



**Cheshire and Warrington**  
**Local Nature Recovery Strategy**  
2025-2035

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## Foreword - Councillor Louise Gittins, Leader, Cheshire West and Chester Council

As the Responsible Authority required to develop and produce the Cheshire and Warrington Local Nature Recovery Strategy, Cheshire West and Chester Council is honoured to lead this process for the county on behalf of Cheshire East, Warrington Borough Council and the Peak District National Park Authority, with support from Natural England, the Environment Agency and the Forestry Commission.

We are grateful to Cheshire Local Nature Partnership, our supporting authorities, residents, communities, and businesses who have helped us produce this strategy over the past 24 months.

The purpose of our Local Nature Recovery Strategy is to urgently halt nature's decline and ensure its recovery across the county and positively contribute to the Nature Recovery Network for England. Our Local Nature Recovery Strategy outlines the priorities, actions and maps we all need to guide our projects, decisions and where resources should be targeted.

All three councils' decisions to declare a Climate Emergency demonstrate the combined commitment to repair the natural world and combat climate change. Cheshire's Local Nature Partnership (LNP) will be developing an action plan so that we can all work together to deliver the priorities and actions set out here.

Investing in nature can make business more effective and sustainable, help places become more climate resilient, act as a focus for quality placemaking, build stronger communities, and improve people's health and wellbeing.

To complement new initiatives and more joined up activities, work will continue on many landscape scale projects already being led by Local Nature Partnership members.

These include Saving Lindow Moss, the Trees for Climate programme, Networks for Nature project, Coronation Meadows, Deescapes Programme and the Bollin to Mersey Nature Recovery Project. This Strategy will play an important role in developing future projects like these, together with coordinating work to invest in nature across our landscape for years to come.

To promote and recognise positive action, we are launching the annual Wilder Cheshire Awards to celebrate the efforts of so many individuals, businesses, farmers, landowners and community groups making a difference to create a more nature-friendly Cheshire.

This is not just a strategy that contains ambition and aspirations, it also includes detailed examples of practical things we can do in Appendix 7. I look forward to us all working together to protect and safeguard the wildlife, habitats and natural spaces we love, cherish and rely on here in Cheshire and Warrington.

**“ We want to mainstream nature's recovery into all decisions and activities so that nature, people and businesses thrive. ”**

# Foreword - Councillor Tony Higgins, Lead Member for Climate Change, Sustainability and the Environment, Warrington Borough Council

Warrington Borough Council is proud to have worked alongside the responsible authority, Cheshire West and Chester Council, Cheshire East Council and the Peak District National Park Authority in the development of the Cheshire and Warrington Local Nature Recovery Strategy, supported by Natural England, the Environment Agency and the Forestry Commission.

In 2019, Warrington Borough Council declared a climate emergency and made a commitment to take action. Understanding that the global climate crisis has an important local dimension, this commitment made clear that we must all do our bit to limit our impact and ensure we are prepared for the effects. The Warrington Climate Emergency Commission was set up shortly after, to advise the council on its climate commitments and lead the borough-wide conversation on climate change.

At Warrington Borough Council, our goal is to be net-zero within our own operations by 2030. To meet our objective, we must rapidly decarbonise our activities, including the way in which we heat and power our built infrastructure, the way we travel to work and the resources that we consume daily. A new climate change team was established in 2021 to move forward with achieving these goals and developing a Climate Emergency Action Plan, which was adopted in May 2023.

A key component of Warrington Borough Council's commitment to change and taking effective action will be realised through the Local Nature Recovery Strategy for Cheshire and Warrington. The strategy identifies the priorities, actions and locations for nature recovery within Cheshire and Warrington over the next decade and aims to improve ecological networks, targeting investment in nature as part of the process of climate change adaptation.

As a member of Cheshire's Local Nature Partnership, Warrington Borough Council will take a leading role in developing an action plan to deliver these priorities and actions, as the strategy is taken forward.

As nature knows no boundaries, it is imperative that the spirit of cooperative working continues to thrive across Cheshire and Warrington, and that the scope of projects relating to wildlife, habitats and wider ecological networks is not limited to individual boroughs. We all hold a shared responsibility in protecting our natural world, and the Local Nature Recovery Strategy provides the blueprint to turn words into action, providing natural solutions for climate change adaptation. By working together alongside landowners, local communities and future generations of environmentalists, we will ensure a healthy and resilient natural environment that can be enjoyed by all.



**“ We will ensure a healthy and resilient natural environment that can be enjoyed by all. ”**

## Foreword - Councillor Nick Mannion, Leader Cheshire East Council

Our resolution to this important work is clear and increasingly becoming one of our organising principles. On that basis, in January 2022 we made a further pledge to make Cheshire East a carbon neutral borough by 2045. Using policy tools like the environmental policies in our Local Plan and our Biodiversity Net Gain Supplementary Planning Document, we're building a framework to protect nature and promote sustainable energy.

Our environmental strategies have been key to this and have helped us make significant progress by introducing renewable energy to our estate, planting thousands of trees across the borough and promoting the shift to electric vehicles across our fleet.

The actions we are taking today will have positive impacts on everyone, but for us all to lead more rewarding and healthier lives we need to make this a collective effort. By working together, we can live in an environment where our families can flourish – an open, fairer, greener Cheshire East. The biodiversity crisis is intrinsically linked to the climate emergency and as a council we are proud to support this emerging Nature Recovery Strategy, which will help us protect and restore multiple habitats across the region, while adapting to climate change

## Foreword - Michael Gorman, Deputy Leader Cheshire East Council

The climate and biodiversity emergency is something that affects us all and as part of our response to this, back in May 2019, we recognised the climate emergency and committed the council to tackling its own carbon emissions.

This commitment is part of our ambition to make policy and take decisions that improve our performance on environmental issues.

We have also pledged to raise awareness of taking action to combat climate change across the borough, working with others to consider and tackle their own carbon footprint by reducing energy consumption and promoting healthy lifestyles.

