

Protecting and Enhancing Congleton's Natural Environment



Cheshire
Wildlife Trust

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Introduction

Neighbourhood Planning has provided an important opportunity for communities to shape their local environment for future generations. Identifying and evaluating opportunities and constraints will mean that communities are in an informed position and therefore better able to protect their valuable natural assets.

In 2011 the government published their Biodiversity 2020 '*strategy for England's Wildlife and Ecosystem services*' which built on the recommendations of the earlier Natural Environment white paper. The mission of the Biodiversity 2020 strategy is to '*halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.*'

The National Planning Policy Framework (NPPF), published in 2012 drew on these principles and protecting and enhancing biodiversity and creating ecological networks are central to this framework. Indeed 'biodiversity' is mentioned 15 times in the NPPF with protection and improvement of the natural environment as core objectives of the planning system. Planning policies specifically designed to address the overall loss of biodiversity are known as 'no net loss policies'. Most Local Plans now have 'no net loss' policies or similarly worded policies in place.

According to Biodiversity 2020 there are numerous ways to work towards achieving these aims, with landowners, conservation charities and individuals playing a part. However, the planning system has a central role in achieving the aims of Biodiversity 2020, particularly strategic planning, but also development control. At a local level Neighbourhood Planning has the potential to be a key factor in determining whether the aims of Biodiversity 2020 are realised, by identifying local priorities for nature conservation and ensuring these are taken into consideration in the planning process.

Objectives of the study

The first stage to protecting and enhancing the natural environment is to identify the natural assets that exist within the neighbourhood. This report aims to identify the core, high ecological value sites for nature conservation in Congleton, as well as sites deemed to be of medium ecological value. The high value sites are recommended for protection through the neighbourhood planning process and the 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 should they be proposed for future development.

The report also aims to identify key local and regional ecological networks within the neighbourhood planning area and recommends that these are protected through the neighbourhood plan. It also identifies key characteristics associated with the landscape character of the Congleton area so these can be referenced in planning policies.

Background – 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 that we need a step change in our approach to wildlife conservation from trying to hang on to 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 also identified that this vision will only be realised if we work at local scales in partnership with local people.

The natural environment is fundamental to our well-being, health and economy, and provides us with a range of ecosystem services such as food, water, materials, flood defences and carbon sequestration – and biodiversity underpins most, if not all, of them. The pressures on our land and water are likely to continue to increase and we need to learn how to manage these resources in ways which deliver multiple benefits, for example, achieving profitable and productive farming while also adopting practices which enhance carbon storage, improve flood water management and support wildlife.

England’s wildlife habitats have become increasingly fragmented and isolated, leading to declines in the provision of some ecosystem services, and losses to species populations. Ecological networks have become widely recognised as an effective way to conserve wildlife in environments that have become fragmented by human activities.

Ecological networks generally have five components (see Figure 1) which reflect both existing and potential ecological importance and function.

- *Core areas*

These are areas of high nature conservation value which form the heart of the 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. 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 species can move between core areas.

- *Restoration areas*

These are areas where measures are planned to restore or create new high value areas (which will ultimately become ‘core areas’) so that ecological functions and species populations can be restored. They are often situated so as to complement, connect or enhance existing core areas.

- *Buffer zones*

These are areas that closely surround core areas, restoration areas, 'stepping stones' and ecological corridors, and 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, together with 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, including self-sustaining populations of species that are dependent upon, or at least tolerant of, certain forms of agriculture. There is overlap in the functions of buffer zones and sustainable use areas, but the latter are less clearly demarcated than buffers, with a greater variety of land uses.

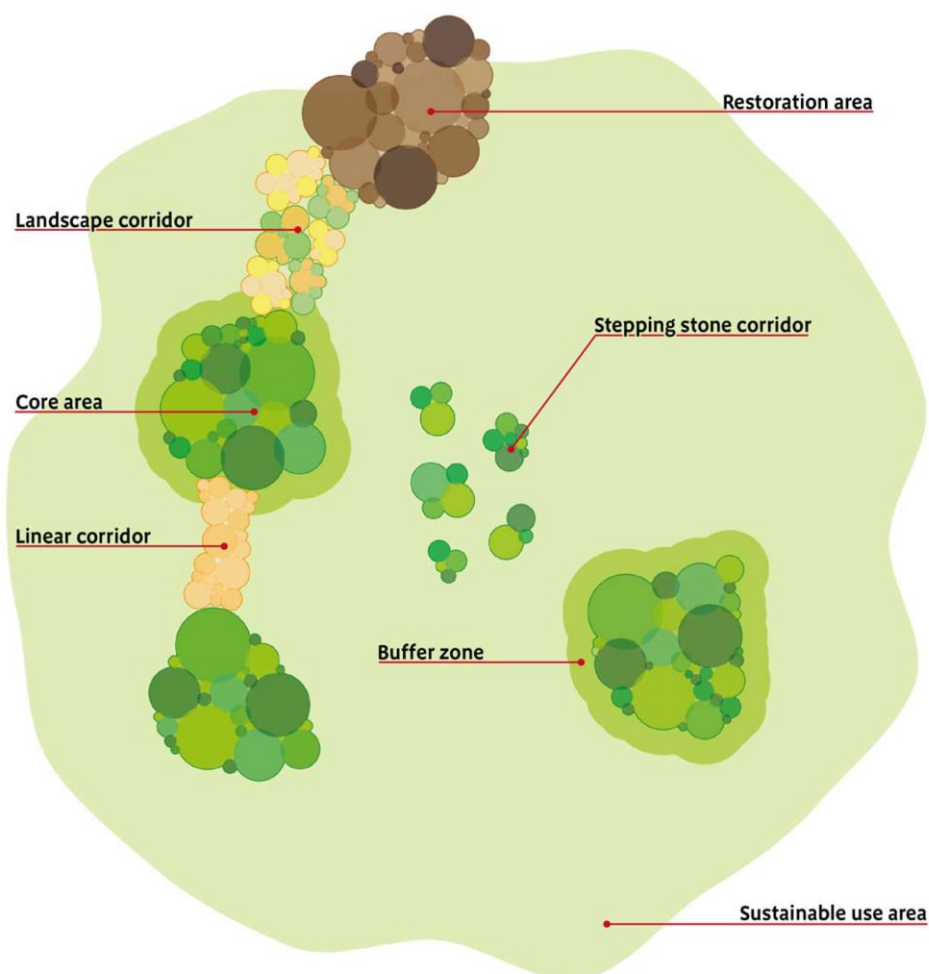


Figure 1. The components of ecological networks (Making Space for Nature report)

The principles of creating coherent ecological networks have since been embedded within many planning and policy documents. The Natural Environment White Paper 'The Natural Choice', which was published in 2011, reiterated a Government commitment to move from net biodiversity loss to net gain, by recognising the importance of supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks.

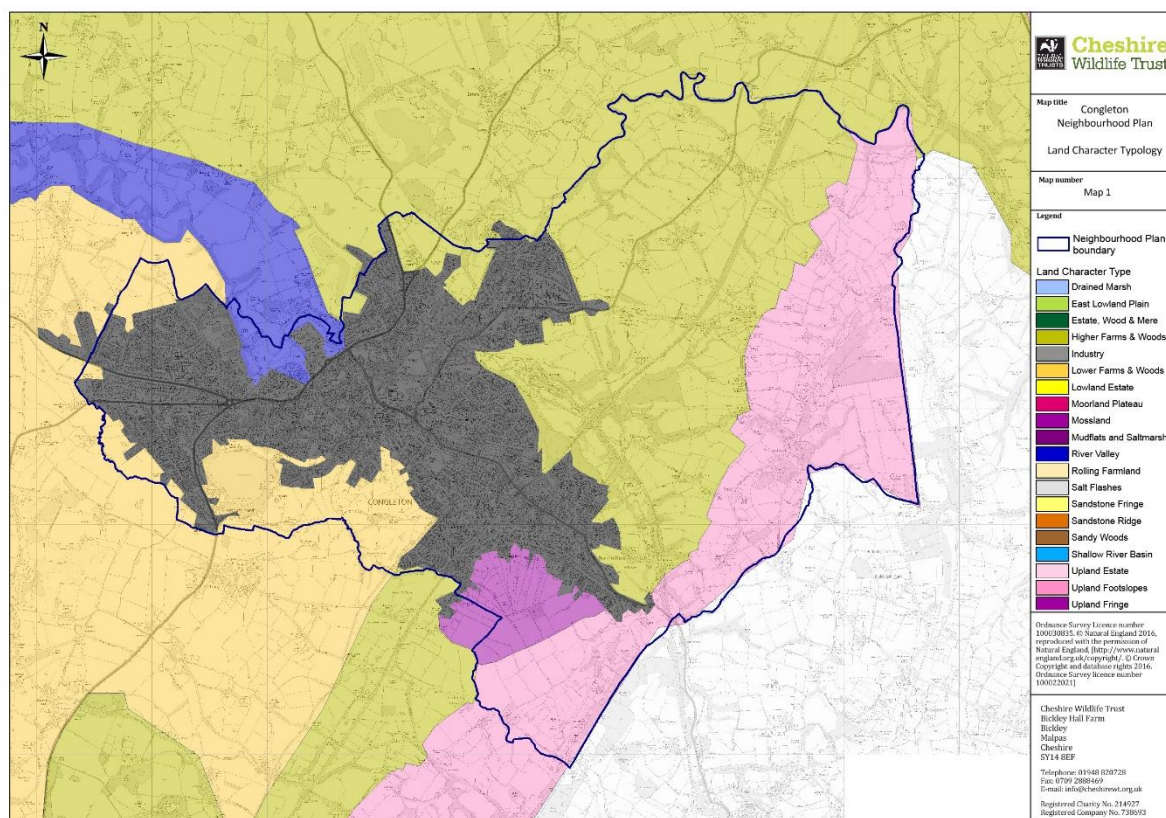
The National Planning and Policy Framework published in 2012 also includes the establishment and conservation of a coherent ecological network as a core principle including:

- The planning system should contribute to and enhance the natural and local environment by establishing coherent ecological networks that are more resilient to current and future pressures.
- Local planning authorities should set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- To minimise impacts on biodiversity planning policies should identify and map components of the local ecological networks, including the hierarchy of sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation; and promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations.

