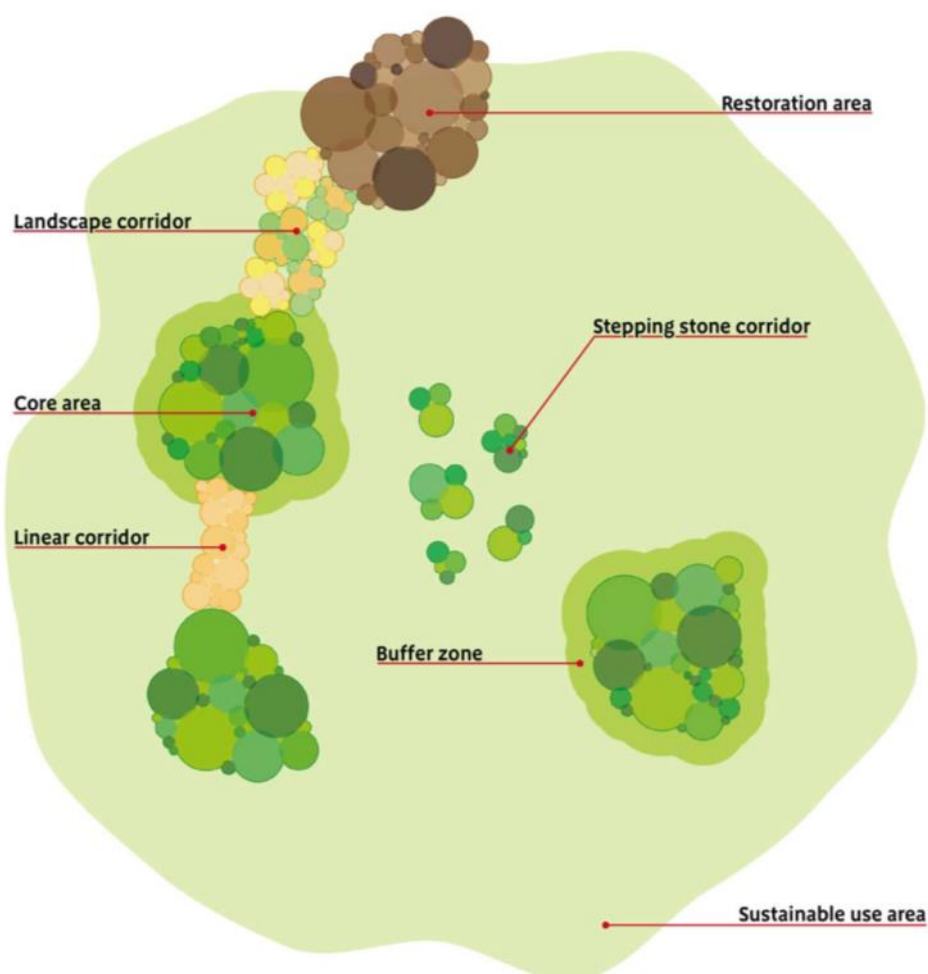


Figure 1. The components of ecological networks (Making Space for Nature report)

Ecological networks generally have five components (Figure 1) which reflect both the existing and potential future ecological importance and function:

- **Core areas** – These are areas of high nature conservation value that form the heart of an ecological network. They contain habitats that are rare or important because of the wildlife they support or the ecosystem services they provide. They generally have the highest concentrations of species or support rare species assemblages. They include protected wildlife sites and other semi-natural areas of high ecological quality.
- **Corridors and stepping stones** – These are spaces that improve the functional connectivity between core areas, enabling species to move between them to feed, disperse, migrate or reproduce. Connectivity need not just come from linear, continuous habitats; a number of small sites may act as 'stepping stones' across which certain mobile species can move between core areas.
- **Restoration areas** – These are areas where measures are planned to restore or create new high value areas (with the ultimate goal of becoming 'core areas') so that ecological function is restored and the associated species populations can return. They are often situated so as to complement, connect or enhance existing core areas.
- **Buffer zones** – These are areas closely surrounding core areas, restoration areas, and ecological corridors and stepping stones that protect them from adverse impacts from the wider environment.
- **Sustainable use areas** – These are areas within the wider landscape focussed on the sustainable use of natural resources and appropriate economic activities alongside the maintenance of ecosystem services. Set up appropriately, they help to 'soften the matrix' outside the network and make it more permeable and less hostile to wildlife, supporting self-sustaining populations of species that are dependent upon, or at least tolerant of, certain forms of agriculture. The functions of buffer zones and sustainable use areas overlap, but the latter are less clearly demarcated than buffers and have a greater variety of land uses.

As discussed, the principles of establishing coherent ecological networks are now embedded within many planning and policy documents. The NPPF (2021), includes specific guidance on conserving, restoring and enhancing ecological networks including:

- Paragraph 174 - 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.

- 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 175 - 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 179 - 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

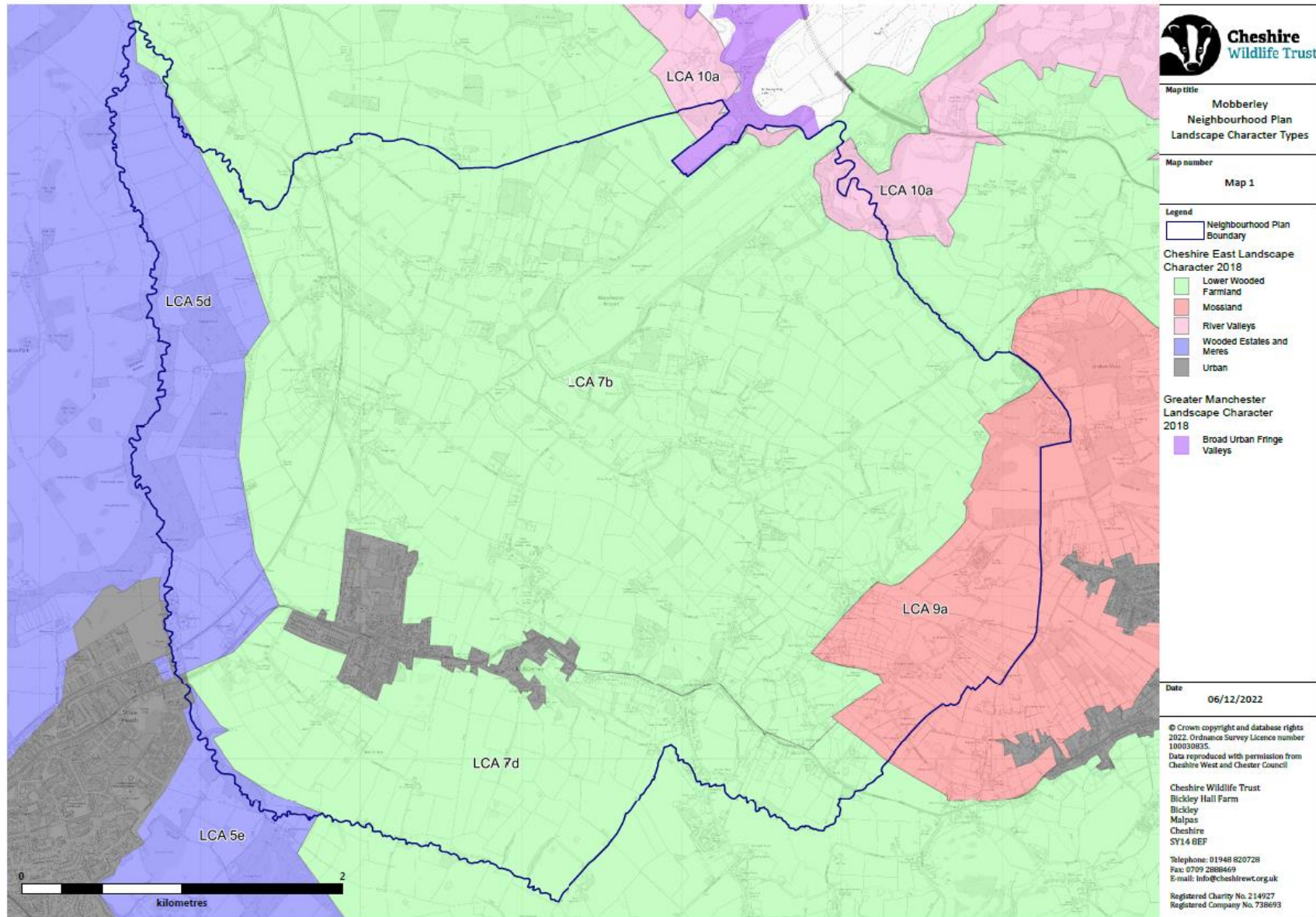
In order to protect and enhance the natural environment it is important to first identify the natural assets that exist within a neighbourhood. This report aims to identify the core, high and medium ecological value sites for nature conservation within the Mobberley Neighbourhood Planning area. High 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 Neighbourhood Planning area and recommends these are safeguarded within the neighbourhood plan. Additionally, it identifies key features associated with the landscape character of the Mobberley area so they can be referenced in neighbourhood planning policies.

Mobberley's Landscape Character Assessment

At a national level Mobberley 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 Cheshire East Council 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 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 four recognisable landscape character types (LCT) within the Mobberley Neighbourhood Planning area. The majority of Mobberley falls within the 'Lower Wooded Farmland' LCT, with smaller areas of the parish falling within the 'Mossland', 'River Valleys' and 'Wooded Estates and Meres' LCTs. 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 5: Wooded Estates and Meres

General Description

This landscape type is defined by a concentration of historic estates and their associated features, including parkland and formal gardens, a high density of woodland and mosses and meres which are often utilised as ornamental lakes. The topography of the type ranges from flat ground, through broad undulations to occasional steeper slopes. Fields are varied in size and shape and are generally of medieval or post-medieval origin. Settlement is mainly dispersed with a limited number of small nucleated villages and hamlets including Rostherne.

Landscape Guidance

The following points provide guidance for landscape management and built development within the LCT:

- Avoid siting development (including buildings and other structures) in visually prominent areas or areas of complex landform.
- Protect the distinct geological features of the landscape, including rock exposures and continue to implement appropriate management regimes.
- Protect and appropriately manage the dense woodland that characterises the estate landscapes. Plan for the restoration of plantation woodland with native species and the replacement of aging specimen trees.
- Manage and enhance valued semi-natural habitats, particularly the undesignated ponds, mosses, meres which are focal features of the landscape as well as woodland and unimproved grassland habitats. Seek to create linkages between habitats where possible to improve biodiversity resource within the landscape.
- Ensure that the meres are appropriately managed and conserved for their natural heritage value and issues including agricultural run-off are addressed.
- Conserve the historic integrity of the designed landscapes and their component heritage features. Promote interpretation of these features where this would not be at odds with conservation of these assets.
- Retain historic field patterns and restore the hedgerows and walls forming field and estate boundaries where they have been lost or degraded.
- Respect the setting, form and vernacular of existing settlements, including those designated as Conservation Areas. Ensure any conversion of farm buildings to residences retains a rural character and does not introduce sub-urbanising features.
- Ensure that the recreational value of the landscape is retained, whilst managing activity in a sustainable manner that promotes conservation of the valued features.
- Plan strategically for sustainable transport routes to the attractions and recreation destinations. Avoid introduction of recreation activities which may detract from the valued perceptual qualities of the landscape.
- Maintain any sweeping, designed views/vistas within the estates and longer views experiences in the landscape which include the Pennines and the Sandstone Ridge.
- Ensure that the sense of enclosure and high levels of tranquillity experienced throughout much of the landscape are retained.

Protecting & Enhancing Mobberley's Natural Environment

- Utilise trees and woodland to screen major transport routes to reduce their visual and audial impacts.
- Retain the rural character of the narrow, winding roads and avoid the over-engineering of roads which could create an urbanising influence within the strongly rural landscape. Conserve and maintain the characterful lanes with avenues of mature trees.

LCA 5d: Tatton and Rostherne (including Hall, Deer Park & National Nature Reserve)

Covering the western edge of Mobberley parish, this character area is dominated by the extensive Tatton Park, which is listed grade II on the English Heritage Register of Parks and Gardens. There are a number of individual farms, some of which are estate tenancies, located on the outer edges of this character type associated with small-medium fields typical of agricultural improvement. This is an area of slightly undulating nature, with a slight variation in the north around Rostherne Mere where steeper slopes, blocks of woodland, and dense verdant hedges combine to increase the sense of enclosure.

On the border of Mobberley parish, are Dog Wood and Tatton Mere Covert - both ancient broadleaved woodlands with a rich and varied ground flora. Shawheath Plantation is a mature plantation woodland with a number of introduced species. The Pennine Hills feature prominently, filling the eastern skyline, with the extensive buildings of Manchester Airport occupying the middle ground. This close proximity ensures that moving aircraft, either descending or ascending, are a constant factor in any elevated view. The associated noise can be very intrusive. The attractive village of Rostherne appears as a tranquil and remote location despite the proximity of a number of major highways that bound the area.

LCT 7: Lower Wooded Farmland

General Description

This character type covers a large area and is divided into seven character areas extending from High Leigh and Arley in the north, east to Poynton and Congleton and as far south as Audlem. This very 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 with more villages. Land use is a mix of arable and pasture, with settlements retaining a dispersed pattern. The landscape is very rural, although has been impacted in places by the presence of major transport routes and nearby large urban areas.