Our actions now will help Cheshire East residents lead happier and healthier lives – both now and for many generations to come. It's essential to creating a greener environment for all of us to enjoy.

## Foreword - Peak District National Park Authority

Nature is a crucial part of our lives. We need it to produce the food we eat, clean the air we breathe and the water we drink, and help us feel less stressed and anxious in our fast-paced, modern environment.

The State of Nature reports show that wildlife in the UK is in serious trouble, and the COVID-19 pandemic has demonstrated that nature in our National Parks is more important than ever; especially when we found that opportunity for wellbeing and connectedness to the landscape temporarily taken away.

Though we celebrate the past and continuing hard work of those that are protecting and restoring nature, we acknowledge that we need a step change in action for nature. The Peak District National Park Authority has therefore welcomed being a Supporting Authority for the Cheshire Local Nature Recovery Strategy, and has inputted with the hope that a strategic, county-wide approach can work in parallel with our own Nature Recovery Plan to help connect and restore our natural environment.

This publication provides the priorities for nature for the next 10 years and indicates how people, organisations and communities can get involved. We look forward to seeing the difference that can be made when we all work together to help make Cheshire and Warrington nature positive.



# Executive summary:

**Vision - We want to mainstream nature's recovery into all decisions and activities so that nature, people and businesses thrive.**

## Principles

- Right habitat in the right place for the right reason.
- Comply with current legal requirements, policy, standards, guidance, best practice, as well as required permits and licences when creating and restoring habitats, including taking account of legislative documents (see Appendix 7 for further information).
- Support landowners and managers.
- Think long term and build resilience to climate change and other threats.
- Maximise multiple benefits.
- Improve access to nature for residents and communities.
- Raise awareness and grow skills.
- Grow and share expertise.
- A cohesive, joined up approach.

## Cheshire and Warrington's LNRS network - local habitat maps

**Core sites:** A map of Cheshire and Warrington existing core sites – areas of particular importance to biodiversity with many designated under national and local legislation to protect and enhance nature

**Opportunity areas for nature recovery:** The best locations to create new areas and connect habitats with corridors and stepping stones for nature's recovery.

## Priority habitats and themes

1. Woodland, hedgerows and trees
2. Grassland and heathland
3. Watercourses
4. Peat and wetlands
5. Species
6. Nature-based solutions
7. Farmland
8. Urban

## Examples of opportunities and actions for biodiversity

Manage woodland restoration to increase diversification in the age and structure

Increase the biodiversity in all woodlands including plantations and diversify with climate-resistant native and non-native trees

Plant and maintain more urban trees to create a continuous tree canopy

Turn old landfill sites into unimproved grasslands and other habitats to increase species and habitats

Reconnect rivers to their floodplains so they function more naturally, reducing flood risk downstream

Restore and increase hedgerows which also reduce runoff and improve water quality in rivers and streams

## Enablers – partnerships, resources, management and funding

Establish and maintain a strong effective partnership for management and delivery

Administer and coordinate funding backed by robust and efficient procedures

Ensure funding is targeted to agreed plans and objectives

Increase financial investment into nature and nature-based solutions

Put in place staff and resources to deliver the LNRS, support Cheshire Local Nature Partnership and deliver agreed initiatives

Communicate and promote the benefits of nature and nature's recovery

## Natural public goods and services - how nature helps us

- ✓ Financially successful and productive farm businesses
- ✓ Reduced flood and drought risk
- ✓ Locking away and storing carbon
- ✓ Clean water and air
- ✓ Urban cooling and reduced pollution
- ✓ Healthier soils
- ✓ Food supply and security
- ✓ Physical/mental health and wellbeing
- ✓ Recreation and sustainable tourism
- ✓ Enhanced heritage and culture
- ✓ Better jobs and investment
- ✓ Attractive retail, longer visits and greater spend



# Introduction: Why do we need a nature recovery strategy?

**The county of Cheshire is known for its city, towns and villages and its tourist attractions, heritage, industry and agriculture, but without nature what would it be?**

With the Peak District upland moors in the east, our distinctive meres and mosses, internationally important estuaries, Sandstone Ridge and Cheshire Plains, our county has a varied and rich natural environment. People love to explore its forests and woodland, wetlands, waterways and country parks.

Cheshire has a strong farming heritage, with its gently rolling green landscape, nationally important dairy industry, its famous Cheshire Cheese, and ancient orchards which produce 32 apple species. The county is also known as the 'pond capital of Europe' with its heavy soils supporting 16,000 ponds. Along with our rivers, estuaries, canals and other wetlands, these host an array of plants and wildlife such as Great Crested Newts, Toads, Water Voles and birdlife such as Redshank and Snipe. You may be lucky enough to find the odd hedgehog snuffling in a garden, while you might see a Kestrel or owl hunting for prey, or Swifts and swallows flying overhead.

Much of Cheshire and Warrington's industrial and rural heritage has given us the formal parks, urban trees, ancient woodland, heathland, grasslands, wetlands, orchards, and the canals and rivers that we enjoy today. Cheshire and Warrington's natural assets have been vital to our communities, economy and culture for centuries.

However, nature is at risk. The UK is amongst the lowest 10% of countries for biodiversity in the world. We are witnessing catastrophic declines in key species and habitats. Since the 1990s, we have seen an unprecedented decline in nature in the UK with one in four mammals facing extinction and 43% of birds at risk. Cheshire holds the sad record of having lost more species in the county than in any other rural county in England, with 156 species going extinct since 1950. Pressure on nature from human development, intensification of land use, pollution and climate change has led to habitat loss and fragmentation. This means that wildlife is confined to smaller and lower quality areas without

the means to move and expand.

We need to create bigger, better and more space for nature and ensure they are joined up. You will see references to wildlife corridors and mosaic habitats in the strategy – this means joining up areas for nature, by creating varied stepping stones between them. Variety is key – different species need different habitats to live in, and many species need a variety of habitats over the course of their lifetime.