Landscape Character Assessment for the Cheshire region

On a national level Congleton lies within National Character Area 61 – Shropshire, Cheshire and Staffordshire Plain; a pastoral area of rolling plain which is particularly important for dairy farming. More locally the Cheshire Landscape Character Assessment of 2008 identifies recognisable patterns in the landscape and classifies the Cheshire Landscape into 20 broad Landscape Character Types (LCTs). Different aspects such as geology, landform, soils, vegetation and landuse have been used to identify character areas. The assessment 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.

Map 1: Landscape Character Typology



The Landscape Character Assessment (Map 1) identifies five recognisable landscape character types (LCTs) within the Congleton Neighbourhood planning area; namely Mossland, Upland Footslopes, Lower Farms and Woods, Higher Farms and Woods and River Valley, These character types are further refined and subdivided into Landscape Character Areas (LCAs):

Type 10 - Lower Farms and Woods

Key characteristics

- Low lying gently rolling topography
- Hedgerow boundaries and standard trees in a mix of medieval, reorganised fields (irregular, semi-regular, and regular up to 8ha). Many larger open fields where traditional hedging has either been removed or replaced with fencing.
- Horsiculture – fenced horse paddocks
- High density of woodland – blocks and coverts and riparian
- Medium settlement density – mix of dispersed farms and nucleated hamlets/villages
- Mosses and some meres resulting from glacial deposits
- Large number of water bodies

LFW2 – Brereton Heath Character Area - including Brereton and Astbury Mere Country Park

This is a gently undulating, almost flat area south of the river Dane that lies in the triangle between Sandbach, Congleton and Holmes Chapel. It is a predominantly rural area of small dispersed villages and hamlets.

Across much of this region there are expansive views towards Mow Cop and the Cloud. The agriculturally improved fields are typically large, having had their hedgerows removed. Woodlands, although scattered, are visible in the landscape. Some of these are conifer plantations whilst others have developed naturally as a result of the drying out of former mosslands.

Sand quarrying is frequent in this area with active quarries west of Congleton and at Arclid and a former quarry at Brereton Heath. The sandy soils once supported significant areas of heathland, and mosslands were once scattered throughout the area in wet peaty hollows.

Type 16 - Higher Farms and Woods

Key characteristics

- Gentle rolling and moderate undulating topography
- A mix of medieval and post medieval reorganised fields (irregular, semi-regular and regular up to 8 ha)
- Hedgerow boundaries and hedgerow trees
- High density of woodland (blocks, coverts and riparian)
- Predominantly low density dispersed settlement
- Ponds
- Small mossland areas

HFW1 Gawsworth Character Area – including Rodeheath, Marton and North Rode

This area lies north of the river Dane between Congleton and Macclesfield. Away from these conurbations the area is typically very rural with isolated farms and hamlets and quiet county lanes. Across much of the area there are wide reaching views towards the hills in the east. There is little in the way of development, apart from a small number of sand quarries and two main A roads that run north-south.

The fields are a mixture of sizes with the larger ones having been agriculturally improved. The field systems date from the post medieval period, although many have been enlarged through more recent hedgerow removal. The exception to this trend is on the slopes of the watercourses where some smaller fields still exist. The steeper slopes are mainly wooded and a small number of these woodlands are thought to be ancient. Compared to other areas of lowland Cheshire this character area has a relatively high proportion of woodland, largely located in isolated blocks and surrounded by agriculturally improved grassland or arable fields.

HFW4 Buglawton Character Area - including Crossley, Dane in Shaw Woods and canal

This character area stretches eastwards from Buglawton towards Key Green. To the north the area is bounded by the river Dane and to the south it stretches to Dane in Shaw. The area has a lush verdant feel with small or medium sized fields and a high level of woodland cover along the

numerous streams. Many of the steep sided valleys support ancient woodland and there are also species rich grasslands making this area particularly wildlife rich.

This area is notable historically as the streams and valleys were used to site the first cotton and silk mills in the Congleton area. Also notable is the Dane viaduct, a prominent local landmark.

Type 13 – River Valley

Key characteristics

- Steep sided river valleys
- Meandering river courses
- High levels of woodland along the river and tributary valleys of which a significant proportion is ancient woodland.
- Tributaries in wooded cloughs
- Grassy banks including acid grassland.
- Bridges and viaducts
- Isolated halls and farms

R5 – Upper Dane Character Area

Where the river Dane flows north-west out of Congleton the landscape falls into the much larger Upper Dane Character Area which stretches between Congleton and Holmes Chapel. The upper Dane is characterised by the meanders of the river and the old, steep, wooded river terraces. Some of this woodland is ancient in origin, including the ash, sycamore and wych elm woodland at Forge Wood.

The wide valley floor is mainly pastureland with some smaller areas of arable crops. Many of the fields have been increased in size, although traditional field patterns can still be seen on some of the farmed shallower river terraces.

The area is very rural with a small number of farms and halls with the one small settlement at Swettenham village.

Type 18 - Upland Footslopes

Key Characteristics

- Upland inclines and undulations, steep slopes c100-370m AOD
- Wooded steep sided stream and river valleys – large proportion which is ancient woodland
- Small surviving patches of heathland
- Dense network of streams and tributaries
- Dispersed settlement – farms and houses
- Stone built houses, structures and boundary walls

- Gritstone exposures in quarries
- Medieval field patterns with hedgerow boundaries surviving on lower slopes
- Areas of semi-improved and unimproved neutral and acid grassland
- Extensive views dependent upon the location
- High rainfall – reservoirs, open and covered
- Follies and distinctive landmarks

UFS1 Mow Cop Character Area – including Roe Park Woods, Cheshire Close and the Cloud

This gritstone ridge runs from Kidsgrove northwards to the Cloud and marks the boundary between Cheshire and Staffordshire. It is an upland landscape of steep slopes incised with equally steep, often wooded valleys. Fields are medium to large, often dating to the post medieval period when tracts of moorland were enclosed. This is a rural area with narrow twisting lanes and a few scattered hamlets.

In the north of this character area stone walls mark the field boundaries on the upper slopes. Scattered rocky gritstone outcrops can be found on the ridge at Mow Cop, Rainow Hill and Congleton Edge. Hawthorn boundary hedges are found more frequently on the lower slopes.

The shallow soils and steep slopes make this area difficult to cultivate, consequently there are extensive areas of semi-improved grassland with smaller areas of heathers, bilberry and gorse. There are also a few sizable blocks of woodland, the largest lying below Mow Cop.

Type 12 Mosslands

Key Characteristics

- An accumulation of peat in water logged depressions and hollows associated with glacial deposition
- Oligo-fibrous soils with a high suitability for horticulture when drained
- A distinctive field pattern typical of the enclosure of mosslands – long linear moss rooms
- Areas of broadleaved woodland with alder, oak and birch
- Heathland with birch and scrub regeneration
- Peripheral settlement that has encroached upon the extent of the moss
- Place names that are indicative of peat e.g. Moss Lane
- Leisure facilities e.g. cricket grounds, playing fields
- Landfill sites

M4 Congleton Moss

Once widespread in the Cheshire countryside this landscape character type is now rarest in the East Cheshire region with only remnants of the five largest mosses remaining. Other much smaller mosslands have also largely disappeared as they have dried out over the centuries.

Cheshire's mosslands date back to the end of the last ice age when blocks of ice were stranded in the landscape as the ice sheet retreated. Eventually these blocks melted to form meres and ponds in

the kettle holes. Over many centuries the process of succession allowed for peat formation as rotting vegetation accumulated and filled the pools.

Congleton Moss was once the largest peatland in the region stretching out over 1000 ha to the south of where the town is located. Today it exists as a relict dried out mossland that has been drained, cultivated and areas have also been incorporated into sports fields. A small remaining parcel of semi-natural habitat is now overgrown with young birch and oak scrub and the heathers and mosses have largely disappeared as the peat continues to dry out.

The hawthorn hedges on the wider relict moss delineate the old moss rooms, a series of long narrow fields arranged in a fan shape. The moss rooms date from the medieval period when locals had 'rights of turbary' allowing them to cut peat, meaning that the moss was divided into long narrow strips for different families to cut. Later, following the enclosure act, hedgerows were planted to delineate these areas. This unusual and historical pattern of landuse is still clearly evident in the landscape today and gives the Congleton Moss area its special characteristics.