Landscape Guidance

The following points provide guidance for landscape management and built development within the LCT:

- Avoid development (both buildings and other structures) on steep slopes or in visually prominent locations.
- Protect the overall wooded character of the area through appropriate management of the areas of deciduous woodland (including ancient woodland) and mature in-field and hedgerow trees.

Protecting & Enhancing Mobberley's Natural Environment

- Retain historic field patterns and restore the hedgerows and walls forming field and estate boundaries where they have been lost, degraded or replaced with fences. Conserve the existing hedgerow network which provides valued linkages between other habitats.
- Protect and manage the valued wetland habitats of the meres and mosses for the benefit of flood alleviation, biodiversity and recreation purposes. Management of adjacent agricultural land should aim to reduce nutrient run off to these habitats.
- Unimproved grassland and remnant heathland habitats are conserved and enhanced, with new linkages between habitats created where possible.
- Conserve the historic integrity of the designed landscapes and their component heritage features. Promote interpretation of these features where this would not be at odds with conservation of these assets.
- Protect and appropriately manage the cultural heritage of the area, including nationally important Scheduled Monuments to preserve a sense of history. Promote interpretation of these features where this would not be at odds with conservation of these assets.
- Retain the character of the narrow rural lanes and avoid the over-engineering of roads which could create an urbanising influence within the strongly rural landscape.
- Ensure new and changing land uses do not degrade from the traditional rural character of the area.
- Retain the sense of enclosure and high levels of tranquillity with the landscape and screen the visual and audible effects of existing and new intrusive features within the landscape where possible/appropriate.

LCA 7b: Ringway (including Ashley Styal and Manchester Airport's second runway)

This gently undulating character area is located along the northern boundary of Cheshire, stretching from the intersection of the A556 and M56 in the west to Styal in the east covering the majority of Mobberley parish. This is a medium-scale landscape of relatively flat topography with minor variations in slope. The area is characterised by a combination of typical rural elements, such as high hedges, narrow country lanes and tree-lined streams, and very intrusive man-made features such as motorways and the sprawling complex of Manchester Airport. Much of the area consists of post medieval fields, but with a small patch of surviving medieval enclosure to the east of Tatton. There are a small number of broadleaved and mixed wooded areas – Burleyhurst and Brickhill Woods are examples of ancient woodland and there are numerous ponds. The settlement pattern, which was dispersed in origin, has undergone creeping linear expansion along the road network. There is now a medium settlement density and red brick buildings are typical.

This character area, by virtue of its proximity to Manchester, has undergone significant changes in the past decades. It is a prime catchment area for commuters who work in the city and contains a concentration of transport infrastructure, including major roads, a railway line, and Manchester Airport. These transport links all have a visual impact upon the area as well as noise implications. Manchester Airport has an intrusive presence within this character area in terms of buildings, structures and aircraft. One of the runways lies on the area's northern boundary and when viewed from the south this runway appears upon a raised formation that is elevated above the surrounding farmland. The obvious artificial element of the extensive level runway and perimeter fence is evident even when aircraft are absent.

LCA 7d: Marthall (including Peover Eye, Jodrell Bank & Swettenham heath)

This low undulating character area extends from Lower Peover, northwest as far as Alderley Edge, with the southern boundary provided by the valley of the River Dane. It borders LCA 7b meeting at Knolls Green, the B5085 being the boundary. This is a medium scale landscape of mixed arable and pastoral farmland which shares many of the characteristics of the West Lowland Plain, there are localised areas of more undulating ground but the land is generally flat. In the north many fields have been enlarged and there is evidence of hedgerow removal, which has produced a more open landscape with extensive views.

The north of this character area is strongly influenced by the close proximity of urban Knutsford, Wilmslow and Alderley Edge, while in the south the Jodrell Bank radio telescope provides a local landmark as it is visible over a wide expanse. The area is drained by a number of small rivers including Pedley Brook, and these are often associated with linear woodlands or lines of mature trees, forming conspicuous features in the landscape. Settlement has a medium density comprising clusters of dispersed settlement (e.g. the Warford Hall area), linear settlement that has developed along roadways, small nucleations, and larger nucleated villages that have undergone modern expansion such as Chelford. The railway connecting Alderley Edge and Holmes Chapel runs across the area.

LCT 9: Mossland

General Description

The Mossland is a small but distinctive landscape type which occurs in five locations across the Borough. The type relates to surviving fragments of peat bog, known locally as mosses. Mosses were once a widespread natural habitat in Cheshire East but drainage in particular, as well as peat cutting and settlement expansion has subsequently reduced this rare habitat to a handful of areas.

Landscape Guidance

The following points provide guidance for landscape management and built development within the LCT:

- Ensure commercial peat extraction does not detract from the naturalistic and cultural qualities of the area. Seek positive restoration schemes for peat extraction sites to mossland habitats. Seek opportunities for recreational use of restored sites where this is compatible with nature conservation objectives.
- Protect, manage and enhance the valued semi-natural habitats, particularly the relic mosses and associated wetland habitats mosaic of standing water, lowland raised bog (a nationally rare and threatened habitat), fen, lowland heath and wet woodland through appropriate management.
- Balance the need for continued positive conservation and management of the valuable habitats for flora and fauna, re-creating lost habitats, with the provision of recreation and enjoyment of the landscape.
- Manage the surrounding agricultural land in a way which (by reducing abstraction and nutrient run off) conserves the character and quality of the mosses.

- Protect the distinctive open character of the diverse wetlands by managing the woodlands, including selective thinning and clearance of invasive scrub species.
- Protect and appropriately manage the remnant areas mosses for cultural heritage purposes. Promote interpretation of the cultural heritage of the area where this would not be at odds with conservation.
- Conserve and strengthen the distinctive field pattern of the ancient 'moss room', by managing the hedgerows to ensure their long term survival, replanting areas of lost hedgerow and encouraging traditional land uses of these areas.
- Manage change arising from future development by exploring requirements for landscape mitigation to minimise the impacts felt within the LCT and plan for the improved integration of existing urban edges. Ensure any future development helps to preserve and improve the role of the LCT as Green Infrastructure, reinforcing positive connections between this area and neighbouring urban areas.
- Protect the distinct and atmospheric character of the area and the sense of mystery and tranquillity it provides, protecting areas of woodland that provide a screening function to adjacent development.

LCA 9a: Lindow Moss (Peat extraction, country park & bog sites)

In the northern half of the character area, there is a complex system of straight narrow lanes, bridleways and footpaths where views are almost totally restricted by the enclosing high vegetation, which makes this area appear remote and inaccessible, despite the very close proximity of suburban Wilmslow. Lindow Moss lies to the west of Wilmslow in a much reduced form due to past peat extraction and drainage. Many grassland plots are used for horse grazing, the standard of grazing varies greatly and ranges from improved grassland defined by wire fences to the roughest, shrub encroached pasture. In the south, this character area is bound by the Mobberley Road where it is divided into many long and narrow field enclosures, evoking the distinctive landscape associated with moss "rooms" or compartments, which represent previous phases of peat extraction. Broadleaved woodland is superimposed on part of the moss-rooms and across the northern extent of this area. There are mature hedgerows with oak and ash and poplar is also present.

LCT 10: River Valleys

General Description

This landscape type contains the major rivers within the Borough; the Weaver, Dane and Bollin. Many of the largest settlements within the Borough are associated with the river valleys. The water power provided by the rivers to support textile mills increased their importance during the Industrial Revolution. The slopes of the valleys are densely wooded and sparsely settled, creating intimate landscapes. In the present day, they are important natural habitats and also popular for recreation.

Landscape Guidance

The following points provide guidance for landscape management and built development within the LCT:

- Avoid locating development (buildings and other structures) in visually prominent locations, particularly on the valley slopes.

- Appropriately manage the valued ancient and semi-natural woodland habitats, including prevention measures for tree pests and diseases to avoid the need for felling. Seek to replace non-native species with native species.
- Retain valued historic field patterns and replace hedgerows where there have been past losses to reinforce field patterns and provide valued linkages between habitats.
- Manage and enhance valued semi-natural habitats, particularly the rivers and the lowland meadows, fens and riparian vegetation along the river valleys through appropriate management/farming practices. Management of agricultural land should aim to reduce nutrient run off to these habitats.
- Create linkages between habitats where feasible, particularly wetlands, woodlands and seminatural grasslands, retaining areas of importance for species diversity and balancing this with the need for recreation and enjoyment of the landscape.
- Create linkages between existing woodland by enlarging existing woodland or creating new woodlands, particularly on steep slopes.
- Maintain and promote the North Cheshire Way, Dane Valley Way and Crewe and Nantwich Circular Walk and provide further linkages to the rights of way network where appropriate.
- Protect valued heritage features within the landscape, including the canals associated with the area's industrial past. Promote interpretation of these features where it can be sustainably managed alongside conservation.
- Respect the sparsely settled character of the landscape and the existing built vernacular. Ensure that any conversions of farm buildings retain a rural character, including their surrounds.
- Retain the rural character of the narrow, winding roads and avoid the over-engineering of roads which could create an urbanising influence within the strongly rural landscape.
- Utilise trees and woodland to screen the visual and aural effects of intrusive infrastructure where appropriate.
- Retain the high levels of tranquillity experienced throughout much of the landscape.
- Retain the sense of enclosure experienced in the valleys as a result of the landform and tree cover, while also maintaining the distinctive funnelled views.

LCA 10a: Lower Bollin (including Styal Country Park & Quarry Bank Mill)

This character area is present in small pockets in the north of the planning area, either side of Manchester Airport, and extends from Wilmslow, north to the County boundary. The character area is thin and linear in shape following the steep sided, incised river valley of the Bollin. Mature woodland occupies the steep valley slopes and this prevents the encroaching urban development from impinging upon this attractive amenity area. Views downstream follow the river as it meanders along the flat valley floor. The combination of picturesque watercourse and mature trees, including numerous free-standing specimens within open grassland, conveys a parkland atmosphere. The width of the valley floor increases noticeably at the point where the Bollin and Dean watercourses converge to the north-west of Mobberley parish by Styal Road.

In contrast the western end of the character area has been highly influenced by massive man-made structures. The character area terminates where the river passes under the runway at Manchester airport, at a location dominated by a large tunnel portal with security fencing lining the skyline. Aircraft can be seen from the valley floor as they begin their ascent or taxi along the runway. Nearby

the very busy A538 emerges in dual carriageway from a tunnel beneath the runway, before passing over the river near a large hotel on the south bank. Between these two points the valley remains densely vegetated and remarkably unaffected. This is due to a combination of very high steep slopes clothed with solid growth, and pronounced river meanders, closing down all views and providing effective screening even in close proximity to such massive engineering structures.

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.

Mobberley, 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 25 Year Plan. 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

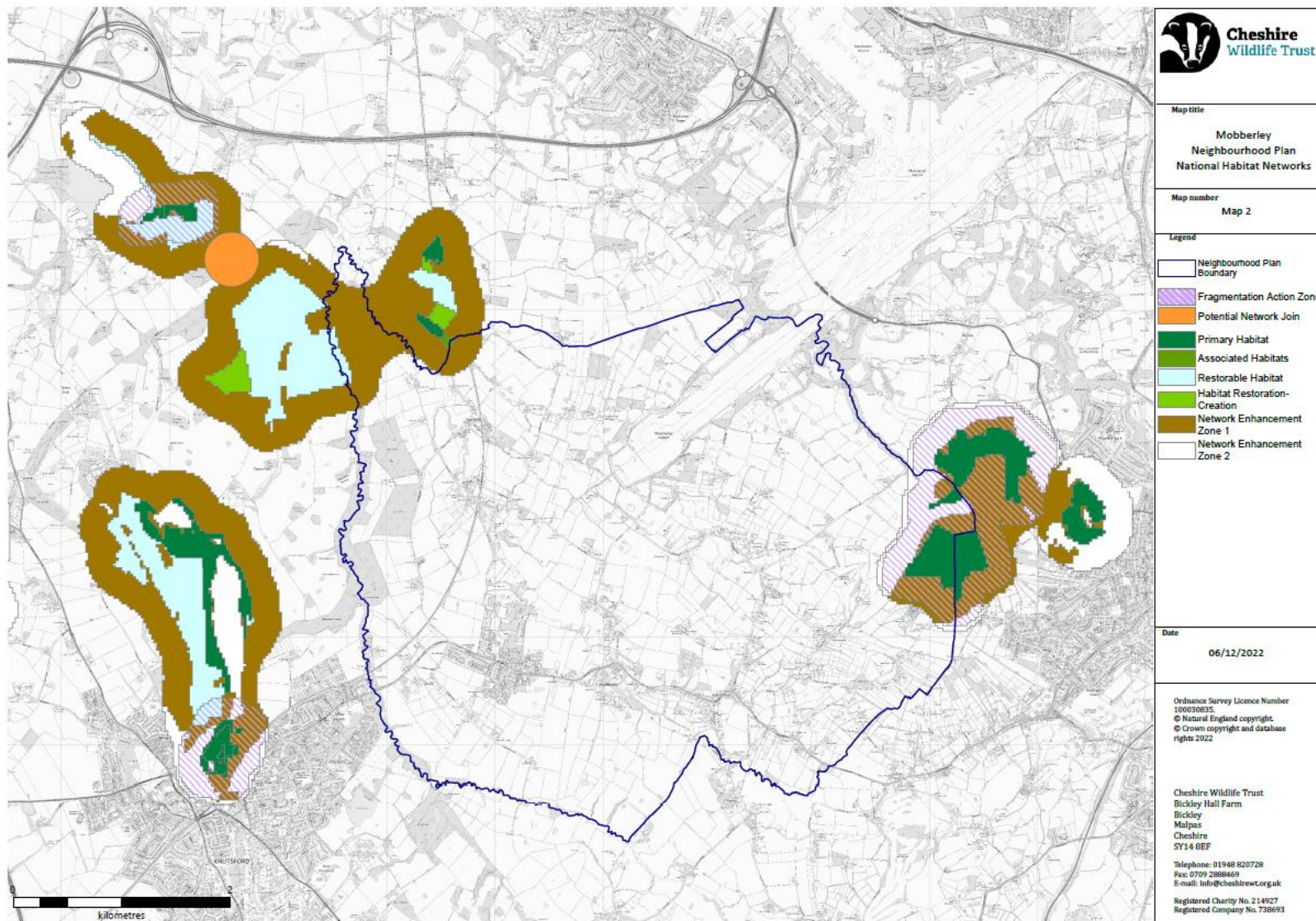
The Key components of the National Habitat Network map are:

- **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 Mobberley is shown in Map 2.