Not only is nature struggling – but people suffer from unequal access to nature and greenspace. The opportunity for people to enjoy and appreciate nature needs to be made easier for everyone, while protecting nature and allowing it to thrive. To ensure nature continues to be appreciated, cared for and prioritised more people need to connect with it, learn about it, and understand the wonders of its habitats and species. We need to rediscover how to identify plants and animals and understand what they need, to take a role in helping to care for them in the future.

The good news is that globally, nationally and locally, action is underway to halt and reverse the threat to nature. This Local Nature Recovery Strategy is part of a national approach to create a nature recovery network to halt species decline by 2030 and improve it by 2042 (across England). More significantly, the Cheshire and Warrington combined authority's recent approval means the Local Nature Recovery Strategy will be delivered as a strategic approach to nature recovery.

In turn, the UK is committed to the Global Biodiversity Agreement to achieve 30 by 30 (30% of land protected for nature by 2030).

**What is Biodiversity? Biodiversity means the variety of life in our natural world – including plants, animals, insects and microorganisms.**



# What is a Local Nature Recovery Strategy?

**Cheshire and Warrington's Local Nature Recovery Strategy is our collective blueprint to turn around nature's decline and restore it. The strategy:**

- describes our unique natural environment and key habitats and species whilst providing the current state of nature in the county.
- sets out the opportunities and priorities for different parts of Cheshire and Warrington, showing us where we can take action to safeguard and enhance the special species that live there.
- identifies the actions to deliver our priorities (see Appendix 7).
- includes interactive local habitat maps with different layers of information, including our Core nature sites and where it might best be improved, and signposts to useful resources.

**Our interactive pledge map shows where people, communities, businesses and other organisations intend to act, or have taken positive action for nature already.**

**Nature recovery can happen in every place, whether it is on a balcony, in a garden or community space, on a family farm or a large country estate.**

**We can all make a difference, from farmers and landowners, Town and Parish Councils, businesses and housing developers to highways engineers, school children, communities and voluntary groups.**



[Visit our pledge map here >](#)

**Note: All pledges will only be shown once you are on the verge of submitting your own pledge.**

# How was the Local Nature Recovery Strategy produced?

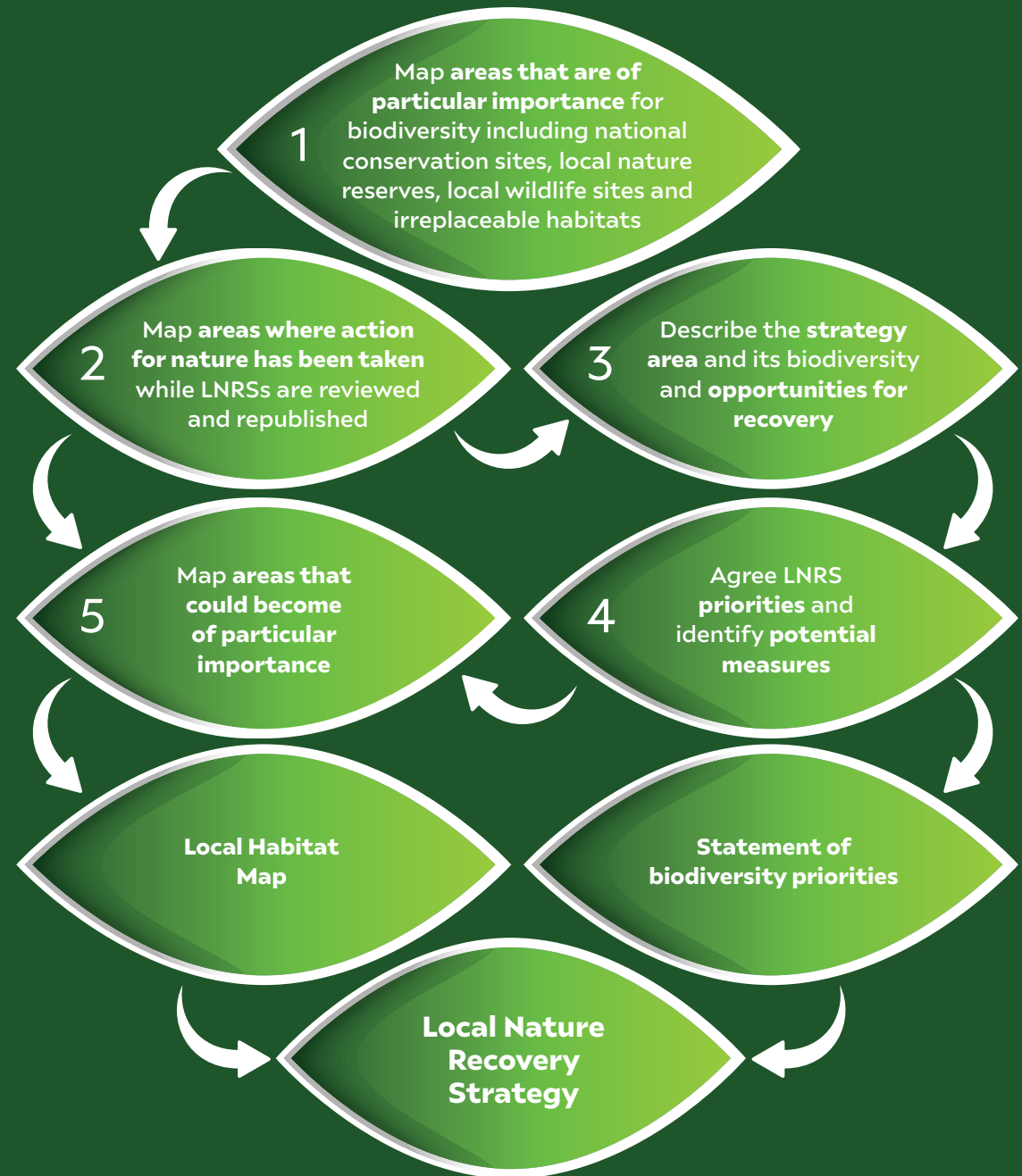
The Environment Act 2021 requires Cheshire and Warrington local authorities to develop a Local Nature Recovery Strategy. Cheshire West and Chester Council has led the preparation of this Strategy in collaboration with the other councils and partners across the area.