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, landuse 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.

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.

ECOnet – Integrated vision of the Cheshire County Ecological Network

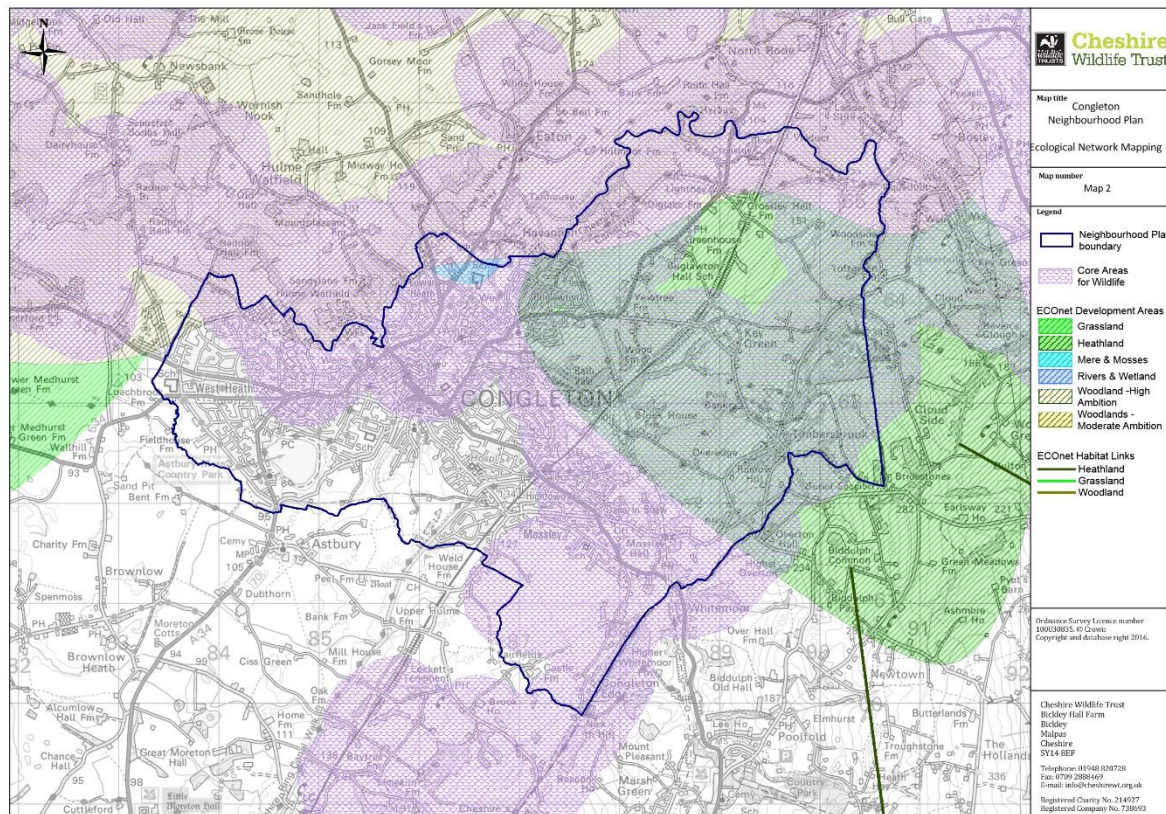
Between 1999 and 2003 the then Cheshire County Council were a partner within the Life ECOnet Project. This was a project supported by the Life-Environment Programme of the European Commission to demonstrate in Cheshire and in Emilia-Romagna and Abruzzo (Italy) how ecological networks can help achieve more sustainable land use planning and management, as well as overcome the problems of habitat loss, fragmentation and species isolation.

The ECOnet study is an integrated vision of a Cheshire County Ecological Network of ecological cohesion. The vision acts as a framework for nature conservation in the region by identifying areas of strategic importance for wildlife. It is intended as a guideline for making decisions in local and strategic planning in relation to biodiversity.

The 2003 study identified numerous core areas of key importance for wildlife. It also identified development areas which were assessed as having the greatest potential to contribute to the viability of the core areas through habitat restoration and creation schemes. The aim of any future

work related to the county ecological network should be to expand the core areas and to provide better habitat connectivity (wildlife corridors). The guidance provided by the EConet project has been incorporated into the conclusions of this report created for the Congleton Neighbourhood Plan.

Map 2: Ecological Network Mapping (EConet)



Due to the high number of sites designated for nature conservation the majority of the Congleton area was identified by EConet as fundamental components of the county wide ecological network (shaded purple).

To the east of Congleton is an area identified a 'heathland development area' as it contains one of the largest surviving areas of lowland heath at Bosley Cloud, as well as smaller areas running southwards along the gritstone edge. EConet development areas are identified as those that would benefit most from restoration of the identified habitat type.

A 'woodland development area- high ambition' is located to the north of the Congleton NP area broadly following the river Dane. The extension of existing woodlands in this area (to incorporate land of current low habitat distinctiveness) would be highly desirable, particularly as a method of buffering important and fragile habitats.

Methodology

Creating a habitat distinctiveness map

In line with current Defra methodologies to determine ‘no net loss’ in biodiversity, habitat data from the sources listed below was attributed to one of three categories listed in the table:

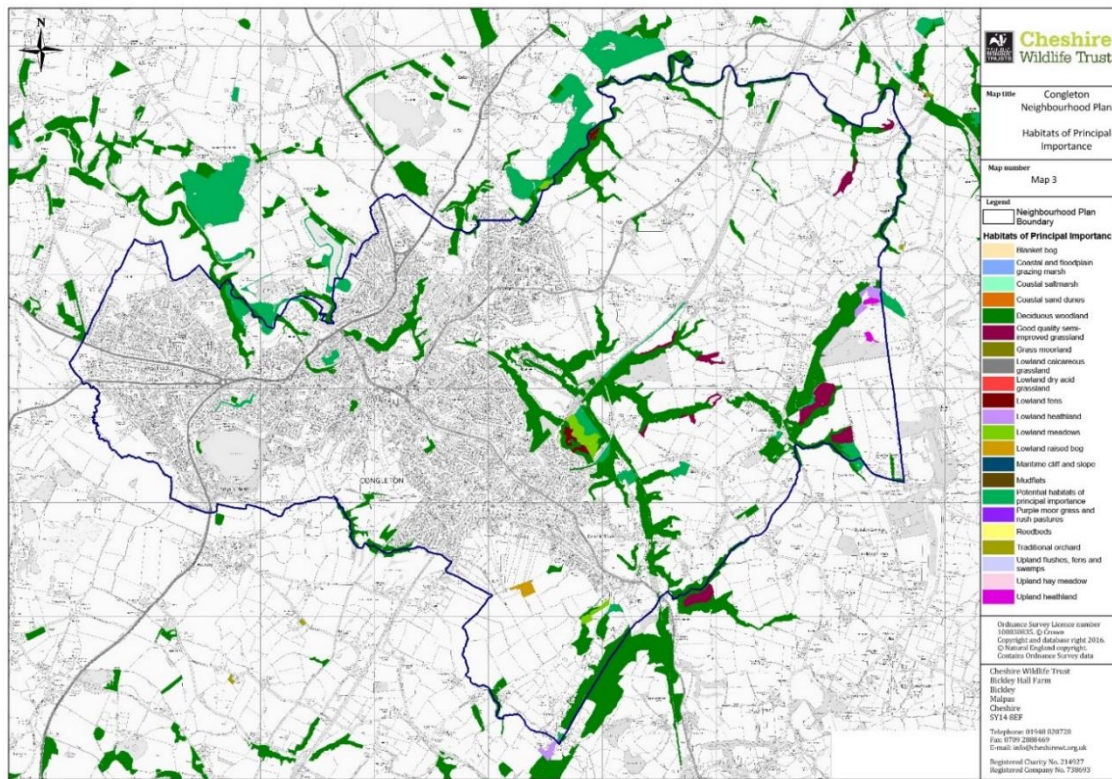
Habitat type band	Distinctiveness	Broad habitat type covered	Colour on map
High ecological value	High	Priority habitat as defined in section 41 of the NERC Act, Designated nature conservation sites (statutory and non-statutory)	Red
Medium ecological value	Medium	Semi-natural habitats and habitats with potential to be restored to Priority quality. Includes field ponds.	Orange
Low ecological value	Low	E.g. Intensive agricultural but may still form an important part of the ecological network in an area.	n/a

Habitat type bands (Defra March 2012)