In 2023 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 three areas of interest in and around the Mobberley NP area. There are lowland raised bog primary habitats associated with Lindow Moss and Saltersley Hall Farm on the eastern boundary, as well as an area of lowland heath primary habitat near Black Lake. To the west is the linear network of Tatton Mere SSSI, with both lowland fen and reedbed primary habitats, and surrounding restorable wood park and pasture.

The largest habitat network contains the smallest areas of primary habitats, including lowland fens and reedbed, located on the edges of Rostherne Mere, with lowland meadows also occurring in the east. These primary habitats are connected, through enhancement zones, to the old deer enclosure at Tatton Park which is a Local Wildlife Site (LWS). The Primary and Restorable habitats described above 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).

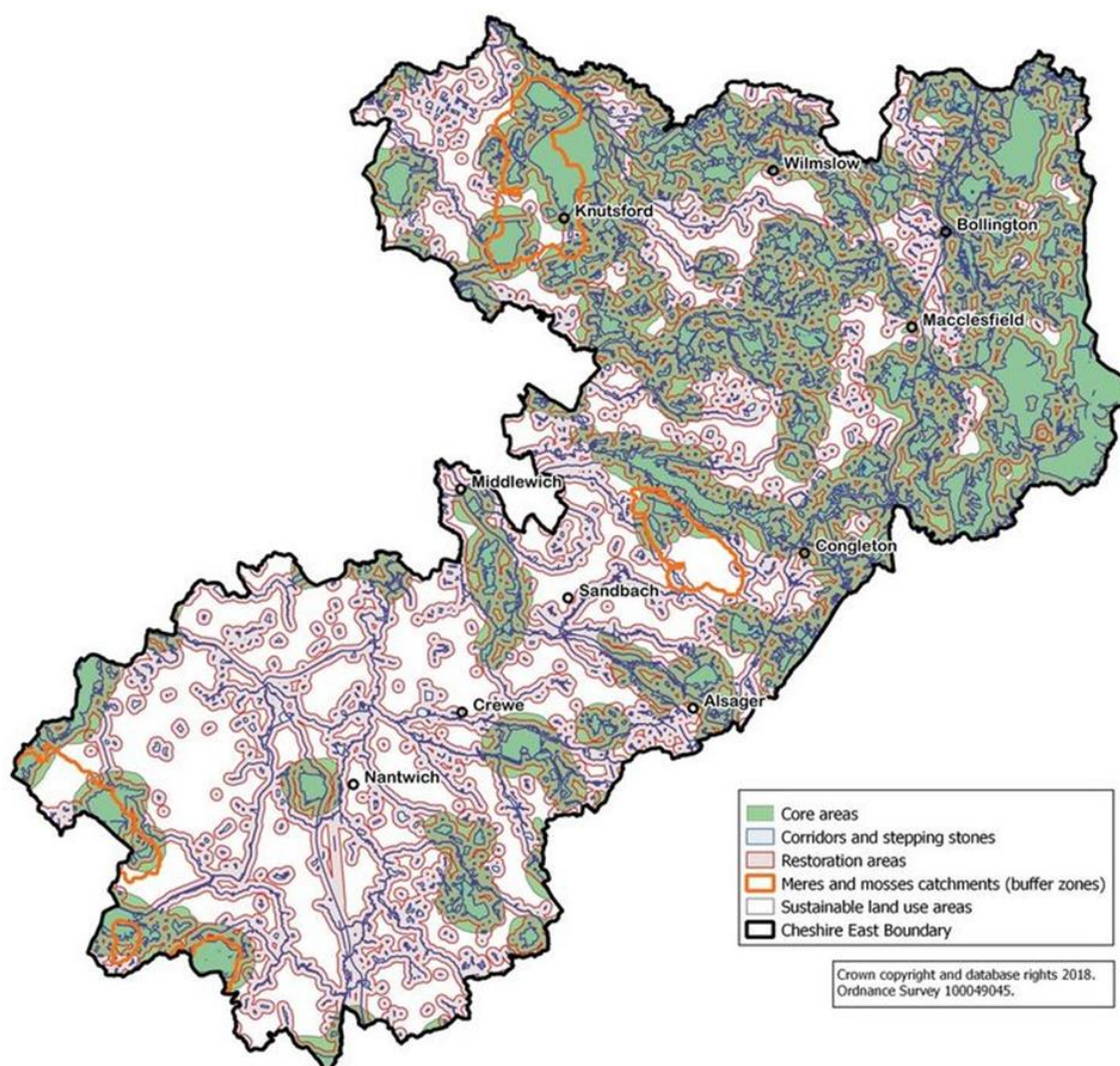


Figure 2. Ecological Network for Cheshire East 2022

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. The Council 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 with associated recreational and health benefits. The policy does not seek to stifle or preclude development, but instead to deliver benefits for biodiversity from development, thereby securing ecological enhancement in the borough.

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 forthcoming Cheshire East Biodiversity Net Gain Supplementary Planning Document (May 2021); 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.

Natural Course Ecological Network Tool 2020

Natural Course, an EU funded LIFE Integrated Project, is a collaboration of public, private and third sector organisations working together to help to deliver improvements to rivers and the water environment across Northwest England. The project seeks to better understand and overcome some of the biggest barriers preventing the achievement of 'good ecological status' under the EU Water Framework Directive in the Northwest River Basin District.

As part of Natural Course, Natural England has created an ecological network tool that models wetland and woodland habitat networks across Cheshire and South Lancashire. The tool highlights priorities

Protecting & Enhancing Mobberley's Natural Environment

for biodiversity and nature-based solutions for Natural Course objectives to protect and enhance water quality across the Northwest. The tool also provides a robust evidence base for Local Nature Recovery Strategies, mandated in the Environment Act (2021) and rolled out in 2023.

The primary wetland and woodland habitats and their associated action zones (i.e. where opportunities exist to create, buffer or expand these habitats) within the Mobberley Neighbourhood Plan area, as modelled by the Natural Course Ecological Network Tool, are shown in Figure 3. Supporting information on the Wetland and Woodland Habitat Categories for the Network Tool can be found in Appendix 1.

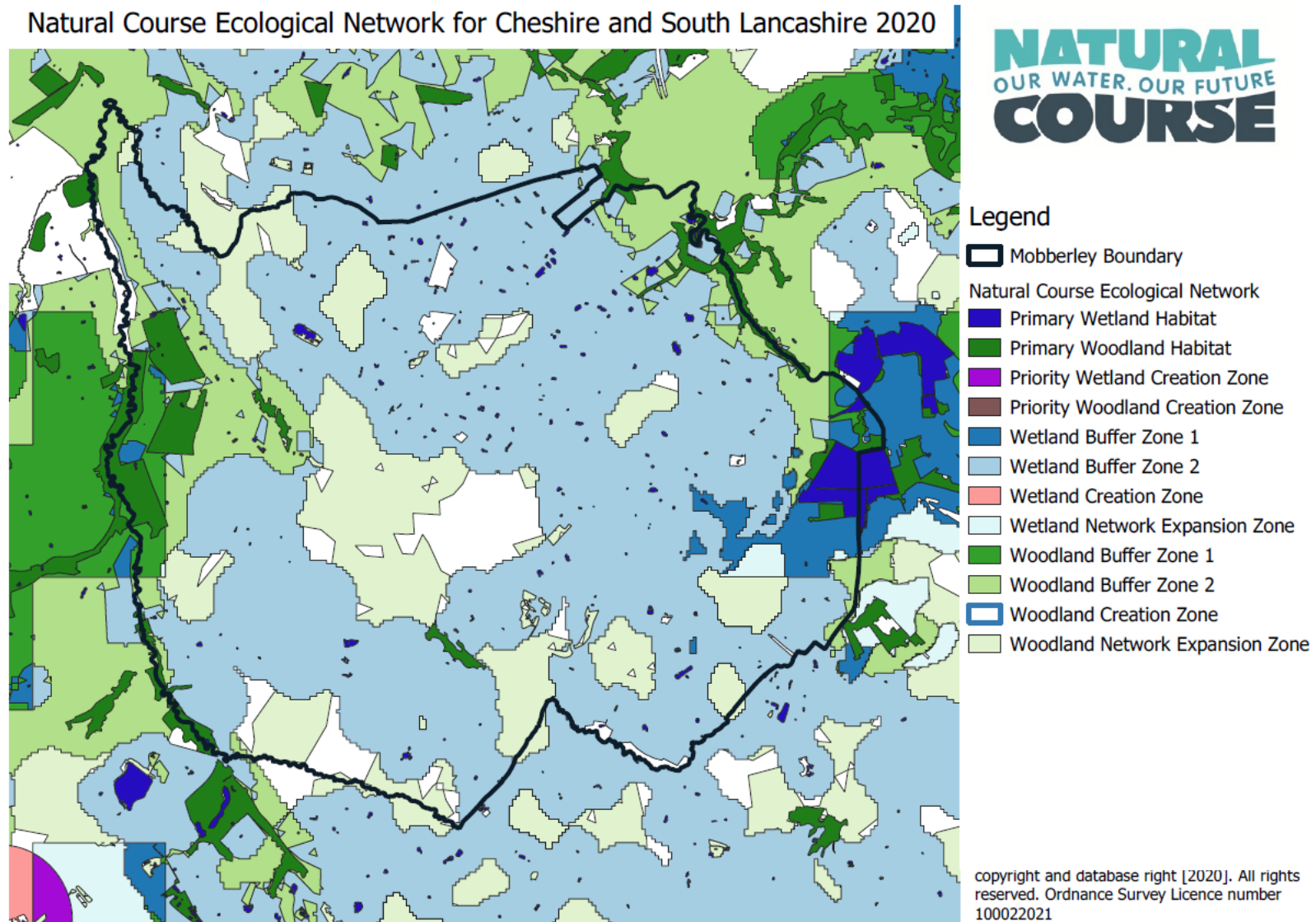


Figure 3. Natural Course Wetland and Woodland Habitat Network

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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 |