Our Local Nature Recovery Strategy was developed with key stakeholders to agree priorities for nature recovery and actions in particular locations, informed by a range of other relevant local plans and strategies. By working with local people with a keen understanding of their area, including farmers and landowners, we have agreed practical, achievable actions to deliver our LNRS Priorities and Measures [the actions to achieve the LNRS] to help restore and manage Cheshire and Warrington's nature better so it can thrive again.

This Strategy covers the whole of Cheshire and Warrington including West Cheshire, Cheshire East, Warrington and the South West and Dark Peak areas of the Peak District National Park that fall within Cheshire East. It includes part of the Mersey and Dee estuaries (to the mean low water line) but does not include the deeper marine environment. As part of the process, we have worked with our neighbouring areas to ensure that the Nature Recovery Network and the actions overlap over county boundaries, as nature doesn't recognise where one county ends and another starts.

By working in this way our contribution to the Nature Recovery Network map for the whole of England will be complete and align with our neighbours.

The steps of the LNRS process are shown on the right.



# How was the Local Nature Recovery Strategy produced?

The steps we followed are shown below:



We are very grateful to everyone who generously gave their time, views and expertise to help create this strategy and look forward to working together to help protect, enhance and restore nature for current and future generations. Thanks to:

- Over 900 people and organisations who responded to the survey, draft consultation and pledges for local action on nature.
- Nearly 200 people who came to our three public workshops to shape the priorities and actions.
- 145 online respondents, 15 e-mail respondents and to the 57 who made it to our consultation drop-in sessions across the sub-region.
- Farmers, landowners and other key stakeholders who have given their valuable time to participate in both one-to-one and group meetings.
- Schools who helped provide views from young people on the natural world.
- Representatives from stakeholder organisations including Active Cheshire, Sustainable Northwich, Norley Wildlife group, Macc Wild Network Trust, Friends of Culcheth Park, the National Farmers Union, Grosvenor Estates, and Cheshire Wildlife Trust.
- Experts from our Local Nature Partnership and steering group (see acknowledgements for full list) including individuals who contributed to online workshops to refine the priorities and actions.
- Staff from Cheshire Wildlife Trust and Cheshire RECORD for their exhaustive and thorough work on the descriptions, species list and maps.
- Volunteers who dedicate their time to recording, reporting, documenting and taking action to safeguard and reinstate key habitats and species.

**“I would like Cheshire to be a place where the natural environment is valued as much as the built environment, and where everyone has access to nature.”**

Cheshire resident, survey respondent

# Who is the Local Nature Recovery Strategy for?

**This strategy is for everyone in Cheshire and Warrington who wants to help nature recover and thrive. It can help:**

- **Public Sector organisations** with a role in regulation and decision making as well as involvement in National policy making and funding schemes.
- **Local Authorities** to: ensure nature is considered as part of decision making, provision of their services, and to better understand and integrate the benefits nature can provide to society and economy.
- **Local Planning Authorities** with Local Plans and planning policy to guide where and how development should take place, alongside how nature should be safeguarded, incorporated into development, included in good placemaking and as a catalyst for better health and wellbeing, stronger communities, delivering a quality environment and to support the economy.
- **Farmers and Land Managers** as the main stewards of our landscapes, to continue to care for and extend valuable natural habitats as part of their businesses.
- **Policy Makers and Funders** to direct and guide funding and resources, informing evolving Environmental Land Management and Agri-Environment funding schemes.
- **Investors** to find effective local opportunities to finance habitats and actions for nature, people and the economy.
- **Developers** to plan how they can build in harmony with nature, deliver Biodiversity Net Gain and design resilient developments that prioritise nature-based solutions.
- **Communities and Businesses** that want to take action to protect and recover nature and grow skills, knowledge and capacity to realise the benefits it could bring.
- **Training Providers** to develop the skills for a future workforce. Helping to increase the number of experts, contractors and volunteers that will be needed to create, safeguard, maintain and monitor nature into the future.
- **Environmental Organisations** taking action to deliver better habitats and landscapes to achieve wider environmental benefits including nature-based solutions. To continue to act as an independent voice for nature, improve peoples connection with nature and support individuals, communities and businesses to take positive action for nature.





## What happens next?

**The published Local Nature Recovery Strategy will inform work with the Cheshire Local Nature Partnership who are developing a delivery plan that will sit alongside the strategy.**

**This includes ensuring that we monitor and report every five years against the priorities and actions, following our agreed monitoring framework.**

**The Secretary of State will determine when published LNRSs will need to be reviewed, revised and republished within a three to ten year timeframe.**

**Our monitoring work will inform future versions of our LNRS.**



## What does nature do for us?

In response to the video and initial online survey in February 2024, the following statistics highlighted that:

- 95% of people think that the natural environment is getting worse.
- 45% of people visit the outdoors for leisure at least once a week.
- 54% of people enjoy nature, and 55% feel it improves their wellbeing.

### Ecological benefits

- Protects our rare and threatened species and habitats.
- Provides greater abundance and diversity of wildlife and healthier ecosystems.
- Captures and stores carbon dioxide, helping to tackle climate change.
- Provides resilience to future climate impacts, reducing flooding and overheating.
- Provides natural regulation and resilience to pests and diseases.
- Natural cycles and processes improve air, water and soils.



**I would like to know more about where  
I can go and see or walk in nature.**



# What are the challenges facing nature that impacts us?

- **Water availability** - The impact of climate change is already being felt by our communities. The severity and frequency of drought and flooding is anticipated to increase into the future. Northwich flooded in 2021 resulting in 373 houses flooded and 41 out of 46 businesses left part of the town after suffering losses. By incorporating natural flood management in the river catchments alongside hard conventional engineering, the impact of flooding in the future could be significantly reduced. Encouraging investment in nature-based solutions across river catchments could help reduce flood risk, save money and reduce disruption to residents and businesses. These sorts of interventions may also ensure water returns to our rivers cleaner and slower, helping to safeguard wildlife and water resources in periods of drought.