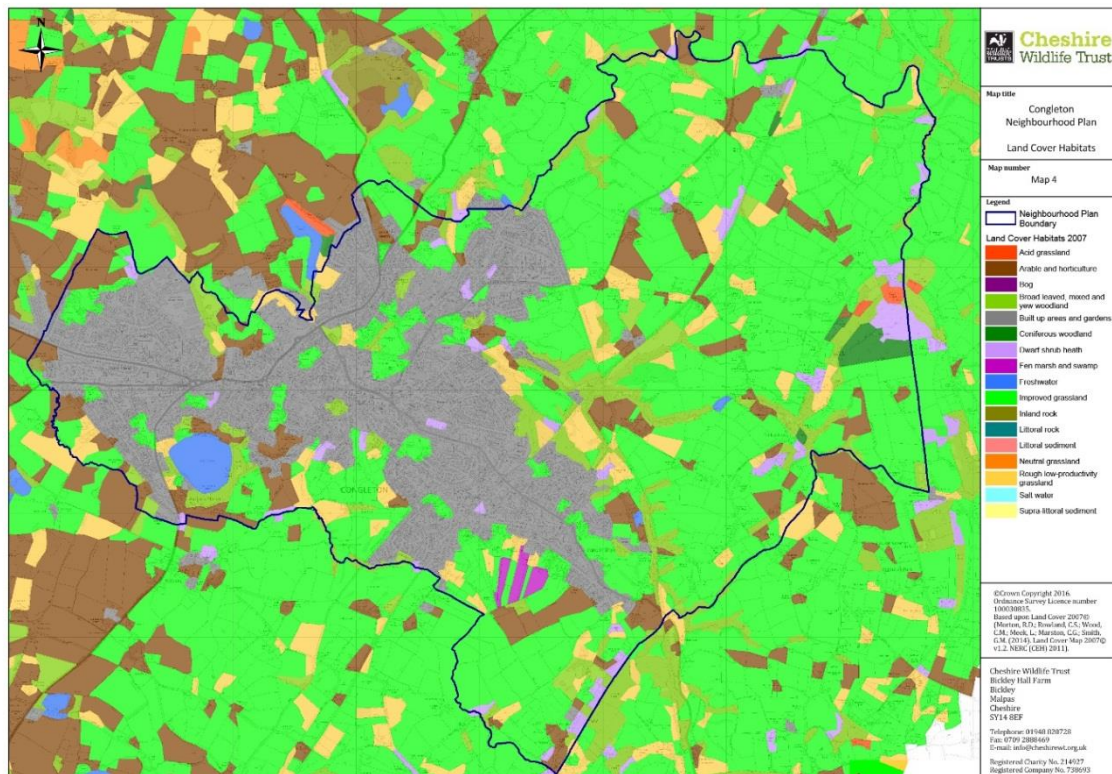
- Five published data sets were used to produce the habitat distinctiveness maps:
 - Priority habitat Natural England – coded as high distinctiveness
 - Landcover data, Centre for Ecology and Hydrology 2007. Priority habitats (principal importance) and semi-natural habitats coded as medium distinctiveness (data in Appendix 1)
 - Agricultural land classification, Natural England - grade 4 medium distinctiveness, grade 5 high distinctiveness (adjusted where other data is available).
 - Protected sites (Sites of Special Scientific Interest, Local Wildlife Sites and Local Nature Reserves), Natural England, CWT/CE Local Authority – coded as high distinctiveness.
 - Ancient woodlands – Natural England 2015 – coded as high distinctiveness.
 - Meres and Mosses and other peat soils, Meres and Mosses Landscape Partnership scheme, 2016. Functional Ecological Units, river valley peat and destroyed (historical) peat coded as medium distinctiveness. (Supporting information in Appendix 2.)
- Aerial photography (Microsoft Bing™ Imagery) was used to validate the results by eye.
- The Congleton Neighbourhood Plan area Land Character Assessment and EConet categories were mapped and the results were used to inform the conclusions.
- Habitat data from recent planning applications in Congleton was researched and incorporated where appropriate.

Mapping

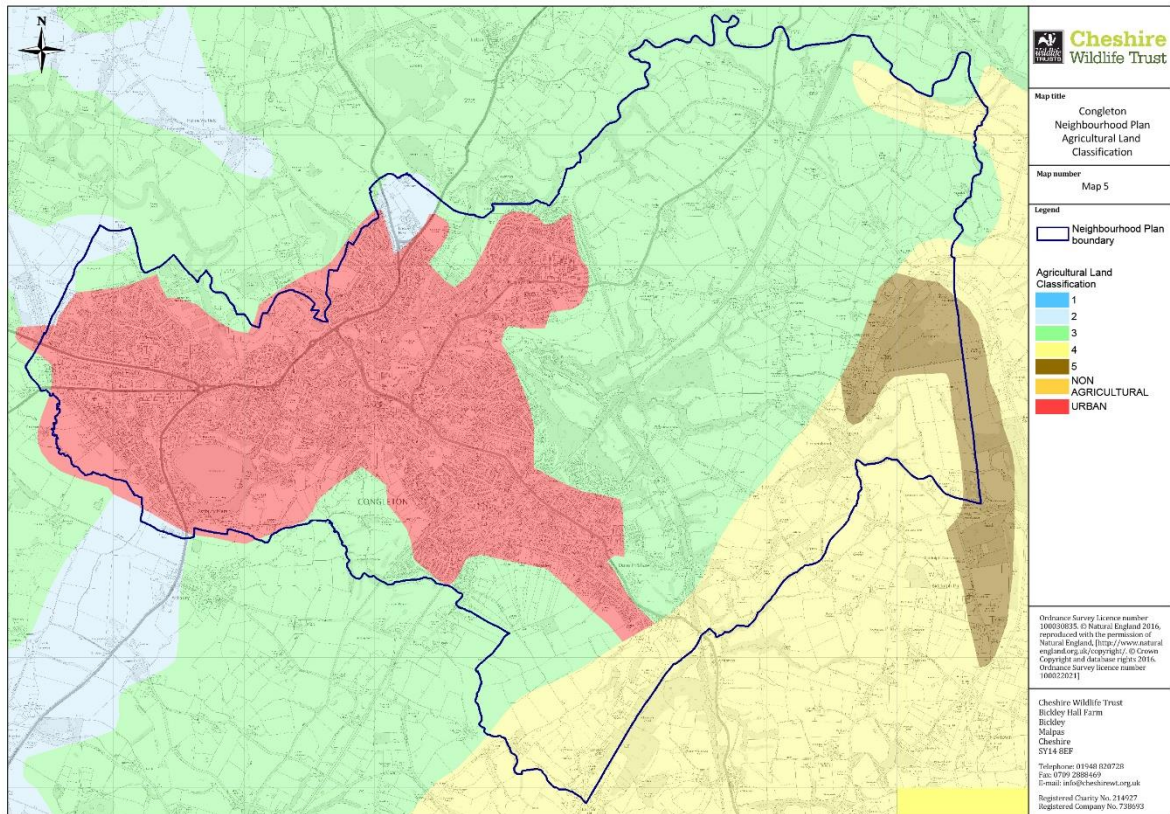
Map 3: Priority habitat – Natural England 2014



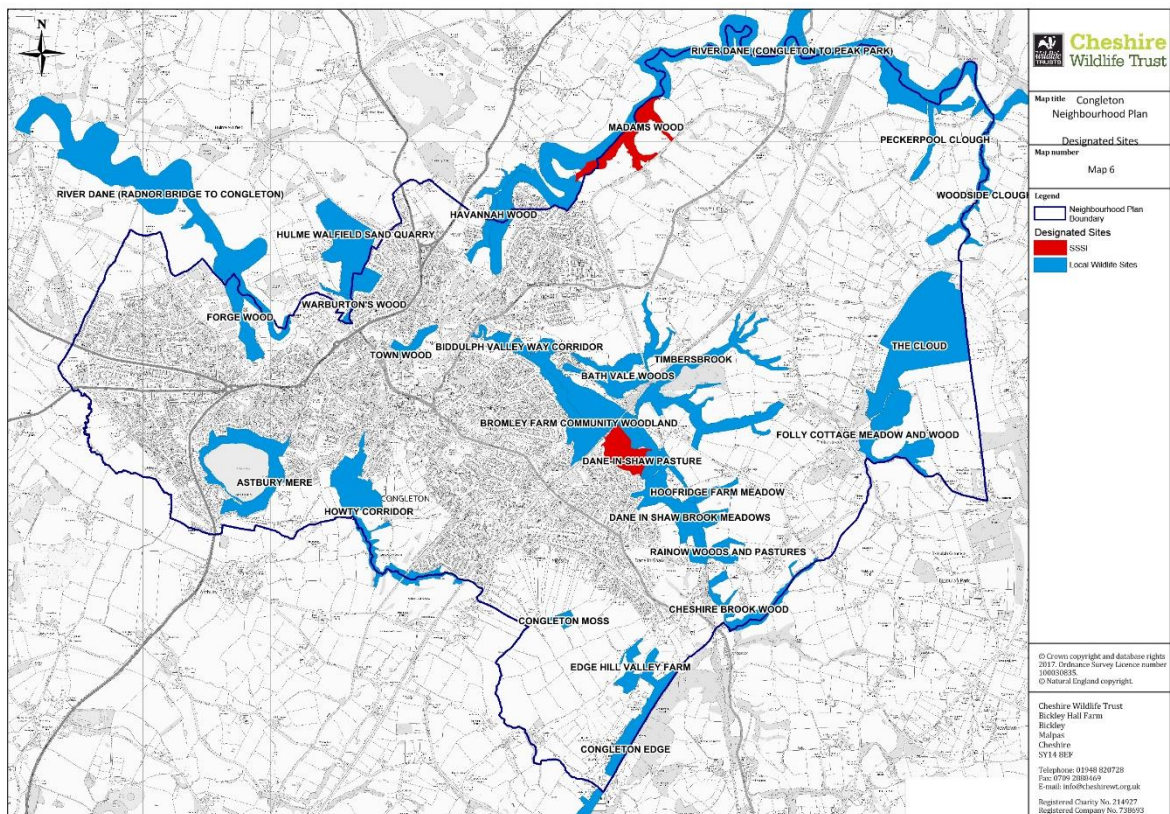
Map 4: Land Cover Map 2007 (LCM2007) is a parcel-based classification of satellite image data showing land cover for the entire United Kingdom derived from a computer classification of satellite scenes obtained mainly from the Landsat sensor