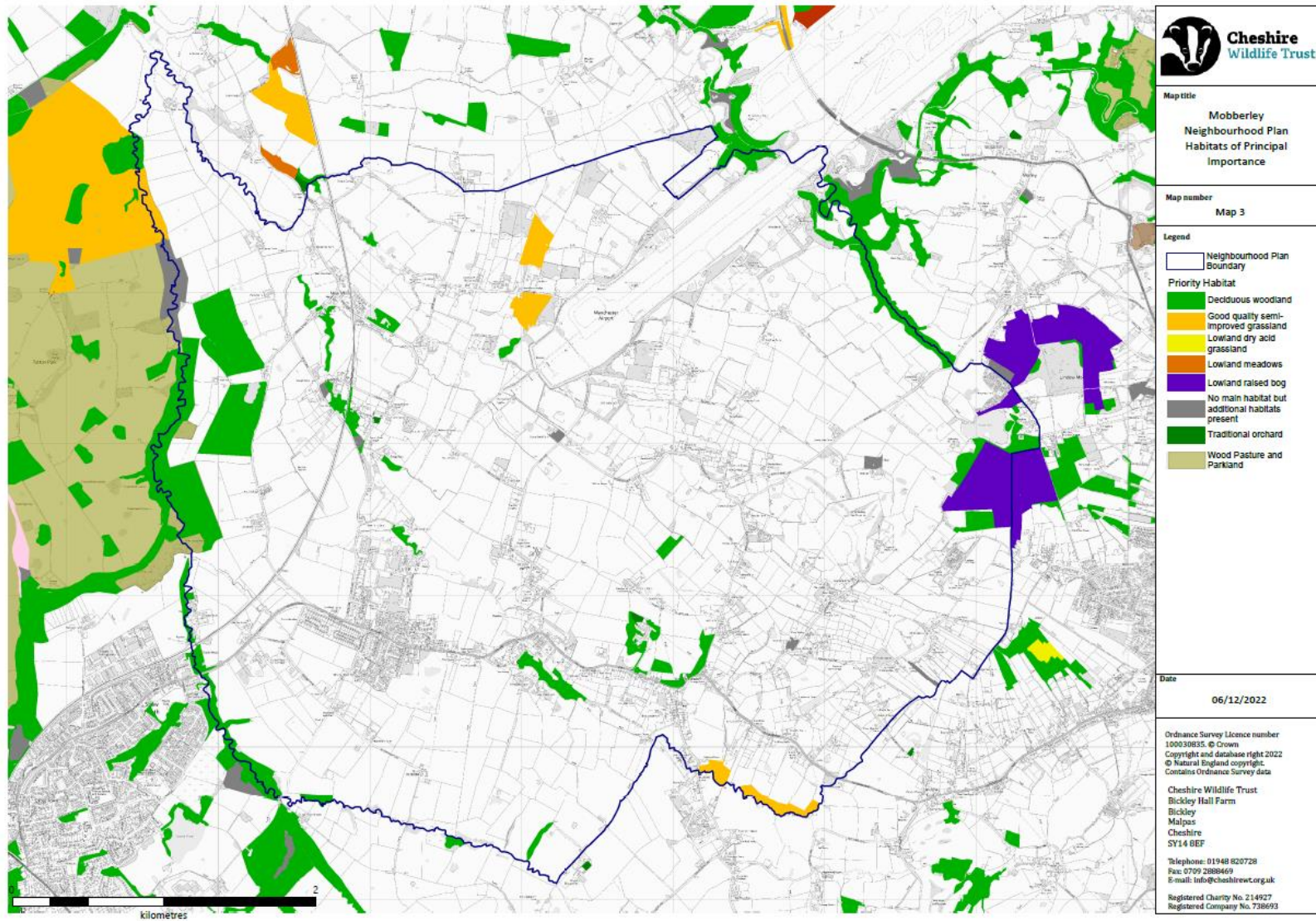
Data sources used to produce the habitat distinctiveness maps included:

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 2).
 - 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 3).
 - 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 Mobberley 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 Mobberley 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 05/2023).

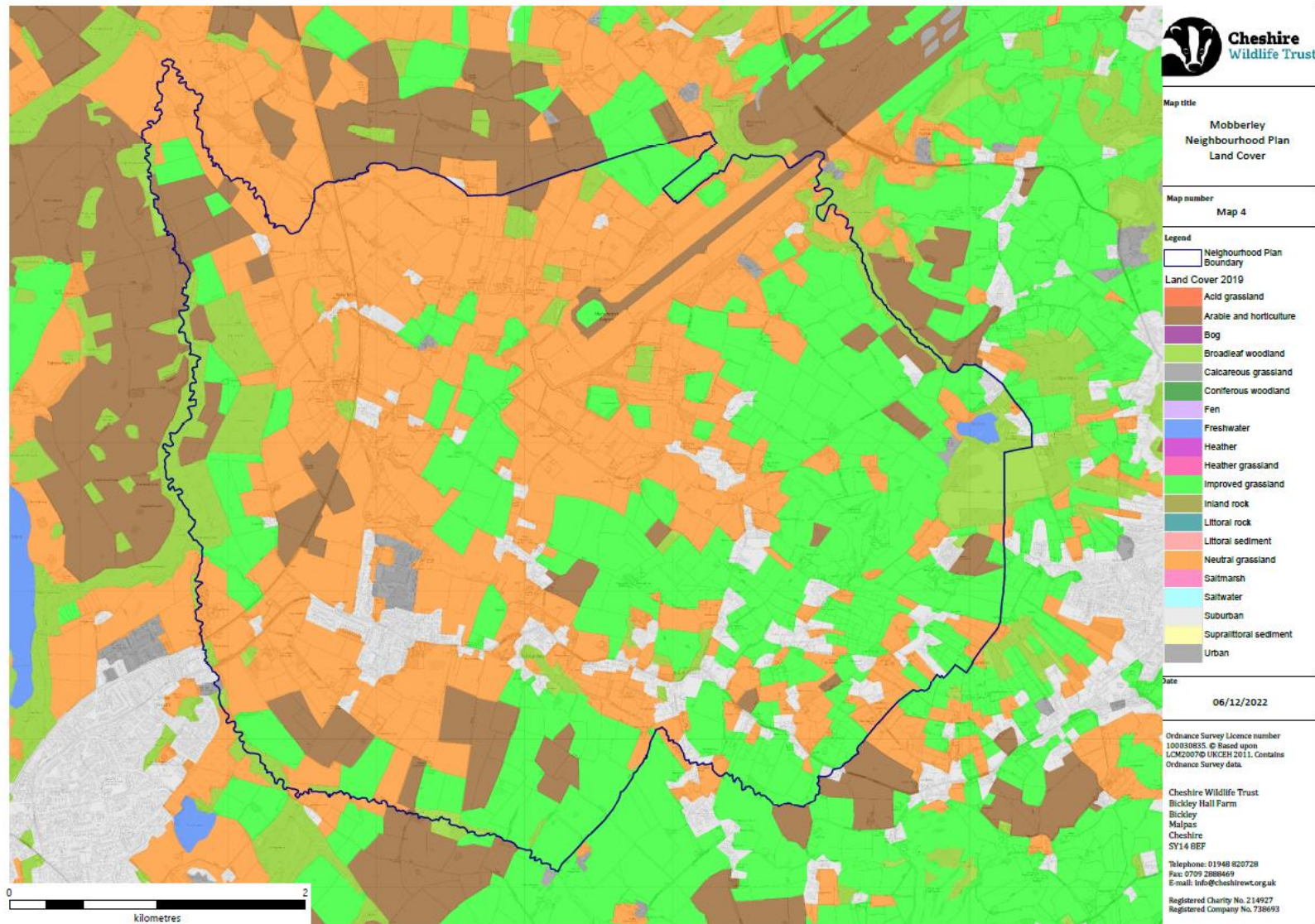
Maps

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

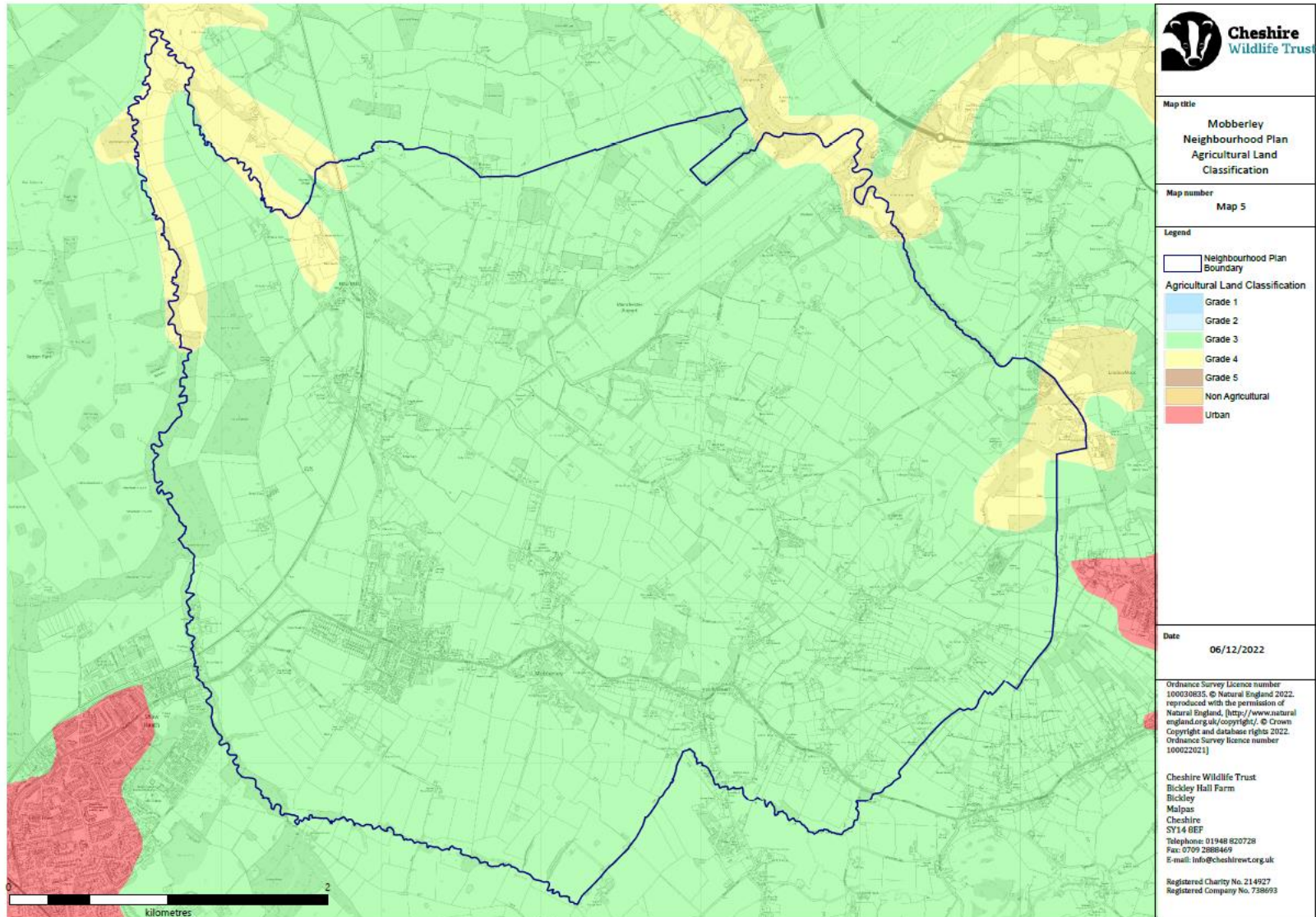
Map 3 – Terrestrial Habitats of Principal Importance



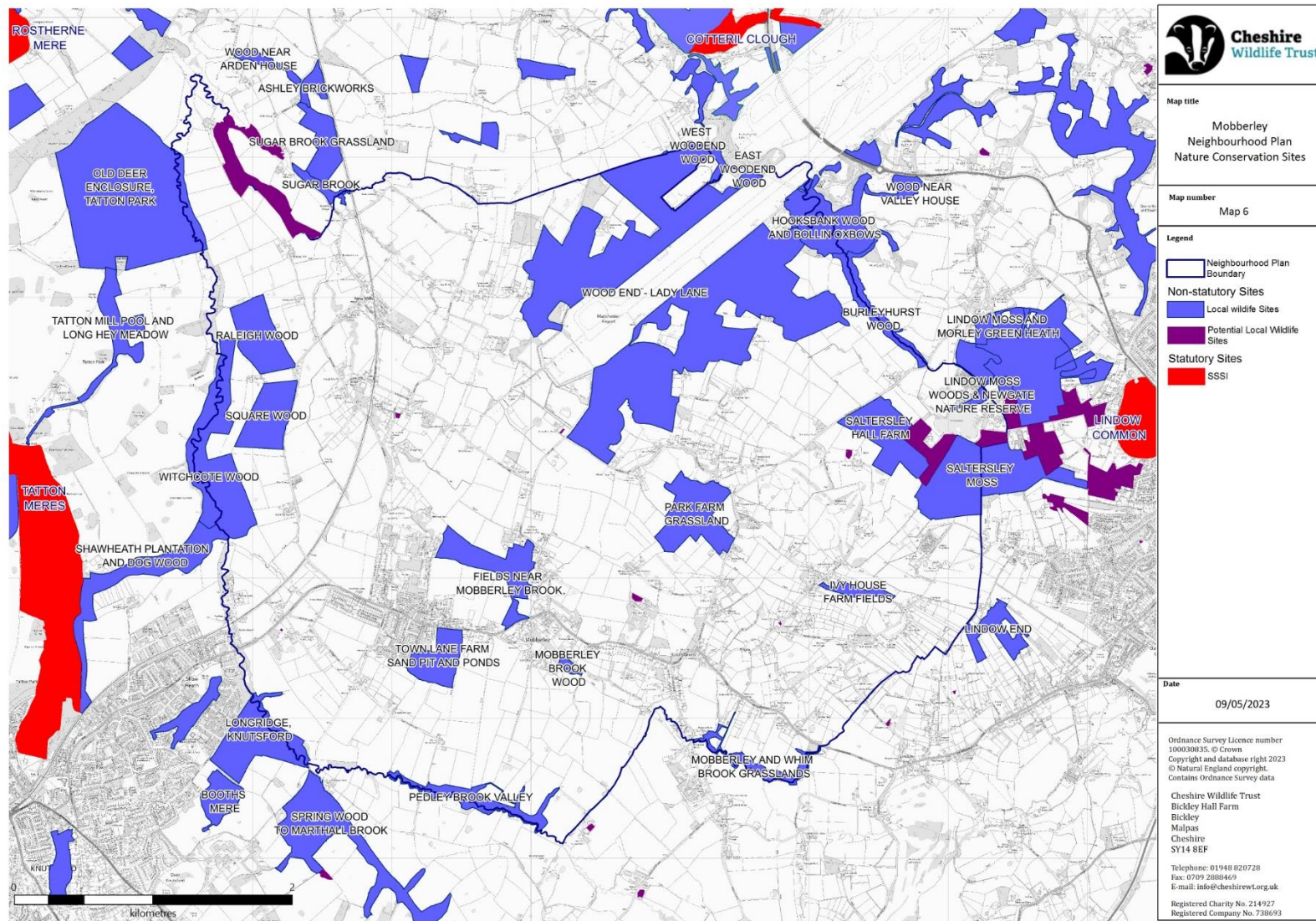
Map 4 – Land Cover (2007)