- **Light pollution** - Light pollution has increased with urbanisation. More recent installation of LED lighting with cooler colours has been shown to significantly impact the circadian rhythm and feeding success of nocturnal animals. Also negatively effecting the reproductive and feeding success of nocturnal animals. Warmer lighting (<3000Kelvin), the ability to dim lights, completely switch lights off, or ensuring lights are shielded or focussed on very specific areas, such as security lights, are some of the alternatives that local authorities are exploring and seeking to advocate. It is key we raise awareness of these issues and the solutions that are available to protect nature.

- **Insufficient access to greenspace and nature** - Some wards across Cheshire and Warrington have very little tree cover (as low as 4%), with inequality of access to green infrastructure, whether formal or more natural. This means that some communities do not experience the positive benefits that an average amount of trees and green infrastructure can have on health and wellbeing. Access to nature can be a catalyst for stronger and more connected communities and can help provide ecosystem services, such as urban cooling, surface water management and clean air. Even businesses, retail and housing are more effective and valuable when there is a high proportion of green infrastructure. It can be easier to attract and retain employees and those working for businesses can be more productive and less stressed. Customers may also dwell for longer, spend more and house prices can be higher where there are more trees and greenspaces.

- **Water quality** - Cheshire and Warrington's rivers are classified as being in moderate or poor ecological condition under the Water Framework Directive. An increase in the frequency of flood and drought conditions, alongside pollution from agriculture, highways and our sewage system, with increasing invasive non-native species have negatively impacted our rivers. Our River Catchment Partnerships, including Weaver-Gowy, Upper Mersey, Tidal Dee and Middle Dee, continue to secure investment and improvements. The Mersey River Trust and other organisations also support farmers to develop water management plans, and the Angling Trust's work tirelessly to remove invasive species from our canals and rivers.

- **Poor condition of woodland** - 66% of Cheshire and Warrington's woodlands have been unmanaged for several generations. Revitalising interest and exploring ways to develop skills, and a local market for timber could help to bring more of our woodlands back into positive sustainable management, encouraging nature to thrive and supporting our rural economy. With more funding to support woodland creation, management and agroforestry, combined with a growing demand for more homes, provides an opportunity to explore how local our woodlands could be used again to provide sustainable, local, low carbon building materials and other products to support our local economy and targets for new homes.



### **Ecological benefits**

- Protects our rare and threatened species and habitats.
- Provides greater abundance and diversity of wildlife and healthier ecosystems.
- Captures and stores carbon dioxide in habitats and timber, helping to tackle climate change.
- Provides resilience to future climate impacts, reducing flooding and overheating.
- Provides natural regulation and resilience to pests and diseases.
- Natural cycles and processes improve air, water and soils.

### **Benefits for our economy and businesses**

- Supports thriving, sustainable farm, forestry and rural businesses.
- Reduces the likelihood and costs of flood and heat related risks.
- Provides value for money as nature-based solutions are often cheaper and more sustainable than 'hard engineering' solutions.
- Provides timber for sustainable building construction which also helps to tackle climate change.
- Provides new business opportunities with growing demand for green jobs and skills.
- Delivers a pleasant environment to attract and help retain a productive and healthy workforce.
- Improves tourism, high street and customer retail experiences.
- Adds value to housing in close proximity or by incorporating quality natural features and spaces.
- Provides clean water for homes, businesses and industrial processes.
- Attracts investment including the opportunity to offset the carbon impact of businesses.

### **Social benefits**

- Protects communities from weather extremes by nature-based solutions that reduce flood and urban overheating risks.
- Improves local food and timber security.
- Makes for happier, healthier communities with green spaces for exercise and leisure for better physical, mental health and wellbeing.
- Provides access to cleaner air and water.
- Improves local food security, reducing the need to use pesticides and fertilisers.
- Provides natural places for people to meet and act as a catalyst for neighbours to connect, building stronger communities.
- Creates career and opportunities to improve skills, health and wellbeing, and develop a sense of ownership and connection to local nature.

See Appendix 8 for detailed lists of benefits of nature to different sectors and organisations.

**What are nature-based solutions?** These are actions to protect, conserve, restore, sustainably use and manage natural or modified land, freshwater and marine ecosystems to address social, economic and environmental challenges - while at the same time providing human well-being, resilience and biodiversity benefits. An example is planting trees in a town to reduce flood risk, prevent overheating, provide habitats for animals, make an area more attractive and improve health and wellbeing for residents.



# Cheshire and Warrington's Natural Environment – Where are we now? A description of the strategy area and its biodiversity