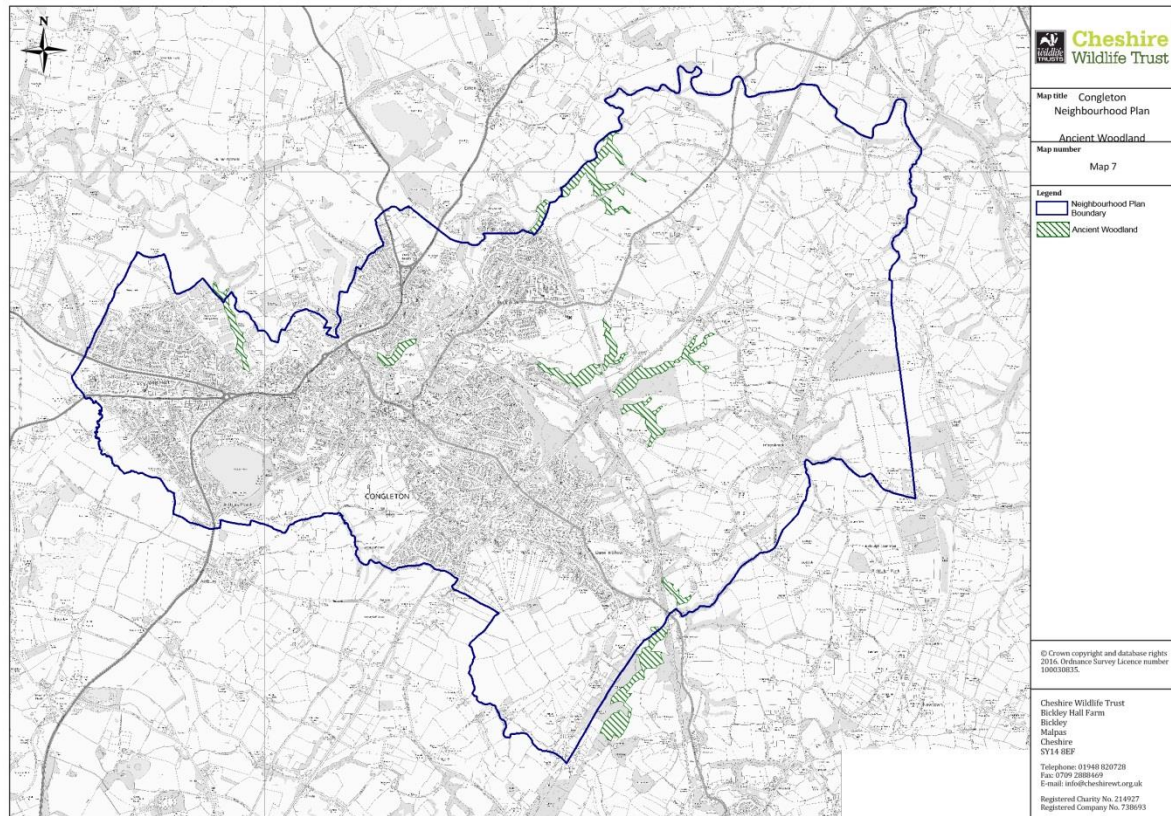
Map 5: Agricultural Land Grading – Natural England 2013



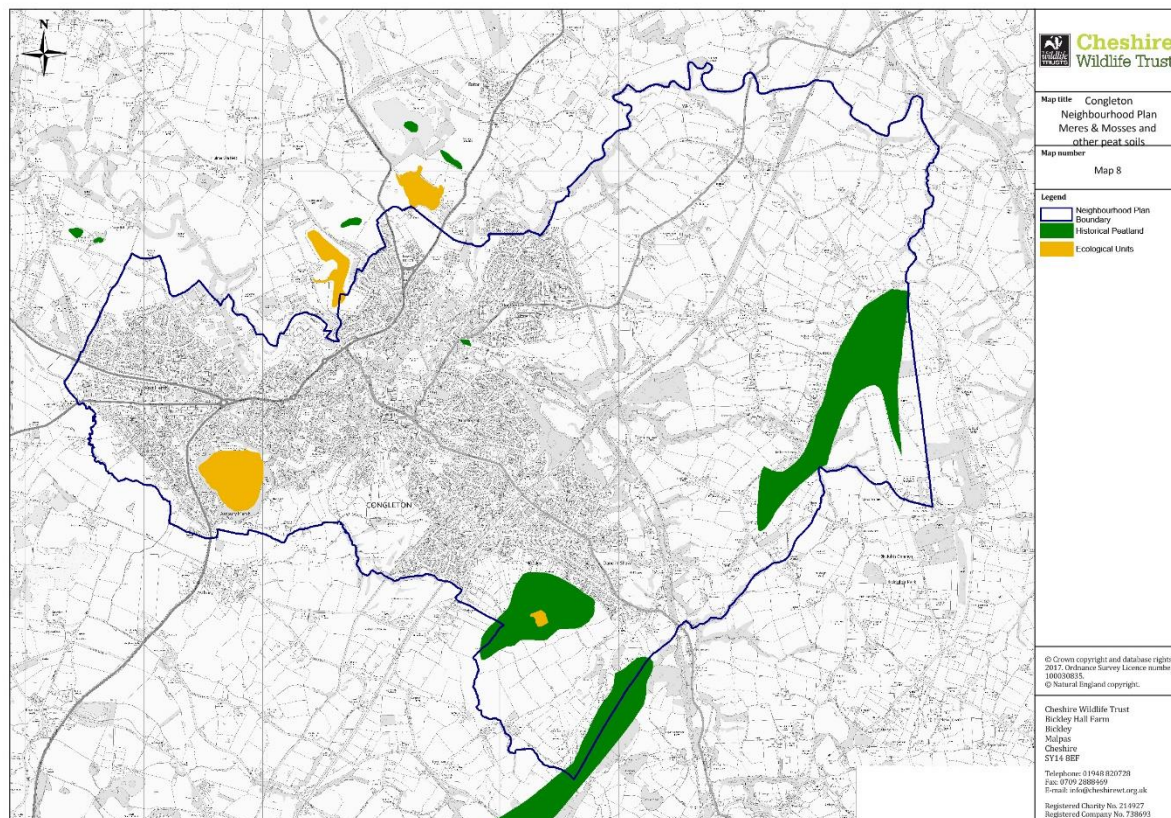
Map 6: Designated Nature Conservation Sites (including Sites of Special Scientific Interest, Local Wildlife Sites, Local Nature Reserves)



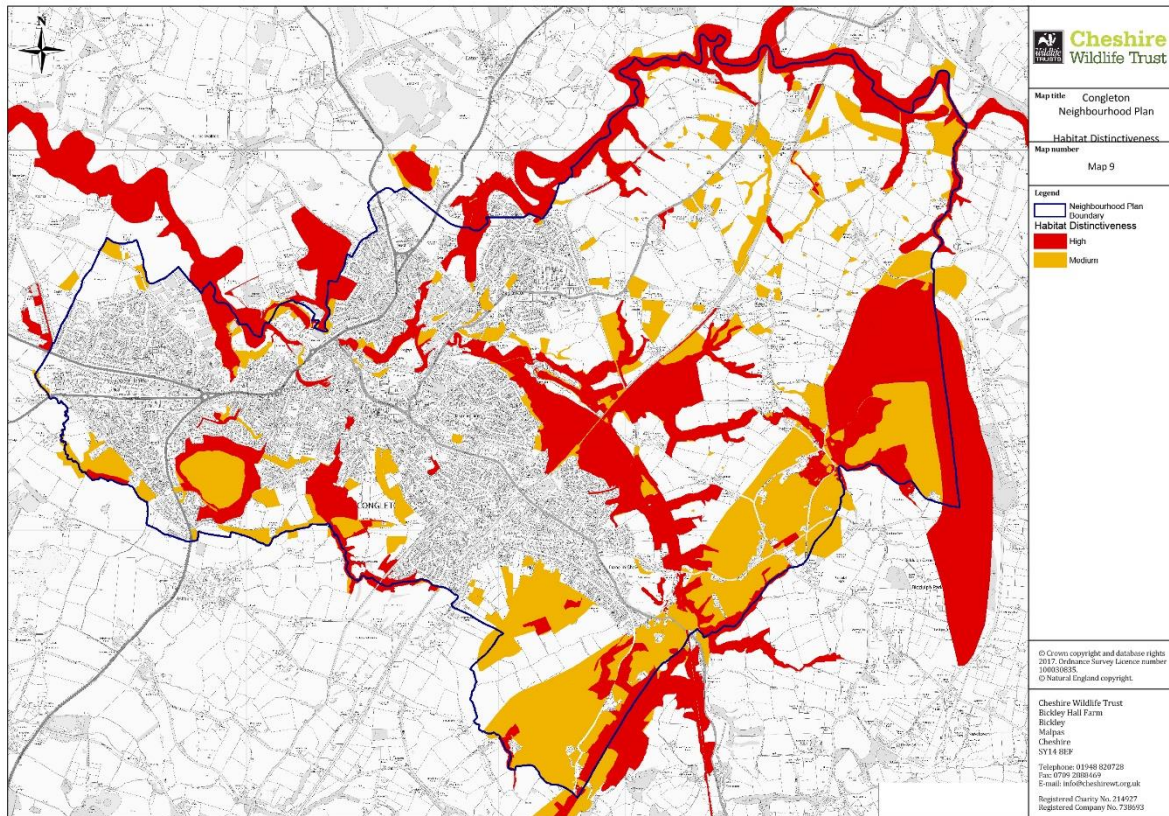
Map 7: Ancient woodland – Natural England 2015