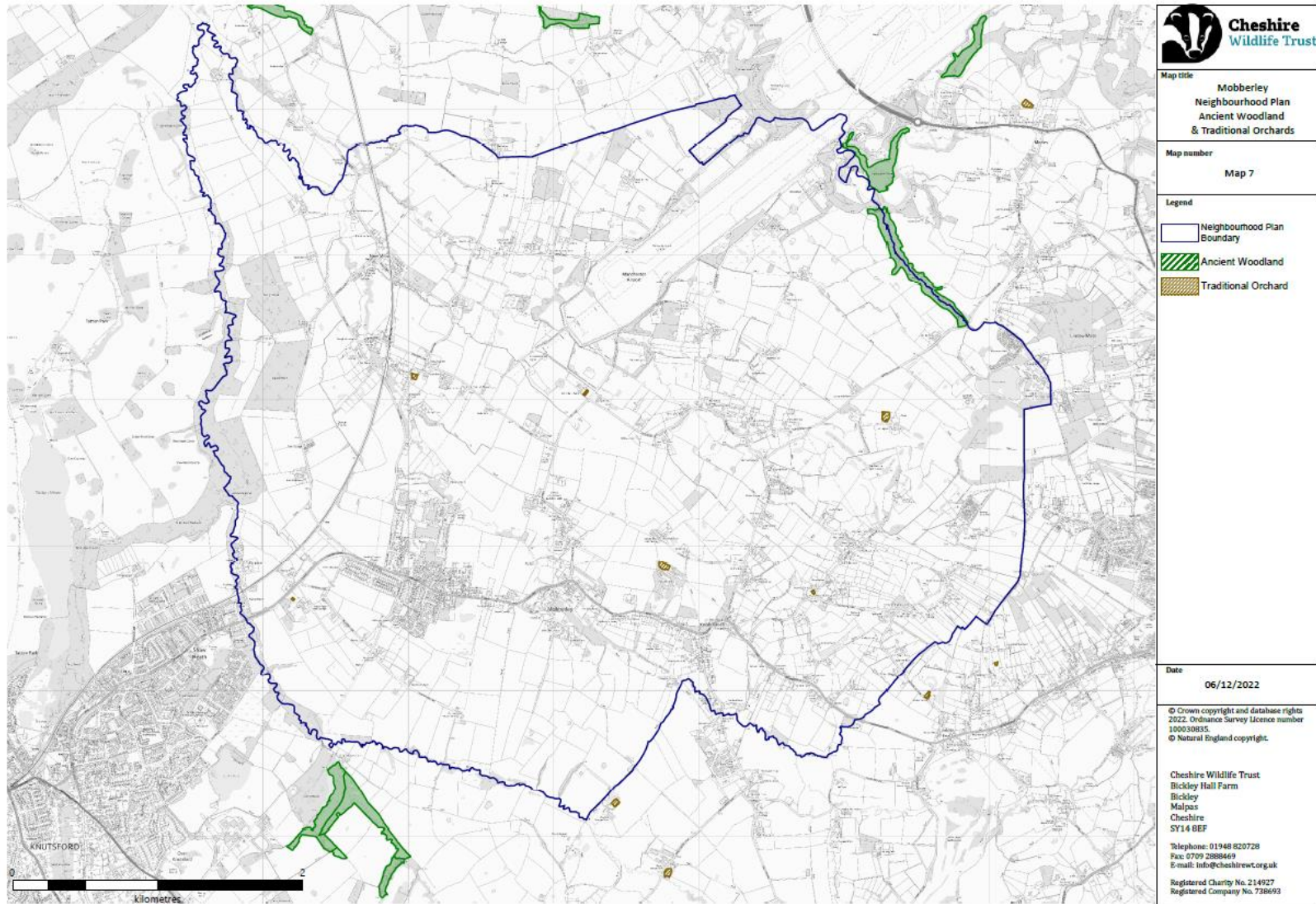
Map 5 – Agricultural Land Classification



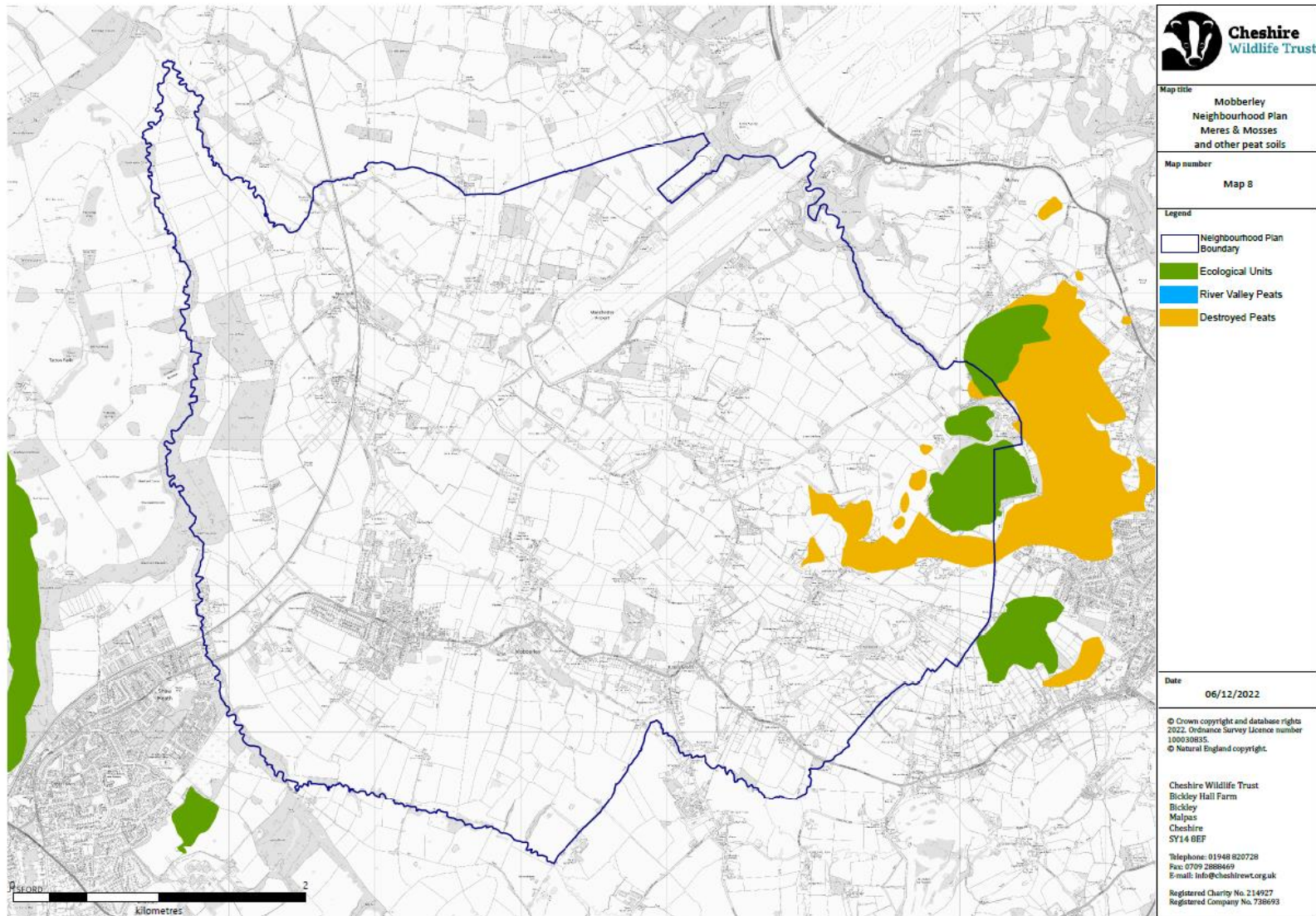
Map 6 – Designated Sites of Nature Conservation



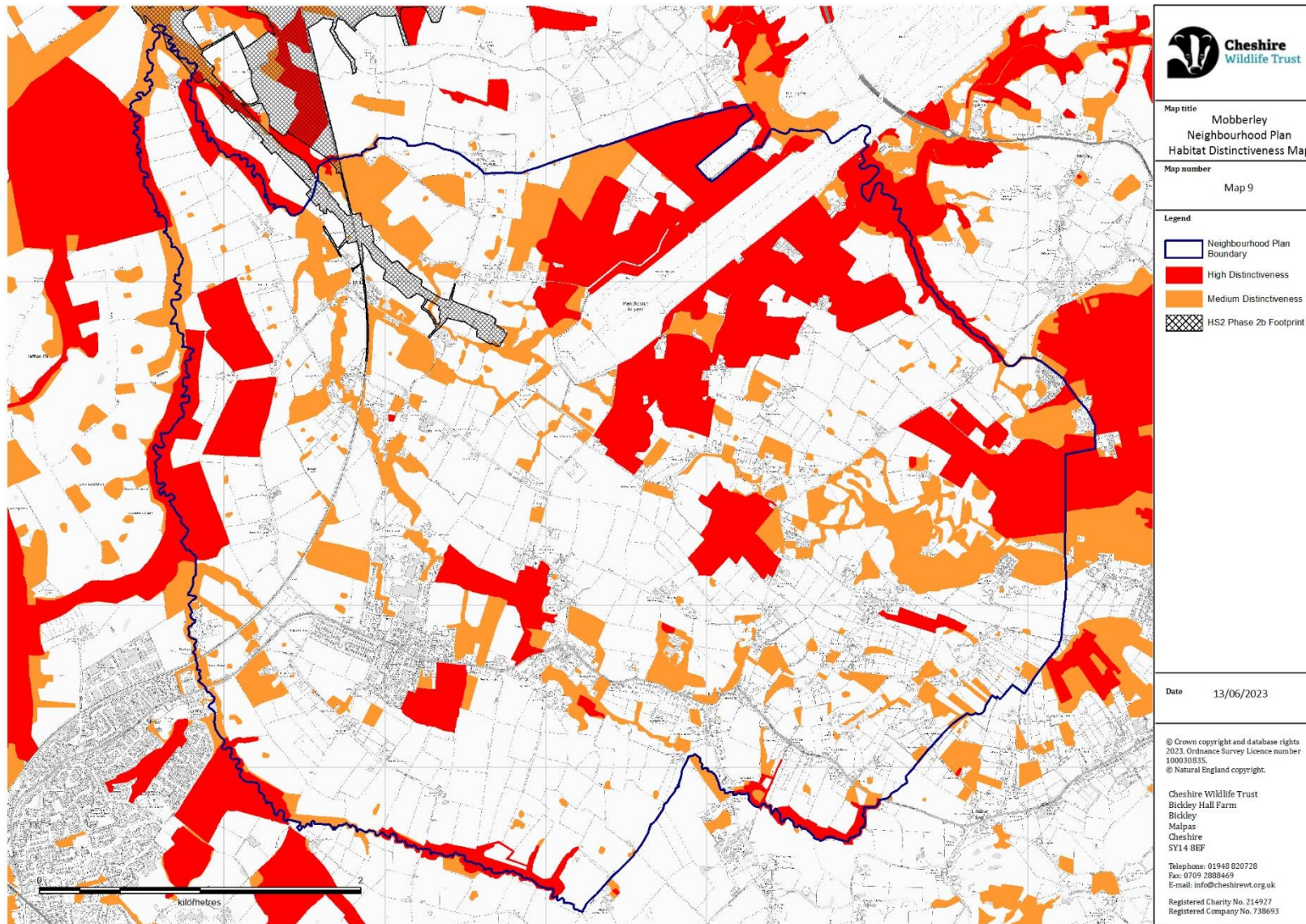
Map 7 – Ancient Woodland and Traditional Orchards