## Nature in Cheshire and Warrington

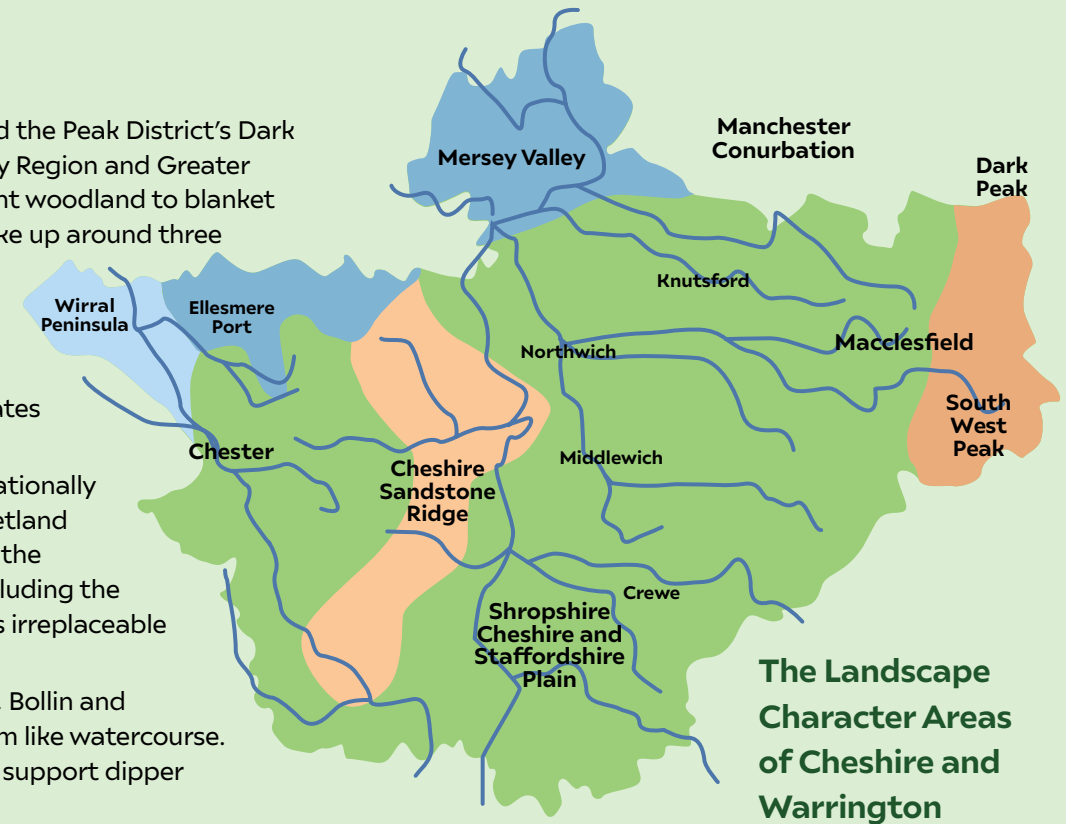
Cheshire and Warrington form a unique area sheltered by Wales from the west and the Peak District's Dark and South West Peak to the east, south of the major conurbations of Liverpool City Region and Greater Manchester. It has a distinct landscape with multiple types of habitats from ancient woodland to blanket bog on the moors, and ponds to floodplain meadows. Farming and agriculture make up around three quarters of land use, and Cheshire is not famous for its cheese for nothing – dairy farming has relied on its grasslands for centuries. Cheshire's land is not only used for livestock but crops as well, making much of the county a mixed farming landscape. Cheshire is also home to some important historic parkland and farming estates such as Tatton, Grosvenor's Eaton and the Cholmondeley Estates which feature ancient woodland and important grasslands.

There is a wide array of habitats, and parts of the county are internationally and nationally important for biodiversity. Our Meres and Mosses are internationally important wetland habitats left over from the last ice age<sup>2</sup>, added to by thousands of ponds dug over the centuries, once totalling 40,000. This wet landscape supports an array of birds, including the threatened Willow Tit, amphibians, dragonflies and rare invertebrates as well as its irreplaceable raised bogs and deep post-glacial waterbodies.

Our Cheshire Plains are drained by numerous rivers such as the Dee, Mersey, Gow, Bollin and Weaver, with its tributary the River Dane, our only more natural, unimproved stream like watercourse. Ancient woodlands cling onto its steep valley slopes and fast-flowing sections still support dipper and wild trout.

The Peaks to the east of the county and the Sandstone Ridge running north to south in the middle of Cheshire form higher less-productive land providing a refuge for heathland, and ancient grassland including internationally important waxcap grasslands. These areas are particularly important for moths and butterflies. Higher up still, the moors of the Peak District are strongholds for birds of prey and breeding wader populations.

Cheshire and Warrington have four main habitat themes and three wider themes: Woodlands, Trees and Hedgerows; Grassland and Heathland; Watercourses, Peatland and Wetlands, Farmland, Urban and Nature-based solutions. Within the habitat themes, there are some irreplaceable habitats, which include ancient woodland, ancient and veteran trees, blanket bogs and lowland fens. Throughout the habitat themes, you will see the benefits farming provides to each habitat and how having these habitats benefit farming.



<sup>2</sup> Introduction to the Glaciation of Britain - AntarcticGlaciers.org

## Nature in Cheshire and Warrington

- 24 different nature-rich habitat types
- Iconic species such as the Great Crested Newt and Black-Crested Grebe
- 11.25% of Cheshire and Warrington is nature rich (including all designated sites and nature-rich undesignated sites)
- 12.69% of Cheshire is covered by trees, 9.62% is total woodland cover (excluding wood pasture and trees outside woodland) with 2,349ha (1.03%) being ancient woodland (excluding plantations on ancient woodland sites)
- 8 National Trust sites, 34 CWT run reserves and 2 RSPB reserves
- 3,401 ha of coastal & floodplain grazing marsh and saltmarsh
- 941 Local Wildlife Sites (LWS), covering 13,827ha (with a further 796 potential LWS located in the LNRS area), managed by the LWS partnership.
- 62 Sites of Special Scientific Interest (SSSI), 5 Ramsars, 10 Special Areas of Conservation (SAC) and Special Protected Areas (SPA), 3 National Nature Reserves (including one recently designated in July 2025) and 10 Local Nature Reserves.
- 10,118km of hedgerows (3% of England's total hedgerow network)
- Internationally and nationally significant estuaries, Dee and Mersey, which are designated with the Dee as a Water Protection Zone, SPA, SAC, SSSI and Ramsar and the Mersey as a SPA, SAC and Ramsar
- Nationally significant pond network (important for Great-Crested Newts and Lesser Silver Water Beetle)

**Irreplaceable habitat is very difficult (or takes a very long time) to restore, create or replace once it has been destroyed. This may be due to its:**

- Age
- Uniqueness
- Species diversity
- Rarity <sup>3</sup>

<sup>3</sup> Irreplaceable habitat - GOV.UK

**Irreplaceable habitat includes some of England's most ecologically valuable terrestrial and intertidal habitat. For example:**