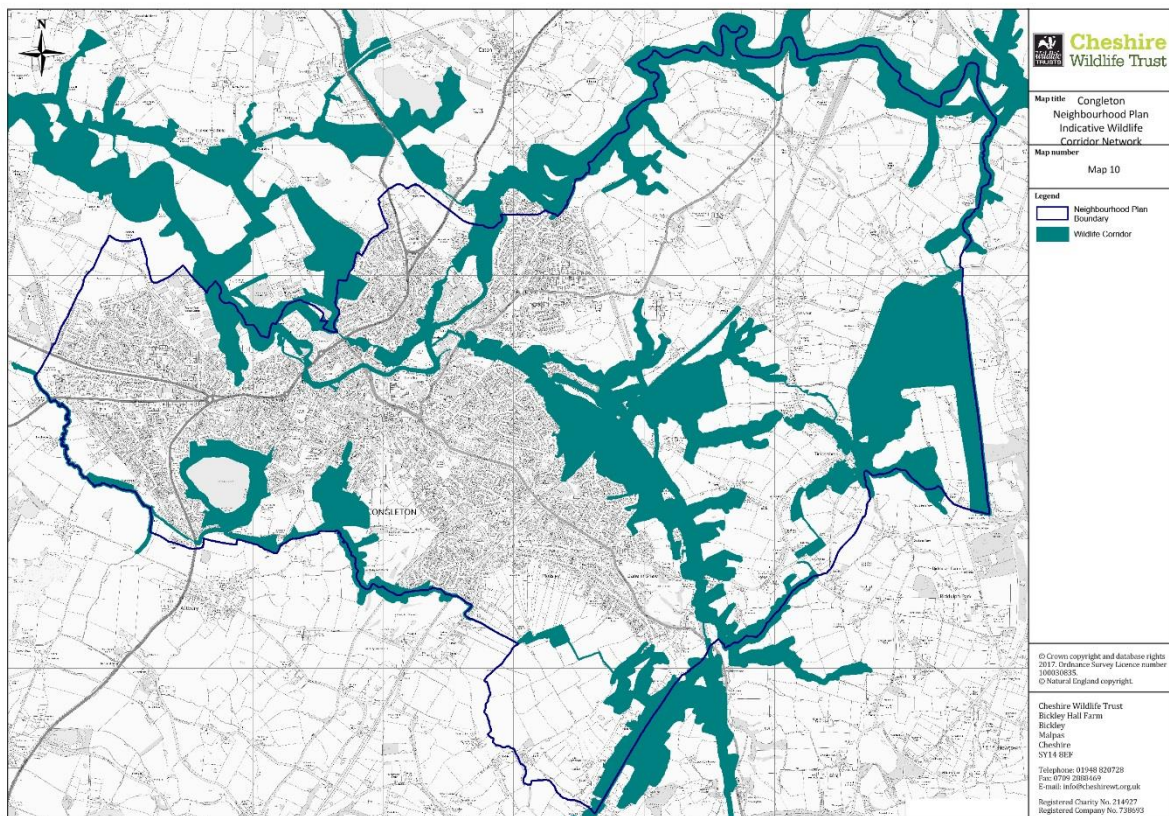
Map 8: Meres and Mosses and other peat soils, Meres and Mosses Landscape Partnership Scheme 2016



Map 9: Habitat Distinctiveness



Map 10: Indicative Wildlife Corridor Network



Results and discussion

High distinctiveness habitat

1. Woodland

The Congleton area is particularly rich in wildlife; particularly notable are the numerous clough woodlands that cover the steep valley slopes along the tributaries which feed into the Dane. Although most woodlands in Cheshire are fragmented and impoverished, the woodland to the east and north-east of Congleton is an exception. Many of these woodlands are ancient (i.e. thought to be at least 400 years old) and are listed on the ancient woodland inventory (Natural England 2015). Some of the smaller clough woodlands do not meet the size threshold for appearing on the register but are similar in character to the others and are also likely to be ancient.

Typically these clough woodlands support ash, oak, sycamore and birch, with alder in the wetter areas and wych elm along the river Dane corridor. The ground flora is remarkably diverse compared to many other local woodlands with species such as wild garlic, pale sedge, water avens, pond water crowfoot, wood anemone, yellow archangel and extensive tracts of native bluebells. There are numerous rarities which are normally only found in ancient woodland including sanicle, giant bellflower, woodruff, toothwort and wood melick.

These ancient woodlands are considered irreplaceable habitats due to time taken for them to acquire their diverse flora and fauna. The presence of high quality woodland means that this area is especially important for notable red listed¹ species of birds including pied flycatcher and spotted flycatcher (which bred in local woodlands in 2014). Red listed willow tit, which has been lost from most of Cheshire in the past 30 years, is present in the higher quality wet woodland. Other notable bird species that frequent the woodlands and associated adjacent habitats include lesser spotted woodpecker, cuckoo and Eurasian woodcock.

The designated clough woodlands include Madams Wood Site of Special Scientific Interest and several Local Wildlife Sites including large tracts along the river Dane, Woodside Clough, Peckerpool Clough, Edge Hill Valley, Cheshire Brook Wood, Rainow Woods, Timbersbrook, Town Wood, Warburton's Wood, Bath Vale Woods, Forge Wood, Havannah Wood and woodland near Folly Cottage on the side of the Cloud.

Woodlands at Bromley Farm, Astbury Mere, Congleton Edge, Congleton Moss and Biddulph Valley Way are also Local Wildlife Sites but with different characteristics to the group of clough woodlands. Congleton Edge and Congleton Moss are relatively young birch/oak woodlands which have developed on areas of pre-existing heathland and mossland. At Congleton Edge this is as a result of the cessation of grazing and at Congleton Moss it is because the underlying peat has dried out as adjacent land has been drained.

The damp woodlands have a rich flora but unfortunately they also provide perfect conditions for the spread of the invasive non-native Himalayan balsam. This species is probably the biggest threat to the integrity of these important woodlands as its vigorous growth means that native flora is outcompeted. This can have a devastating impact on the native woodland flora and a knock on

¹ Birds of Conservation Concern 2017

effect on groups of species such as birds, invertebrates and mammals. Himalayan balsam can also cause severe soil erosion issues when native flora that binds the soil disappears. This is particularly damaging to the river banks causing soil to wash into the watercourses affecting the water quality.

2. *Watercourses*

The Dane is a major river that marks the northern boundary of the Congleton NP area. Not only is it important for the woodland and wetlands along its banks, but the river and its tributaries support notable bird populations including kingfisher, grey wagtail (red listed) and dipper. In Cheshire dippers are confined to the fast flowing upper reaches of rivers and streams in the far east of the county. The river Dane is particularly important for dippers and Congleton is the lowest point on the Dane where this species is known to breed. The river and its tributaries are also thought to provide important habitat for otters and globally endangered native white-clawed crayfish populations.

3. *Heaths and mosslands*

Lowland heaths and mosslands are recognised as internationally important habitats as they are rapidly disappearing across much of Europe. Once widespread in lowland Cheshire it is thought that there are as little as 57 ha of lowland heath and 316 ha of wet mossland² in this wider region. Consequently lowland heath and mossland are now the rarest inland broad habitat types in Cheshire.

As these habitats dry out or disappear under trees agricultural fields or developments, so too do the specialised flora and fauna they support, such as common lizard, adder and green hairstreak butterfly (still present on Congleton Edge). The remaining areas of lowland heath in Cheshire are small, highly fragmented and consequently unviable³ in the longer term.

One of the largest areas of lowland heath in the county is located on Bosley Cloud (14 ha). The Cloud is a steep gritstone hill covered in a mosaic of heath and acid grassland with areas of scrub and bracken. Managed by the National Trust, it supports a wide range of specialist fauna and flora including the nationally scarce hybrid between bilberry and cowberry (*Vaccinium intermedia*). It also has a high ornithological interest. The heathland extends in patches southwards from the Cloud and along Congleton Edge; however most of the patches are no longer grazed or managed and are succeeding to woodland, threatening the long term survival of the heathland specialist species in this area.

Congleton Moss was once one of the largest peatlands in the region and would have supported an abundance of wildlife. Characteristic moss-rooms bounded by hawthorn hedges delineate the narrow strips of land where the peat was once cut. A remaining fragment of the moss has been designated a Local Wildlife Site, although the peatland flora and fauna have now largely disappeared as the habitat has dried out and trees have encroached.