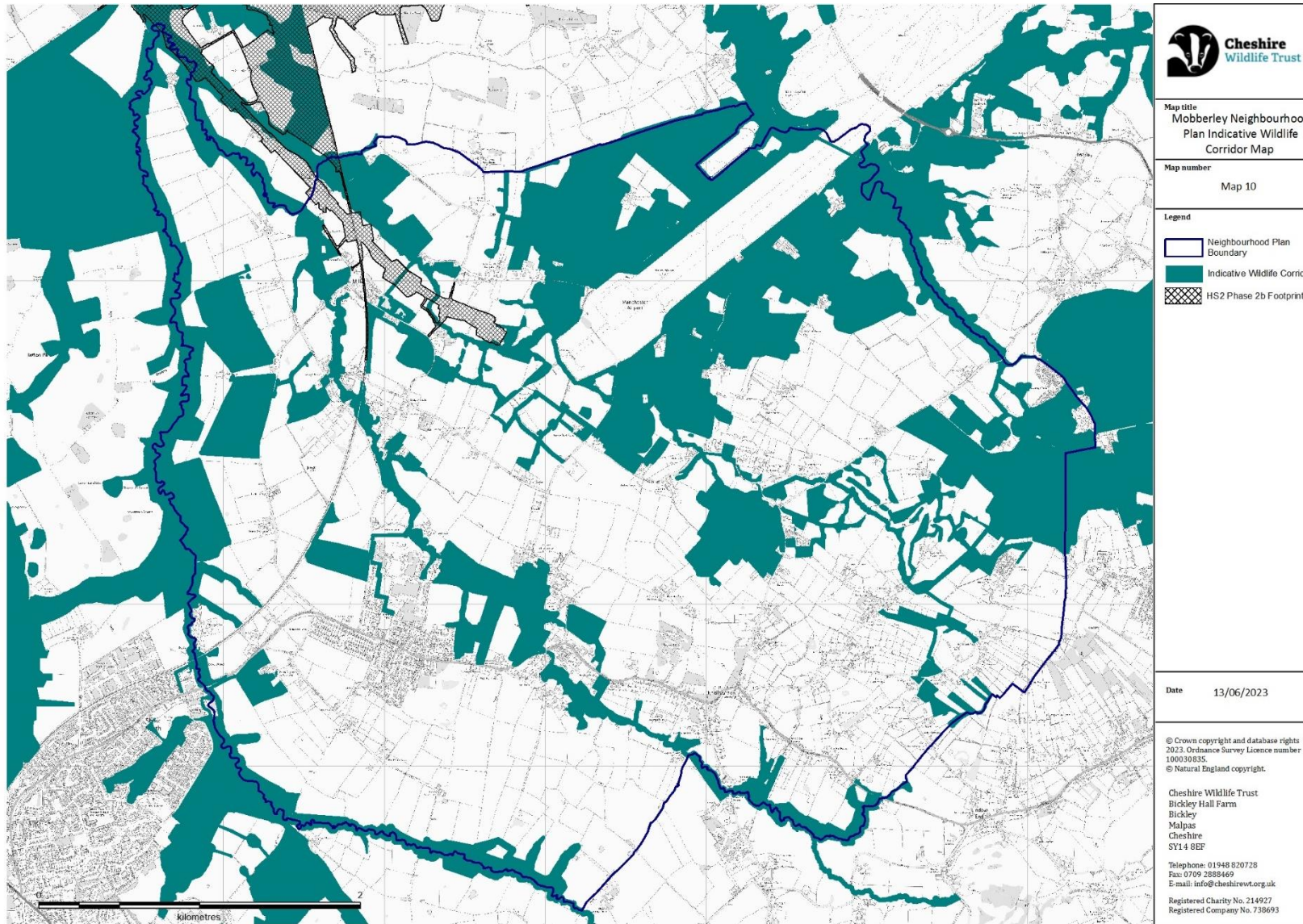
Map 8 – Meres, Mosses and Other Peat Soils



Map 9 – Habitat Distinctiveness



Map 10 – Indicative Wildlife Corridors



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 Mobberley Neighbourhood Planning (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 Mobberley NP area, as shown on Map 3. There are twenty-one Local Wildlife Sites (LWS) located in the Mobberley NP area (Map 6), and eighteen of these sites include a woodland habitat as one of the reasons for their designation. The high distinctiveness woodlands which occur in the Mobberley NP area are discussed below, with particular focus on the sites which contain woodland areas included in Natural England's PHI (Map 3) and/or the Ancient Woodland Inventory (AWI; Map 7).

The largest expanse of woodland priority habitat (i.e. lowland mixed deciduous woodland) occurs at the western edge of the Mobberley NP area (Map 3), and it encompasses the following three sites (Map 6): Raleigh Wood LWS, Square Wood LWS, Witchcote Wood LWS. Raleigh Wood appears to have originated from planting, as with much of the surrounding woodland on the Tatton Estate; however, it is considered to be semi-natural rather than plantation as it is thought to be over 120 years old, and it comprises native species and communities; unfortunately, rhododendron and the invasive non-native species Himalayan balsam are both present at this site. Square Wood LWS has a similar species composition to Raleigh Wood, but the lack of very mature trees suggests this may be secondary woodland; the understory contains holly, hazel, hawthorn and field rose, and there is plentiful deadwood which supports fungi and invertebrate species.

Witchcote Wood LWS sits on the banks of Birkin Brook and contains a mosaic of wet and dry habitats; this site is located next to other important wildlife habitats which lie just outside the parish boundary at Shawheath Plantation and Dog Wood LWS, Tatton Meres SSSI, and the wood pasture and parkland priority habitat on the Tatton Estate (Map 3 and 6). These mature woodland sites form a sizable area of connected habitat which benefits many species of wildlife including badgers, birds and bats. Nine species of bat have been recently recorded at Tatton Mere SSSI (e.g. Brandt's, Daubenton's and whiskered bats) and several bird species have been recorded in the area which are associated with mature woodland habitats including nuthatch, treecreeper, and the BoCC (Birds of Conservation Concern) amber listed kestrel¹.

There are two LWS in the Mobberley NP area which contain ancient woodland habitat (i.e. thought to be at least 400 years old) listed in the AWI (Map 7). These LWS are neighbouring ancient woodlands

¹ NBN Atlas data

located in the north-east of Mobberley parish (Map 6), with Hooksbank Wood and Bollin Oxbows LWS located along the main Bollin river and Burleyhurst Wood LWS running along the banks of a tributary of the Bollin. Ancient woodlands are defined as irreplaceable habitats in the NPPF due to the time taken for them to acquire their diverse flora and fauna. Burleyhurst Wood LWS is abundant in coppice and species rich ground flora with some rare species occurring, including the ancient woodland indicator opposite-leaved golden-saxifrage. Hooksbank Wood has steep-sided wooded banks dominated by oaks, with some fallen trees across the watercourse creating fantastic habitat for aquatic wildlife to thrive.

There are other woodland habitats in the parish which may also be ancient in origin, even though they do not appear in the AWI, as indicated by the following conditions being met: woodland is visible on the Cheshire Tithe map (c.1838), occurrence of multiple ancient woodland indicator species in the ground flora, presence of veteran and/or ancient trees². The following LWS have met one or more of these criteria:

- Sugar Brook LWS contains a small fragment of woodland which appears on the Cheshire Tithe map, has veteran trees present, and diverse ground flora including ancient woodland indicator species (e.g. ramsons, wood melick, wood speedwell, bluebell).
- Pedley Brook Valley LWS is home to both broadleaved and wet woodland; a small fragment of the woodland at this site appears on the Tithe map, and the ground flora contains ancient woodland indicators (e.g. wood sedge, wood speedwell, opposite-leaved golden-saxifrage).
- Witchcote Wood LWS appears on the Tithe map, has many veteran trees (including elm and ash), and a species rich ground flora containing two ancient woodland indicator species: dog's mercury, wood sorrel.
- Longridge, Knutsford LWS is home to a small woodland (Church Wood) which appears on the Cheshire Tithe map c. 1838; and there is an ancient Downy birch tree present at the neighbouring Booths Mere LWS (which lies just outside the Mobberley NP area); part of the Longridge site is currently under review as a residential development site.
- Old Deer Enclosure, Tatton Park LWS and Mobberley and Whim Brook Grasslands LWS are both home to ancient and/or veteran trees; the former has one ancient hawthorn tree and two veteran alder trees, the latter has some veteran crack willow trees.
- West Woodend Wood LWS and East Woodend Wood LWS are located on the River Bollin and were once connected to ancient woodland habitat at Hooksbank Wood (prior to the construction of Manchester Airports second runway); both LWS contain multiple ancient woodland indicators in their ground flora (e.g. ramsons, dog's mercury, guelder rose, primrose, bluebell).

High quality woodlands such as these support many species of wildlife; for instance, they provide significant habitat for important assemblages of woodland birds, including a number of BoCC red listed species which have been recently recorded in the area (e.g. fieldfare, lesser redpoll, linnets, mistle thrush)³. Additionally, the plentiful deadwood habitat present at these woodlands support numerous fungi, lichen and insect species, and it provides vital foraging and roosting/nesting habitat for bats and birds. Unfortunately, the presence of the highly invasive plant species Himalayan balsam is

² Ancient Tree Inventory, Woodland Trust

³ NBN Atlas data

threatening the diverse ground flora at many of these sites, including Hooksbank Wood and Bollin Oxbow LWS, Sugar Brook LWS, East Woodend Wood LWS, and Longridge Knutsford LWS.

There are three LWS at the parish boundary which are connected to important ancient woodland habitats (listed on the AWI, Map 7) located outside of Mobberley NP area (Map 7). Sugar Brook LWS is connected, via two grassland dominated LWS, to the ancient woodland at Wood near Arden House LWS. Longridge, Knutsford LWS is adjacent to Spring Wood to Marthall Brook LWS, which is home to a large area of ancient woodland habitat. Lastly, West and East Woodend Woods are connected, via some medium distinctiveness PHI woodland habitat and two LWS, to ancient woodland habitat at Cotteril Clough SSSI. Interestingly, much of the remaining ancient woodland in Cheshire is in narrow, steep-sided valleys known as 'cloughs' and Cotterill Clough is one of Cheshire's best examples of this habitat. These steep-sided slopes have remained unwanted and unused for agricultural purposes or development, allowing these small but important strong holds of biodiversity to remain scattered in the Cheshire landscape.

There is one further concentration of woodland habitat in the Mobberley NP area, which occurs in and around the peatland sites on the eastern edge of the parish. Although it is imperative that peatland sites are not used for tree planting schemes, many of our peatlands have already undergone significant disruption to their hydrology (e.g. drainage of peatlands for agriculture) and have subsequently been taken over by scrub and woodland species. For instance, the farmed land surrounding the moss at Saltersley Moss LWS has been colonised by tree species and large woodland blocks have now formed. Whereas, at Lindow Moss Woods and Newgate Nature Reserve, an area was planted with oak saplings after the closure and re-landscaping of this landfill site in the 1980s, which has now developed into a young woodland on peat soils. There are also woodlands bordering Saltersley Moss LWS which have been designated as pLWS (potential LWS, Map 6); these are sites that are highly likely to be selected as LWS but have not yet been formally surveyed against the selection criteria.

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 reseeded, 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. Good quality semi-improved grassland forms the largest part of the priority grassland habitat recognised by Natural England in and around the Mobberley NP area (Map 3) and each of these priority grassland habitats also occur within LWS.

Wood End - Lady Lane LWS is a lowland agricultural landscape covering 176 hectares, making it the largest LWS in the parish (Map 6). This site is particularly important for the large amphibian population it supports (discussed in Wetlands section below) but it is also home to significant areas of unimproved and semi-improved grassland surrounded by extensive hedgerows. Two areas of good quality semi-improved grassland priority habitat (Map 3) are located at this LWS, and a field to the south of Wood Lane has marked ridge-and-furrow which is the only known site in the locality for adder's tongue fern. Unfortunately, in 2006 the LWS was reduced in size because of the construction of Manchester Airport's second runway. There are, however, still many species of interest at this vast site, including

marsh cinquefoil and yellow rattle, and three notable species of sedge (yellow, bottle and oval sedge). This LWS provides important habitat for numerous grassland and farmland bird species which have been recently recorded in the area, including the BoCC red listed skylark, starling, swift and yellowhammer, and amber listed redwing⁴.

Mobberley and Whim Brook Grasslands LWS is another site within the parish which contains priority grassland habitat. At its centre, the site has an area of semi-improved neutral grassland supporting many important plant species including meadow vetchling, common sorrel, bird's-foot trefoil and field wood-rush. The site also supports small patches of acid grassland supporting a different range of flora, including carnation sedge, betony and tormentil and fungi species.

The largest area of priority grassland shown on Map 3 is located on the western parish boundary at the Old Deer Enclosure, Tatton Park LWS (Map 6), although most of the site lies outside the NP boundary. This site contains one of the most extensive areas of acid semi-improved grassland in lowland Cheshire and has some interesting flora present, including tormentil, marsh horsetail, harebell, and heath bedstraw. The open grazed grassland sits alongside pockets of plantation woodland, scattered trees (some ancient and veteran specimens) and aquatic habitats (ponds and brooks).

Sugar Brook LWS is located in the north-west of the parish, and it contains an area of lowland meadow priority habitat. There have been recent recordings at this site of common blue, large skipper and small skipper butterflies as well as Odonata species including banded demoiselle, broad-bodied chaser and brown hawk⁵. This site is relatively small but importantly it is well connected to other priority grassland habitat at two nearby LWS which lie just outside the parish boundary (Sugar Brook Grasslands LWS and Ashley Brickworks LWS; Map 6), creating an important habitat link for wildlife to disperse. Unfortunately these sites may be potentially impacted by the construction of the HS2 Phase 2b rail line (Map 9).

Although there are no other priority grasslands in the Mobberley NP area (Map 3), several of the LWS in and around the parish (Map 6) do contain important areas of grassland habitat which are of similar importance in their benefits for wildlife. The sites listed below are particularly noteworthy because they include grassland habitat as one of the main reasons for their designation:

- Park Farm Grassland LWS is a group of previously traditionally managed hay meadows with ridge-and-furrow, and old field boundaries marked by mature trees and hedgerows; the management regime is now more intensive but a good number of neutral grassland indicator species are present, including betony, devil's-bit scabious, common knapweed and notably, a small amount of dyer's greenweed.
- Ivy House Farm Fields LWS contains species-rich semi-improved neutral grassland, previously managed as traditional hay meadows; many meadow plant species are present including bird's-foot trefoil, common sorrel, betony and wild strawberry.
- Fields near Mobberley Brook LWS is partly owned by the National Trust and is home to damp grassland habitat, with patches of wet flushes holding the most botanical interest; the

⁴ NBN Atlas data

⁵ Recent survey of Sugar Brook LWS in 2018

National Trust land has a deep sward with tussocky areas due to the reduced levels of cattle grazing, in order to encourage barn owl foraging.