- Ancient woodland, which includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS), ancient wood pasture and parkland, and infilled ancient wood pasture and parkland.
- Ancient and veteran trees
- Blanket bog
- Limestone pavements
- Coastal sand dunes
- Spartina saltmarsh swards
- Mediterranean saltmarsh scrub

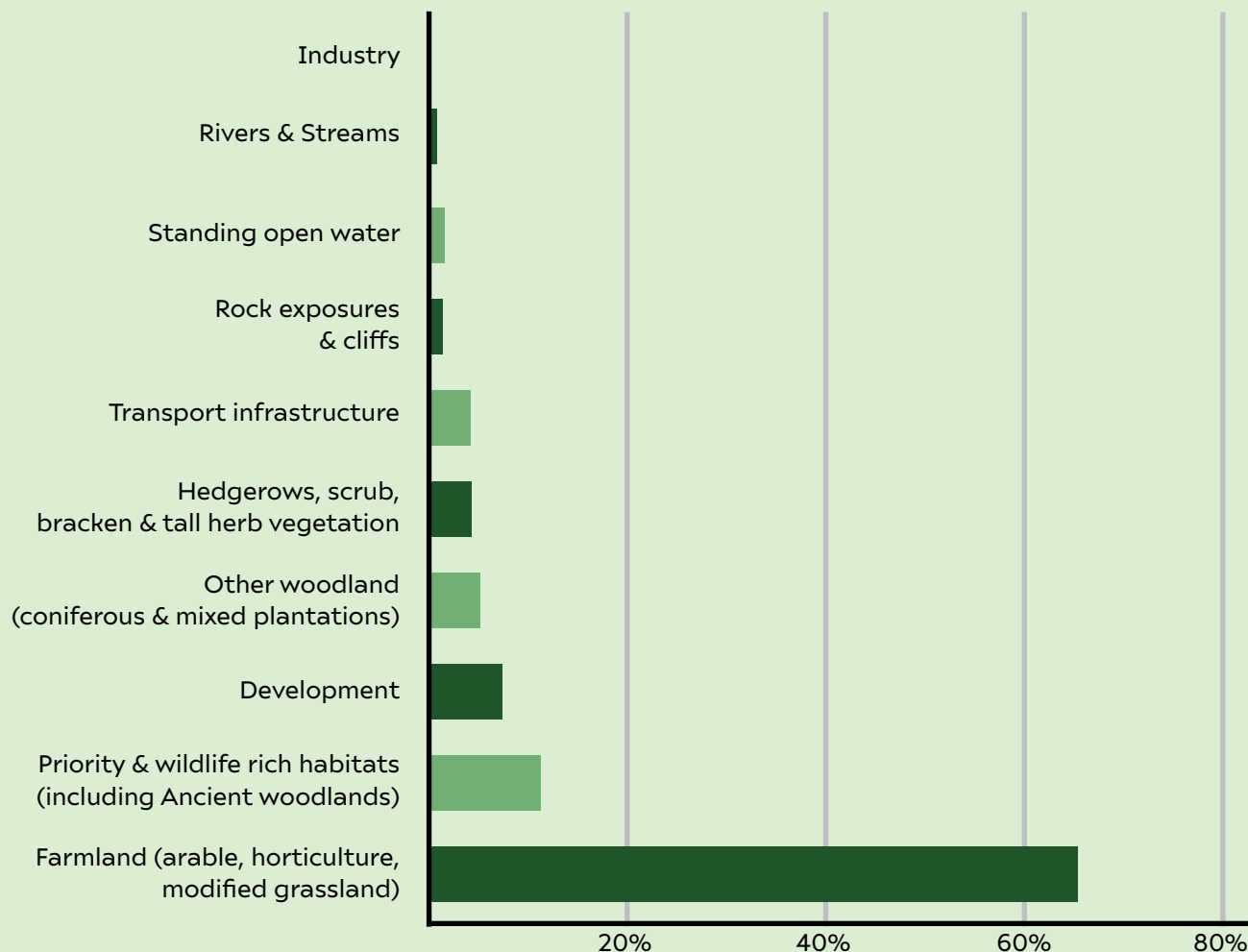
**What is a Water Protection Zone (WPZ)?** The WPZ is an area that is protected for water quality, such as the River Dee. The designated area has regulations put in place to protect water quality from diffuse pollution and certain activities (e.g. storing or using controlled substances), which are banned or restricted to reduce the risk of polluting drinking water. Most of our rivers provide drinking water and water for industrial processes but the Dee is the only WPZ due to its importance for drinking water in Wales and England.

The vast majority of land use in our area is agriculture, at nearly 70%, which is in line with the national average for England. Forest, open land and water makes up around 11-15% (this includes priority habitat plus other woodlands including plantations). Although rivers and streams themselves have a small footprint, their catchments, areas from which water flows into them, cover the entire county. Development, including residential development, makes up around 6-9% with Warrington being more built up than other areas of Cheshire. Transport routes and other major infrastructure take up 4-5%. Despite its visual impact from many locations, such as the view of Stanlow from the side of the Mersey or Helsby Hill, industry has a very small footprint at less than 0.5%. Total built-up area is 16.64% including gardens.

In the context of the national commitment to protect 30% of land for nature by 2030, just 3.4% of Cheshire and Warrington's land is under statutory protection while 9.4% is designated for nature, but 11.25% is of high nature value. In comparison to its more urban neighbours this is low given that the city-regions have more land for nature - 11% of Greater Manchester, 14% of Liverpool City Region and 24% for the more rural county of Lancashire.

Cheshire and Warrington have some internationally recognised important sites designated for nature, from Special Protection Areas on the coast and estuaries to Specials Areas of Conservation and Ramsar designated sites across our Cheshire Meres and Mosses. There are 62 Sites of Special Scientific Interest, of which 84% are meeting favourable or unfavourable recovering condition at this time.