4. *Species-rich grasslands*

The Congleton area also supports significant tracts of species-rich grassland, the fastest disappearing habitat in the UK. A number of these areas are species-rich hay meadows, including the remarkable

² EONet 2003

³ EONet 2003

Coronation⁴ meadow at Dane-in-Shaw Local Wildlife Site used by the Cheshire Wildlife Trust as a donor meadow to help restore wildflower grassland in the local area.

There are also areas of species-rich pasture including Dane-in-Shaw SSSI, Dane-in-Shaw Brook meadows and Hoofridge Farm. Most of this habitat is located on steep slopes and is slightly acidic in nature with species such as harebell, betony and tormentil. Some of the slopes support marshy grassland with characteristic wetland species such as greater birdsfoot trefoil and marsh bedstraw. The presence of species-rich grassland in the Congleton area means that there are also good populations of pollinators such as bees and butterflies. Good pollinator sites with species-rich grassland include Astbury Country Park, Dane-in Shaw and most notably at Timbersbrook meadow where the rare small heath butterfly can be found.

Medium distinctiveness habitat

Areas of medium distinctiveness habitat are shown on map 9 (displayed as orange) and provide important wildlife habitats in their own right as well as acting as ecological stepping stones and corridors. Because the methodologies used to produce the maps are desk based rather than field survey based, there is a possibility that some of the medium distinctiveness areas have been undervalued and an ecological survey may indicate they should be mapped as 'high distinctiveness' priority habitat (which would be displayed as red in map 8). Conversely there may be areas which have been overvalued, particularly if recent management has led to the deterioration of the habitat; in which case these areas should be removed from the habitat distinctiveness map.

The majority of the 'medium distinctiveness' habitats identified in map 9 are thought to be semi-natural grassland with extensive areas on the slopes of Congleton Edge, Timbersbrook and Bosley Cloud. Semi-natural grasslands are invaluable for wildlife as they can support large populations of invertebrates and mammals such as brown hare which are present in the Congleton area. Many local red listed farmland birds such as skylark feed on insects that live in semi-natural grasslands.

Reptiles such as slow worms have been recorded on areas of semi-natural grassland along the Loach Brook. These rare reptiles have been found on just four sites in the county meaning their long term survival in Cheshire is threatened. Congleton is therefore a considered to be a key area for this species.

The Congleton area has a fairly low density of field ponds compared to other areas of lowland Cheshire, however where these exist they help contribute to the permeability of the landscape for wildlife. Ponds have been highlighted as habitat of medium distinctiveness in map 9 and should always be retained where possible when land is developed. Where ponds are stocked with high numbers of fish the wildlife value is decreased. This is because introduced fish (such as bottom

⁴ Coronation meadows have been identified as the most outstanding examples of our remaining meadows and are used as donor sites to restore other local wildflower meadows. The scheme was the idea of HRH the Prince of Wales as a way to celebrate his mother's 60th anniversary on the throne. It is a partnership project between Plantlife, the Wildlife Trusts and the Rare Breeds Survival Trust. In 2016 seed from Dane in Shaw Coronation Meadow was used by the Cheshire Wildlife Trust to restore a meadow at Swettenham near Congleton.

feeding non-native carp) can deplete the pond of invertebrate larvae and amphibian eggs/larvae as well as water plants. Despite this, even low value ponds can help increase landscape permeability for species such as birds and terrestrial invertebrates.

Landscape permeability is also underpinned by the hedgerow network which can provide excellent habitat for declining farmland bird populations such as tree sparrow and yellowhammer which are both present in the area. Invertebrates and small mammals also inhabit hedgerows, particularly those with adjacent wide field margins as well as inhabiting areas of semi-improved grassland. The small mammal population supports birds such as kestrel and barn owl which therefore do best in areas where the traditional farmland landscape is intact. Congleton has a good population of UK priority bat species including brown long eared bats, noctules, and soprano pipistrelles which use the hedgerow network as well as the watercourses as foraging routes. The Key Green area has a particularly good hedgerow network and so do the slopes of Congleton Edge and Bosley Cloud where field enlargement has not been so prevalent compared to lower lying areas.

Wildlife corridor network

Wildlife corridors are a key component of local ecological networks as they provide connectivity between core areas of high wildlife value/distinctiveness enabling species to move between them to feed, disperse, migrate or reproduce. In conjunction with the results of the EConet analysis (2003), this study has identified a wildlife corridor network (shown in map 10) with ecological connectivity within and beyond the Congleton Neighbourhood Planning area. The connecting wildlife corridors identified for neighbouring Hulme Walfield and Somerford Booths are also identified on map 10.

The corridor has three main focal points: the first is the river Dane corridor, second are the woodlands and species rich grasslands in the vicinity of Bath Vale/Dane-in-Shaw/Timbersbrook and third is the upland ridge from Congleton Edge northwards to Bosley Cloud. Crucially these areas need to be ecologically linked if they are to retain their wildlife value in the long term. Providing habitat that is favourable for the movement of species between these three areas will help ensure that the wildlife is more resilient to environmental change.

Currently there are several weak spots in the corridor network including Congleton town centre where the river Dane runs through culverted sections with little riparian habitat. Several areas of wildlife habitat within the town help mitigate this, especially Town Wood Local Wildlife Site. Ensuring this important ancient woodland is in positive management⁵ is especially important for wildlife in the Congleton area.

A further weak spot is located on the river Dane at the weir at Mill House Havannah. The weir poses a barrier to aquatic invertebrates and fish, although the adjacent woodland provides connectivity for other species. Narrow sections of the corridor on the upland ridge are not so vulnerable due to extensive areas of semi-natural habitat in the locality combined with a low threat of habitat loss.

⁵ Refer to appendix 3

A fourth more vulnerable corridor is located on the southern boundary following the courses of the Loach Brook, Howty Brook and the stream that flows away from the Congleton Moss area. Potential development pressures, habitat fragmentation and intensive agriculture with high inputs of agrochemicals means that wildlife in the area is more vulnerable than that in the intact landscape to the east of the town.

Current weak spots in this southern corridor include: the connection along hedgerows between Edge Hill Valley Farm and Congleton Moss; the point where the stream flowing away from the moss is culverted under the A34 and through a field of arable crops; a section of corridor to the south of Astbury Country Park where the Lamberts Lane stream has little riparian vegetation. To help wildlife survive in this part of town it is important to improve ecological connectivity by providing wide wildlife friendly buffers along watercourses and along edges of any future housing developments.

Protection of the wildlife corridor and other high and medium distinctiveness habitat

Map 10 incorporates an indicative boundary for the wildlife corridor network; however this is likely to require refinement following detailed survey work. The corridor should be wide enough to protect the valuable habitats identified in Map 9 and for this reason we have incorporated a 15 metre buffer zone around any high distinctiveness habitat. The buffer is necessary to help protect vulnerable habitat from factors such as light pollution and ground water pollution, predation by domestic pets, and invasive garden species.

A 15m buffer zone is also appropriate for any land lying outside the corridor network that, following an ecological appraisal, is subsequently found to be high distinctiveness Priority habitat⁶. Any potential development proposals adjacent to a high distinctiveness habitat or a wildlife corridor should demonstrate substantial mitigation and avoidance measures to lessen impacts on wildlife. For example low spillage (bat/otter sensitive) lighting should be recommended for use on the outside of buildings or in car-parks and along pathways and watercourses. Surface drainage water from developed areas should always be directed away from sensitive areas due to the risk of pollution unless the source of the water is clean, such as rainwater collected from roofs. Sustainable Drainage Schemes (SuDS) are useful in providing additional wildlife habitat and preventing flooding, but they may still hold polluted water so should not drain directly into existing wildlife habitat unless the filtration system is extensive.

Not all sections of the wildlife corridor provide high quality habitat and measures to improve the ability of the corridor to support the movement of species is desirable⁷. Enhancement of the corridor may be facilitated by opportunities arising through the planning process (e.g. S106 agreements, biodiversity offsetting/compensation) or through the aspirations of the local community.

In addition to the 'wildlife corridor network' this study has identified further areas of high or medium 'habitat distinctiveness' (Map 9) which, although sit outside the wildlife corridor network,

⁶ This may currently be mapped as medium distinctiveness due to lack of information.

⁷ Refer to Recommendations section

nevertheless may provide important wildlife habitats acting as ecological stepping stones. These areas comprise semi-natural/species-rich grassland, ponds and semi-natural woodlands.

The extensive network of field boundary hedgerows provides habitat connectivity between high distinctiveness areas, which would otherwise be separated by extensive areas of land predominantly of low habitat distinctiveness with restricted potential for wildlife to disperse. Although not identified as a key component of Congleton ecological network, collectively, these hedgerows provide linear connectivity through the neighbourhood and beyond. In addition to their intrinsic ecological value a good hedgerow network also adds to the landscape character value, particularly in the vicinity of Congleton Moss, Key Green, Ivy Bank Farm and Toft Green Farm.

Old meadows supporting species-rich neutral or marshy grassland are the fastest disappearing habitats in the UK. These grasslands are particularly important for pollinating insects and insectivorous birds and mammals. 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 they should be re-classified as 'high distinctiveness' (Priority/principal importance) habitat and there is a presumption that they should not be built on (as stipulated in the Local Plan and the NPPF). In order to achieve no 'net loss' in biodiversity, compensation may be required should these areas be lost to development when avoidance and mitigation strategies have been applied in line with the guidance set out in the National Planning Policy Framework.