- Pedley Brook Valley LWS has large areas of grassland habitat along its riverbanks; the acid grassland is home to many important species including devil's-bit scabious, trailing tormentil and heath bedstraw, whereas the neutral grassland comprises a different flora including betony, common knapweed and glaucous sedge; both grassland types also have a range of waxcap fungi present.
- Lindow Moss Woods and Newgate Nature Reserve LWS is home to some small open areas of species-rich grassland, which sit within the large woodland blocks on the fringes of this former land-fill site; these patches of neutral grassland support creeping cinquefoil, lady's-mantle, meadow vetchling and marsh-orchid.

There are two further sites which contain notable grassland habitats, as well as the open water habitats they are primarily designated for (see Wetlands section below), at Saltersley Hall Farm LWS and Town Lane Farm Sand Pits and Ponds LWS (Map 6). Saltersley Hall Farm LWS includes nearly four hectares of improved and semi-improved grassland permanent pasture with ridge and furrow, alongside small pockets of broadleaved semi-natural woodland and numerous ponds. Town Lane Farm Sand Pits and Ponds LWS is a disused sand pit now comprising a mosaic of habitats including neutral grassland, ponds, woodland and scattered scrub. The large area of neutral grassland present at this site supports many grass species including meadow fox-tail, crested dog's-tail and brome species.

Wetlands

As can be seen on Map 8 – Meres, Mosses and Other Peat Soils, there are a number of significant peat deposits on the eastern edge of the Mobberley NP area. Many of Cheshire's peatlands have developed in wet hollows left by the Ice Age, where the waterlogged conditions have prevented decomposition. The resulting organic matter is known as peat and it can contain mosses, trees, other wetland plants and occasionally animal or even human remains 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. Even drained/degraded or partially drained/degraded sites can be of value for nature conservation.

Saltersley Moss LWS is home to an area of lowland raised bog priority habitat (Map 3 and 6) which has been extensively cut for peat farming, resulting in areas of modified wet and dry bog. Some of the drier areas which have been left undisturbed are now dominated by heather and birch, with other parts developing into scrub and birch woodland habitats. Many bird species associated with the varied habitats at this site (i.e. peat bog, heathland and scrub/woodland) have been recently recorded locally, including the BoCC amber listed reed bunting, wren and dunnoek⁶. Lowland raised bog priority habitat also occurs at the Lindow Moss sites (Lindow Moss Woods and Newgate Nature Reserve LWS; Lindow Moss and Morley Green Heath LWS); however, no peatbog habitats are listed in the selection criteria for these two LWS, and these sites are now home to other wildlife habitats (i.e. woodland, grassland) with underlying peat soils.

There is a concentration of high distinctiveness habitats which occur alongside watercourses and wetlands within areas of Mobberley that are farmed less intensively (i.e. classified as Grade 4 on the

⁶ NBN Atlas data

Agricultural Land Classification, ALC, Map 5)⁷. In these areas there are winding brooks, steep-sided river valleys or peatlands surrounded by relatively small land parcels and/or woodland, which makes them unsuitable for development or intensive agriculture, creating numerous wet and dry mosaic habitats which are highly important for wildlife. These habitats are located at the parish boundary: (i) where three brooks converge in the north-west (Mopperley Brook, Birkin Brook, Sugar Brook), (ii) the area encompassing Saltersley Moss LWS and Lindow mosses in the east, (iii) the sites which border the River Bollin in the north-east (Hooksbank Wood and Bollin Oxbows LWS, East Woodend Wood LWS).

There are many important wetland mosaic habitats, and nature conservation sites, in the north-west of Mobberley parish where several brooks converge in an area of low intensity farmland (Map 5); for instance, sections of both Sugar Brook and Mopperley Brook, and their surrounding habitats, have been selected as pLWS (Map 6). The nearby Old Deer Enclosure, Tatton Park LWS contains many wetland habitats including ponds and brooks (Birkin and Tatton Mere brooks). This site is connected to Tatton Mill Pool and Long Hey Meadow LWS, through which Tatton Mere brook also flows (then entering Tatton Mere SSSI), and it is home to an old mill pond with substantial reedbed habitat and areas of species-rich marshy grassland. This site is particularly important for the invertebrate and amphibian populations it supports including great crested newts (GCN), a legally protected and S41 species⁸. All these sites provide excellent connectivity for wildlife in the area allowing species to spread along watercourses.

There are two additional LWS which contain extensive open water habitats making them particularly important for amphibian populations in the area. Wood End - Lady Lane LWS contains more than 100 marl pit ponds which are over 150 years old, many of which support GCN, common toad and smooth newt, other amphibians and many invertebrate species. Saltersley Hall Farm LWS has a group of nine ponds with surrounding terrestrial habitat, three of the ponds are being used for breeding by GCN and support populations of smooth newts and frogs. It is important to note that these LWS were both last surveyed in 1994; but more recent NBN data suggests that these sites are still important for amphibians (e.g. recent records of GCN and common toads in the locality)⁹.

The other LWS within Mobberley NP area which have a large amount of habitat diversity, as a result of the wet and dry mosaic habitats present, are detailed below:

- Town Lane Farm Sand Pits and Ponds LWS comprises a mosaic of habitats including many ponds with fluctuating water levels and marshy grassland.
- Mobberley Brook Wood LWS is a small damp woodland situated on a drained mill pond which was planted with poplars and crack willow following drainage over 100 years ago; although there are some desirable species in the understorey and ground flora (e.g. hazel, goat willow, red campion, great woodrush) unfortunately many exotic species also present (e.g. Himalayan balsam, non-native bluebell, variegated yellow archangel).
- Pedley Brook Valley LWS has an area of marshy grassland supporting a diverse flora (e.g. bugle, wild angelica and greater birds-foot-trefoil) and Himalayan balsam is scattered throughout.

⁷ Only Agricultural Land Classification Grades 4 and 5 are considered for distinctiveness mapping, because they are defined as poor quality agricultural land; this implies a low intensity form of land management and/or agriculture which is likely to be beneficial to local wildlife.

⁸ Recent survey of Tatton Mill Pool and Long Hey Meadow LWS in 2017

⁹ NBN Atlas data

Protecting & Enhancing Mobberley's Natural Environment

- Witchcote Woods LWS sits on the banks of Birkin brook and contains a combination of river features including oxbows, tributary streams and ponds.
- Marshy grassland habitat is present at Fields Near Mobberley Brook LWS (wet flushes create species-rich marshy grassland along northern banks of Mobberley Brook) and at Mobberley and Whim Brook Grasslands LWS (the river is naturally meandering, and a small oxbow has formed to the south of the river).

Many of these wetland habitats occur alongside watercourses (e.g. River Bollin, Pedley Brook, Birkin Brook) at the parish boundary, creating numerous diverse mosaics of wet and dry habitats on the fringes of the NP area. These watercourses not only create important links to wildlife habitats within the parish, but also allow wildlife to disperse to sites outside the area which includes three Sites of Special Scientific Interest (Map 6; Tatton Mere SSSI, Cotteril Clough SSSI, Lindow Common SSSI).

Traditional Orchard

Traditional orchards are a quintessential component of the historic English landscape. Orchards are becoming increasingly rare due to neglect, the intensification of agriculture and increasing pressure from development. These habitats provide excellent conditions for biodiversity to thrive and can support assemblages of rare species. Six traditional orchards were identified within the Mobberley NP area on Map 7, with a further four located south of the parish boundary, and all these sites have been identified as pLWS. Additionally, there is a traditional orchard within Sugar Brook LWS, where a young orchard of apple and plum trees has underlying neutral grassland habitat supporting many species of flora including orchids. Orchards also provide important habitat for bird assemblages including bullfinches and the BoCC red listed greenfinch and fieldfare which have been recently recorded in the area¹⁰.

Medium Distinctiveness Habitats

Woodland

Many of the woodlands within the Mobberley NP area have been classified as high distinctiveness habitats, as discussed above, because they occur within a LWS and/or are listed on the AWI. The vast majority of Mobberley's medium distinctiveness woodlands are comprised of linear concentrations alongside the numerous watercourses present in the area, with a particular concentration of deciduous woodland priority habitat occurring along Birkin Brook, Mopperley Brook and Mobberley Brook (Map 3). The other notable areas of medium distinctiveness woodland are located in and around the settlement of Knolls Green (Map 3), as well as the large woodland blocks found at the western and northern (along the River Bollin) edges of Wood End – Lady Lane LWS (Map 4 and 9).

There are also many pockets of scrub and woodland present at Mobberley Golf Course which act as stepping-stone habitats to the mosaic of grassland, woodland and ponds found at Saltersley Hall Farm LWS (Map 9). These pockets of woodland will be less disturbed and/or less intensively managed than the surrounding amenity grassland, and therefore they provide potential habitat for small mammals and some bird species, such as the BoCC amber listed tawny owl which has been recently recorded in the area¹¹.

¹⁰ NBN Atlas data

¹¹ NBN Atlas data

Grassland

Species-rich grasslands are the fastest disappearing semi-natural habitat in the UK and losses across Cheshire are above the national average. Those areas of neutral and low-productivity grassland which are not designated (Map 6), have been classified as medium distinctiveness habitat on Map 9. These areas of grassland have been identified using the land cover information on Map 4 (i.e. neutral grassland) and Map 5 (i.e. Agricultural Land Classification, Grade 4), and subsequently refined using Google Satellite imagery. It is therefore advisable for a survey to be undertaken to ascertain the condition of these grassland habitats, which is unfortunately beyond the scope of this report; 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 the medium distinctiveness grasslands in Mobberley are located in the northern and western parts of the parish, with very few occurring in the southern and eastern parts where the land-use is more dominated by arable farming and improved grassland (Map 4). Many grasslands in the area occur alongside watercourses (e.g. Sugar Brook and Mopperley Brook), and there are some relatively small grassland habitats scattered between Mobberley and Whim Brook Grasslands LWS and Ivy House Farm Fields LWS (Map 4 and 9). Good quality and rough grasslands provide essential foraging habitat for highly threatened bird species and are crucial for their conservation, including the BoCC red listed curlew, lapwing and house martin which have been recently recorded in the area¹².

Field Ponds, Drains, Scrapes and Watercourses

Fields ponds, drains, scrapes and watercourses 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 including protected species such as the great crested newt. Larger waterbodies are likely to be valuable for both breeding and overwintering birds as well as foraging bats. Where ponds are stocked with high numbers of fish the wildlife value is decreased. This is because introduced fish (such as bottom feeding non-native carp) can deplete the pond of invertebrate larvae, amphibian eggs/larvae and water plants.

The key ponds, drains, scrapes and watercourses within the Mobberley NP area have been highlighted as habitats of medium distinctiveness in Map 9 and should always be retained and buffered where possible when land is developed. There are many significant brooks which flow through the Mobberley NP area, and the Bollin river valley lies the north-eastern boundary of the parish. Those watercourses which have sources and tributaries outside the parish help to create links to the wider landscape. These continuous and connecting watercourses provide habitats for aquatic invertebrates and foraging birds including kingfisher, grey wagtail and yellow wagtail.

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 Mobberley are bounded by a significant network of hedgerows and drainage ditches. Many of the hedgerows also include trees (standards) that have been allowed to grow out, resulting in a more structurally diverse habitat. Similar to field ponds, scattered farmland trees together with the hedgerow network are

¹² NBN Atlas data

fundamental to landscape permeability; particularly those adjacent to wide field margins or those lying adjacent to semi-natural grassland. Hedgerows are 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.

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; enabling species to move between them to feed, disperse, migrate and reproduce. In conjunction with the results of the National Habitat Network Mapping (2018) and the Ecological Network for Cheshire East, this study has identified a number of indicative wildlife corridors (Map 10) with ecological connectivity throughout and beyond the Neighbourhood Planning area. The National Habitat Network map and Ecological Network for Cheshire East provide a broad map of the networks across England and Cheshire East respectively. The wildlife corridors identified in 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 CE Ecological Network mapping and the wildlife corridor (Map 10) maps both identify primary habitat or core areas for biodiversity within the Mobberley NP area which are discussed below.

Mobberley's many watercourses provide excellent connectivity between the wildlife habitats of the parish, and subsequently form a significant proportion of the wildlife corridors shown on Map 10. Another substantial section of the corridor occurs at Wood End – Lady Lane LWS, the largest LWS in the area. The habitat connectivity at this LWS is immensely reduced by Manchester Airport's second runway; however, some connectivity remains at its borders including along the River Bollin, which flows under the runway in the north-east. There is only one LWS which is not included within the indicative wildlife corridors; Town Lane Farm Sand Pit and Ponds LWS is bordered by Mobberley village to the north and agricultural land to the south, which isolates this site from other habitats in the parish. There is some minor disruption to the wildlife corridor as a result of the rail line which runs through the western part of the parish; however, there are multiple points at which brooks flow under the line allowing wildlife to move between the habitats either side of the railway. The footprint of the HS2 Phase 2b rail line impinges on the north-west section of Mobberley's wildlife corridor, and this could have an adverse impact on the habitat connectivity of the area.

The identified corridors link areas of valuable habitat with good connectivity within Mobberley NP area, including woodland, grassland and wetland habitats. These corridors also connect to the surrounding landscape including three Sites of Special Scientific Interest (i.e. Lindow Common SSSI, Tatton Meres SSSI and Cotteril Clough SSSI), as well as the Knutsford parish and Ollerton and Marthall parish wildlife corridors. Some of the mapped corridors do cross over roads where direct connectivity will not be maintained, however in these instances 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. 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.

Protection of the Wildlife Corridor and other High and Medium Distinctiveness Habitat

The indicative boundary of the Mobberley wildlife corridor network is shown in Map 10. However, this 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 is necessary to protect 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 Neighbourhood Planning 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, while also 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. This is particularly important for habitats that are dependent on hydrology such as running or standing water, peatlands, and 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, purposely designed to allow the passage of hedgehogs from one area to another;
 - South facing banks or bunds for reptiles, butterflies and other invertebrates, and;
 - Bee bricks and bat or bird boxes, ideally made of highly durable material such as woodcrete.

Not all sections of the Mobberley wildlife corridor provide high quality habitat, and measures to improve its ability to support the movement of species is a priority (see Recommendations section). 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), through government incentives (such as Environmental Land Management Schemes aka ELMS) or through the aspirations of the local community working with local businesses and landowners.

There are also opportunities to enhance the wildlife corridor, such as those set out in the UK Government England Trees Action Plan¹³. **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.**

In addition to the wildlife corridor network, this study has identified other areas of high or medium habitat distinctiveness (Map 9) which, although outside the network, likely provide important wildlife habitats and facilitate the movement of more mobile species throughout the wider landscape by forming essential ecological stepping stones. These areas primarily comprise ponds and semi-natural woodlands.

The network of field boundary hedgerows and agricultural drainage ditches within the Mobberley Neighbourhood Planning area provide connectivity between high and medium distinctiveness habitats. These areas would otherwise be separated by extensive areas of land predominantly of low habitat distinctiveness; potentially restricting the ability of wildlife to disperse throughout the area. Not all the hedgerows are identified as key components of Mobberley's ecological network, however, collectively these hedgerows provide linear connectivity throughout the neighbourhood and beyond. In addition to their intrinsic ecological value a good hedgerow network also adds to the landscape character value.

Old meadows supporting species-rich neutral, marshy or semi-natural grassland and wetlands are some of the fastest disappearing habitats in the UK. These habitats are particularly important for a variety of invertebrates including pollinating insects and other species such as; breeding and wintering birds, mammals, amphibians and some species of reptiles. It is extremely important that the highlighted 'medium distinctiveness' areas should be thoroughly evaluated in the development control process. If they are found to support species-rich grassland or wetland habitats they should be re-classified as 'high distinctiveness' priority habitat or habitat of principal importance. These habitats 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 that is difficult to achieve 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 National Planning Policy Framework.

¹³ <https://www.gov.uk/government/publications/england-trees-action-plan-2021-to-2024>

Recommendations for Creating a Coherent Ecological Network

Following adoption of the Mobberley 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 potentially under the forthcoming ELMS. Semi-natural woodlands can be left to expand and regenerate naturally, increasing coverage and connectivity across the neighbourhood 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 Cheshire East, 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 criteria¹⁴ 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'¹⁵ 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. 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.

¹⁴ 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>]

¹⁵ 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 4.

- 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 (1 metre from the top of the bank of a watercourse is the minimum requirement under cross compliance regulations, however 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 Mobberley'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 and Japanese knotweed in Mobberley, which spread particularly effectively along watercourses. These species 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 meadows¹⁶. These should be focused on connecting the corridor laterally (east to west connection) to close the gaps between high value habitats and break up large areas of low distinctiveness.

Woodland expansion is desirable to buffer Mobberley'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. **It is vitally important that tree planting should only occur on species-poor habitats away from existing (non-woodland) priority habitats, and the edges of watercourses including ditches and ponds.** A detailed botanical survey should always be carried out prior to any woodland planting taking place.

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

¹⁶ Cheshire Wildlife Trust can provide advice and seeds for locally sourced wildflower meadow creation.

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 to be provided; 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

In addition to the general habitat management priorities above that will benefit a wide range of species throughout the Neighbourhood Planning area, ensuring new developments provide wildlife permeable fencing as standard and encouraging householders to make holes in the bottom of their fences will increase the permeability of the more urbanised areas in Mobberley. A key example is 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 embedded in NPPF (paragraphs 8, 32, 174d, 179b and 180d) and required under CEC local policy SE 3 and forthcoming CEC local policy ENV 1. In order to protect local natural assets, it is essential that strong biodiversity net gain 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 Mobberley'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, in order to verify the findings and ensure they are not under or over-valued. Ground level survey can also inform the exact position of the wildlife corridor network with greater accuracy than this study.

Conclusion

This study has highlighted that the important wildlife habitat in Mobberley is predominantly associated with woodlands, grasslands and wetlands. Almost all of the Local Wildlife Sites in the area occur along watercourses, or they contain some aquatic habitat in the reason for their designation. This combination of open water and other good quality habitats increases the opportunity for a higher value habitat for biodiversity at numerous sites in the parish.

Mobberley lies in close proximity to Manchester, and subsequently the parish is vulnerable to those pressures associated with the growth and development of such a sizable conurbation, particularly with regards to large infrastructure. Historically, the wildlife habitats present in the north of the parish were disrupted by the construction of Manchester Airport's second runway; for instance, this led to the considerable reduction in size of Wood End – Lady Lane LWS, as well as a decrease in connectivity between ancient woodland habitats along the River Bollin. It is now the construction of HS2's rail line which could potentially cause substantial disruption to Mobberley's wildlife corridors.

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 woodland, grassland, and wetland habitats throughout and beyond the Mobberley 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 Mobberley Neighbourhood Plan and protected from development, to ensure the guidance relating to ecological networks set out in NPPF (paragraphs 174d, 175, 171, 179a, 179b) is implemented at the local level in Mobberley. The wildlife corridor network includes a buffer zone of up to 15 metres in places to protect the notable habitats shown in Map 9. 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 also be protected by a 15 metre buffer zone to protect from development. Following adoption of the Mobberley 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 180a; the avoidance, mitigation and compensation hierarchy), and seek to enhance these features where reasonable to do so (in line with NPPF Para 179b; the provision of measurable biodiversity net gains). This can be achieved by prioritising a scheme design that retains and enhances the sites important semi-natural habitats and

Protecting & Enhancing Mobberley's Natural Environment

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 Mobberley's natural assets is of the utmost importance for nature conservation, ecosystem services and for the enjoyment of future generations. Therefore, future development in Mobberley 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 – Natural England Ecological Network Model Interpretation

Woodland and Wetland Habitat Network Categories for Natural England's Ecological Network Tool GIS layers 2020:

| Category | Description | Recommended Action |
|--------------------------------|--|---|
| Core SSSI Habitat | SSSIs are among the most protected sites in Great Britain, and Natural England has statutory obligations to act for the benefit of SSSIs and encourage owner/occupiers to manage the land to favourable condition. | SSSIs can be noted for a range of biological or geological features. Regardless of the nature of the SSSI, management should always aim to achieve favourable condition for the features for which the site is notified. Therefore, should woodland or wetland network zone overlap with the boundaries of a SSSI, the action suggested by the model (see below) should only be carried out if it is consistent with the management of the notified features. |
| Primary Habitat | Wetland habitat from the priority habitat inventory (lowland raised bog, lowland fen and reedbeds), ponds and lakes (OS MasterMap). National Forest Inventory broadleaved or mixed-mainly broadleaved woodland. | The restoration and enhancement of primary habitat should be considered to improve habitat quality where necessary (e.g. scrub management on lowland bogs, encouragement of diverse age structure in woodlands) or increase extent if possible. |
| Priority Wetland Creation Zone | Land where wetland network connectivity is most restricted due to fragmentation and the land is suitable for wetland creation such as mosslands or reedbeds. | Priority Wetland Creation Zones are a high priority for wetland habitat creation, as it represents a major pathway of the network through a highly fragmented landscape. This may involve increasing the extent of existing habitat patches, or creating new habitat within the vicinity appropriate for the species being considered. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new wetlands. |
| Wetland Creation Zone | Land where wetland network connectivity is most restricted due to fragmentation and is less suitable for wetland creation. | To bolster the wetland network in these areas, alternative wetland creation should be considered e.g. SuDS or lined ponds. |
| Wetland Buffer Zone 1 | Land within the network which connects existing primary wetland habitats and is naturally suitable for wetland creation. Wetland Buffer Zones are a high priority for | The restoration and creation of wetland habitats e.g. rewetting of modified bogs, in these areas should be considered, however conditions on the ground will determine the most appropriate action within these areas; restoration to improve habitat quality, creation to increase the extent of existing habitat patches, or to |

Protecting & Enhancing Mobberley's Natural Environment

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| | restoration or creation, as they represent connecting areas within the network which could join existing primary habitat. | provide stepping stones between habitat patches. Where other associated habitats of conservation importance overlap with Wetland Buffer Zones, such as species-rich grasslands or wet woodlands, restoration and improvement of these habitats should be considered, to improve the resilience of primary wetland habitats by providing buffer zones and diverse habitat mosaics. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new wetlands. |
| Wetland Buffer Zone 2 | Land within the network which connects existing primary wetland habitats but which is less suitable for natural wetland habitat creation. | Non-natural wetland restoration measures e.g. SuDS, lined ponds, should be considered in these areas. Management and bolstering of important associated habitats, as with Wetland Buffer Zone 1, should also be considered here. |
| Wetland Network Expansion Zone | Land outside of the current wetland network where land is suitable for wetland creation, which could help to link up the existing habitat across the landscape. | Habitat creation in the Wetland Network Expansion Zone has the potential to aid the joining up of existing habitats patches within the network, however these areas are less of a priority in terms of improving the overall connectivity of the network as a whole. These areas may become 'Wetland Buffer Zone 1' in future iterations of the model if projects on the ground result in additional primary habitat. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new wetlands. |
| Priority Woodland Creation Zone | Land where woodland network connectivity is most restricted due to fragmentation and the land is potentially suitable for wet woodland creation. | Woodland Creation Zones are a high priority for woodland habitat creation, as it represents a major pathway of the network through a highly fragmented landscape. This may involve increasing the extent of existing habitat patches, or creating new habitat within the vicinity appropriate for the species being considered. In Priority Woodland Creation Zones, the land may also be suitable for wetter habitats, and encouragement of wet woodland may be considered here. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new woodlands. |
| Woodland Creation Zone | Land where the network connectivity is most restricted due to fragmentation and is less suitable for wet woodland creation. | To bolster the woodland network in these areas, woodland creation measures are of high priority here. This may include the planting of new woodlands, with careful consideration of appropriate species mix, or encouragement of natural regeneration where possible. Rigorous ground-truthing and consideration |

Protecting & Enhancing Mobberley's Natural Environment

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| | | of other priority habitats or conservation objectives in the area will be vital before creating new woodlands. |
| Woodland Buffer Zone 1 | Land within the network which connects existing primary woodland habitats and is potentially suitable for wet woodland creation. | Woodland Buffer Zones are a high priority for restoration or creation, as they represent connecting areas within the network which could join existing primary habitat. Conditions on the ground will determine the most appropriate action within these areas; restoration to improve habitat quality, creation to increase the extent of existing habitat patches, or to provide stepping stones between habitat patches. Given the potential suitability for wetter habitats here, rewetting and management for wet woodland may be considered here. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new woodlands. |
| Woodland Buffer Zone 2 | Land within the network which connects existing primary wetland habitats but which is less suitable for natural wetland habitat creation. | The restoration and creation of woodland habitats e.g. tree planting or encouragement of natural regeneration should be considered in these areas. Where other associated habitats of conservation importance overlap with Woodland Buffer Zones, such as species-rich grasslands or heathlands, restoration and improvement of these habitats should be considered, to improve the resilience of primary woodland habitats by providing buffer zones and diverse habitat mosaics. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new woodlands. |
| Woodland Network Expansion Zone | Land outside of the current woodland network where species flow is likely to be relatively high due to better landscape permeability. | Habitat creation in the Woodland Network Expansion Zone has the potential to aid the joining up of existing habitats patches within the network, however these areas are less of a priority in terms of improving the overall connectivity of the network as a whole. These areas may become 'Woodland Buffer Zone' in future iterations of the model if projects on the ground result in additional primary habitat. Rigorous ground-truthing and consideration of other priority habitats or conservation objectives in the area will be vital before creating new woodlands. |

Appendix 2 - 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 |

Protecting & Enhancing Mobberley's Natural Environment

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|-------------------------|----|-----------------------|-----|--------|
| 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 | lb | 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 |

Protecting & Enhancing Mobberley's Natural Environment

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|-----------|----|-------------------|-----|--------|
| | | 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 3 – 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 4 – 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.