Conclusion

This study has highlighted that the important wildlife habitat in Congleton is mainly associated with the woodlands and semi-natural grasslands/heathlands of River Dane and its tributaries and the steep gritstone edge in the far east. By attributing habitat distinctiveness values to all land parcels in the Neighbourhood Plan area the study has provided important evidence that should be taken into consideration when planning decisions are made. However we strongly recommend that further (phase 1) habitat survey work is undertaken at the appropriate time of year, in particular to verify that 'medium value' habitats have not been over or under-valued.

Most notably the analysis has identified a 'wildlife corridor network' which provides ecological connectivity between woodland, heathland, grassland and riparian habitat within and beyond the Neighbourhood Planning area. The wildlife corridor network supports a wide range of species including numerous birds, plants, mammals, reptiles and invertebrates that are in decline both locally and nationally. Some of the most notable are the globally endangered white-clawed crayfish; the slow worm (Congleton is a key site for this priority species of reptile); rare or scarce red listed birds such as willow tit, grey wagtail, cuckoo, lesser spotted woodpecker, pied and spotted flycatcher; the small heath butterfly and rare/scarce plants such as *Vaccinium intermedia*, toothwort and sanicle.

We recommend that the corridor network shown in map 10 is identified in the Neighbourhood Plan and protected from development so that the guidance relating to ecological networks set out in the NPPF (paragraphs 114 and 117) may be implemented at a local level. 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 areas of high distinctiveness habitat are subsequently identified these should also be protected by a 15 metre non-developable buffer zone.

Any future development of sites which lie adjacent to high distinctiveness habitat or a wildlife corridor should be able to demonstrate substantial mitigation and avoidance measures to lessen any potential impacts on wildlife. An example of this is that bat sensitive lighting could be recommended for use on the outside of buildings or in carparks/pathways, and otter sensitive lighting in areas adjacent the River Dane and its tributaries. Surface drainage water from developed areas should always be directed away from sensitive areas due to the risk of pollution.

To summarise, future development of Congleton should respect the natural environment. The most intact landscapes, in terms of biodiversity, landform and historical/cultural associations should be valued highly when planning decisions are made. Protection and enhancement of Congleton's natural assets is of crucial importance for nature conservation and ecosystem services but it is also important for the enjoyment of future generations.

Recommendations for improving and protecting habitat in order to create a coherent ecological network

Following adoption of the neighbourhood plan, CWT advises that the following recommendations should be actioned:

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

The areas highlighted as 'wildlife corridor network' in Map 10 incorporate 22 designated Local Wildlife Sites, however it is highly likely that other land would meet also the criteria for Local Wildlife Site selection. These areas should be designated if the selection criteria are met, as LWS designation is likely to provide a greater level of protection within the planning system.

The wildlife corridor network should be in 'favourable condition'⁸ to provide breeding, foraging and commuting habitat for the native species that live there and native species which may subsequently colonise. Ideally these areas should be surveyed by a qualified ecologist to identify management priorities.

⁸ The definition of 'favourable condition' for Local Wildlife Sites is provided in Appendix 3

Management work may include:

- Control of Himalayan balsam. It is extremely important that this species is prevented from further colonisation the woodlands and wetlands. The Cheshire Wildlife Trust is aware that extensive areas of non-native Himalayan balsam have previously been recorded in many of the woodlands and along the banks of the river Dane. This species is highly invasive out-competing native flora and causing soil erosion due to the lack of binding vegetation in winter (particularly on river banks). Himalayan balsam is listed on Schedule 9 of the Wildlife and Countryside Act 1981 which means it is an offence to plant or otherwise cause to grow in the wild. CWT can provide further advice on the control of this and other non-native species.
- Control of non-native/garden species in woodland. Garden species such as non-native daffodils, Spanish/hybrid bluebells, monbretia, cotoneaster and variegated yellow archangel and can all be highly invasive and damage the ecological balance of woodlands. The latter three are all listed on schedule 9 of the Wildlife and Countryside Act.
- Hedgerows that form part of the wildlife corridor should be restored using locally native species such as wych elm, hawthorn, blackthorn, hazel and holly (plant 60-90cm high 'whips' which have a good rate of survival and use tree guards to protect from rabbits and stock fence where necessary). New sections of hedgerow should ideally incorporate a tree every 30m (on average) which are demarked so as not to be inadvertently flailed.
- All semi-natural grassland should be cut or grazed each year to maintain its wildlife value.
- Areas of lowland heath should be managed in the long term by controlling tree and scrub cover (professional advice should be sought first).
- Areas of mossland should be managed in the long term (professional advice should be sought).
- Ensuring watercourses are buffered by semi-natural habitat to provide riparian habitat and help prevent pollution runoff. Pollution prevention is especially important where the watercourse supports globally endangered white-clawed crayfish.

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

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

Ways to enhance connections or to buffer sites could include the restoration of hedgerows, creation of low maintenance field margins and sowing locally sourced (local genetic stock) wildflower meadows⁹. Woodland expansion is desirable to buffer existing woodlands; however tree planting should only occur on species-poor (low value) habitats and away from the edges of watercourses including ditches and ponds. Professional advice should always be sought when creating new habitat.

⁹ Cheshire Wildlife Trust can provide advice and seeds for locally sourced wildflower meadow creation.

3. Protect existing hedgerow network

Hedgerows which 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. Removal of a hedgerow in contravention of *The Hedgerow Regulations* is a criminal offence. The criteria used to assess hedgerows relate to its 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 or sections of hedgerows or their associated features (e.g. ditches, banks, 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 should be provided.

Guidance issued by DEFRA relating to biodiversity offsetting requires 'multipliers' to be applied according to the condition of any native hedgerow to be lost: 'Poor' condition hedgerows should be compensated for using a multiplier of x1 (i.e. like-for-like length), 'Moderate' condition hedgerows should be compensated for using a multiplier of x2, and 'Good' condition hedgerows should be compensated for using a multiplier of x3 (e.g. loss of 10m of hedgerow in 'Good' condition would require 30m to be planted in compensation).

Hedgerow condition assessment criteria are provided in the Natural England Higher Level Stewardship Farm Environment Plan Manual (2010), however, in brief, three condition assessments are made: average height before flailing is at least 2m; average width before flailing is at least 1.5m; less than 10% gaps, excluding gate holes and gaps beneath tree canopy. Native hedgerows meeting all three criteria are in 'Good' condition, those meeting any two criteria are in 'Moderate' condition, and those meeting no criteria are in 'Poor' condition.

Any new sections of hedgerow should be created following the guidance provided above (point 1).

4. Phase 1 habitat mapping

It is strongly recommended that Congleton Neighbourhood Planning area is phase 1 habitat mapped. This will provide a high level of habitat detail and could be used to verify the results of the habitat distinctiveness mapping (map 9). Phase 1 mapping may identify further areas of medium or high distinctiveness (Priority) habitat not identified by this assessment. Areas identified as having medium value habitat in this report should be targeted for survey as a priority. Phase 1 mapping should also be used to determine the exact position of the wildlife corridor network.

Appendices

Appendix 1

Habitats, LCM2007 classes¹⁰ and Broad Habitat subclasses 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

¹⁰ No habitat scores higher than 'medium distinctiveness' due to the reliability of the data

		Arable barley	Aba	Low
		Arable wheat	Aw	Low
		Arable stubble	Ast	Low
Improved Grassland'	4	Improved grassland	Gi	Low
		Ley	Gl	Low
		Hay	Gh	Low
Rough Grassland	5	Rough / unmanaged grassland	Gr	Medium
'Neutral Grassland'	6	Neutral	Gn	Medium
'Calcareous Grassland'	7	Calcareous	Gc	Medium
Acid Grassland	8	Acid	Ga	Medium
		Bracken	Br	Medium
'Fen, Marsh and Swamp'	9	Fen / swamp	F	Medium
Heather	10	Heather & dwarf shrub	H	Medium
		Burnt heather	Hb	Medium
		Gorse	Hg	Medium
		Dry heath	Hd	Medium
Heather grassland	11	Heather grass	Hga	Medium

'Bog'	12	Bog	Bo	Medium
		Blanket bog	Bb	Medium
		Bog (Grass dom.)	Bg	Medium
		Bog (Heather dom.)	Bh	Medium
'Montane Habitats'	13	Montane habitats	Z	Medium
Inland Rock'	14	Inland rock	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
		Littoral sand	Ls	Medium
Saltmarsh	21	Saltmarsh	Sm	Medium
		Saltmarsh grazing	Smg	Medium
Urban	22	Bare	Ba	Low
		Urban	U	Low
		Urban industrial	Ui	Low
Suburban	23	Urban suburban	Us	Low

Appendix 2

Meres & Mosses LPS / NIA: Methodology for Mapping Extant Meres & Mosses

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

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

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

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

Appendix 3

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

- The conservation features for which the site has been selected are clearly documented.
- There is documented evidence of a management plan/management scheme/advisory document which is sufficiently targeted to maintain or enhance the above features.
- 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.
- The Local Sites Partnership has verified the above evidence.