## Land use and habitats in Cheshire and Warrington

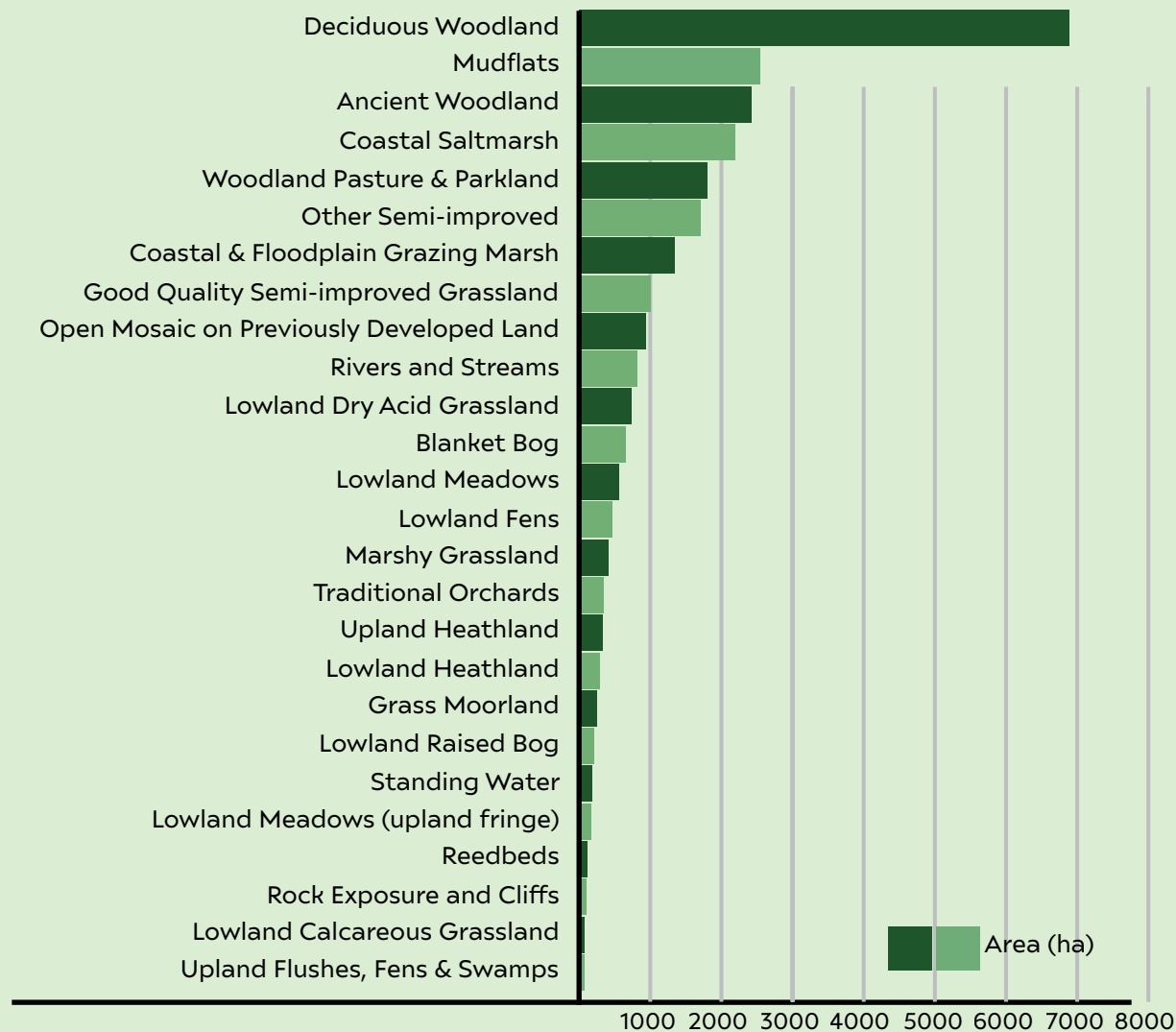


**What is a Wildlife rich habitat? A habitat that is one of the following types of habitat and which is of sufficient quality that it is, or will be, capable of supporting flora and fauna which are typically found in the habitat in question**

**(a) a habitat type of principal importance for the conservation of biodiversity listed by the Secretary of State under section 41 of the Natural Environment and Rural Communities Act 2006(7) (biodiversity lists and action (England);**

**(b) another habitat type listed in Schedule 1 of the Environmental Targets (Biodiversity) (England) Regulations:**

## Area cover for priority and wildlife-rich habitats in LNRS



Cheshire and Warrington's total area is 229,000 hectares and the chart above shows some of the priority areas and wildlife rich habitats by remaining area. This shows us that **the actual land-area of some of our most valuable sites for nature is very small** – showing the urgency of action to safeguard, expand, buffer and connect these sites to conserve both habitats and species.

## What is a conservation designation?

There are seven types of conservation designations in the Cheshire and Warrington area. These include:

### Statutory Protected Sites

- Ramsar<sup>5</sup> sites which are wetlands considered important at an international level.
- Special Protection Areas (SPA) and Special Areas of Conservation (SAC) which are designated to conserve the habitats and species of importance at a European level. Both SPA's & SAC's form the UK national site network.
- National Nature Reserves are those sites that are of most significance nationally.
- National Nature Reserves are those sites that are of most significance nationally.
- Sites of Special Scientific Interest (SSSI) are a representative sample of those sites considered to be of national importance for their biological or geological features.
- Local Nature Reserves are sites of particular importance for their nature conservation value, but also their value to the local community.

### Non-statutory

- Local Wildlife Sites are non-statutory (unlike all the above) and selection is based upon the most important, distinctive and threatened species and habitats. They can have status in Local Plans where policies exist to provide limited protection. They are also known as Sites of Biological Importance, Sites of Importance for Nature Conservation, Sites of Nature Conservation Importance, County Wildlife Sites and Local Sites.
- All these designations provide important sites for nature and are our core sites for nature recovery.

<sup>5</sup> A wetland site designed to be of international importance under the Ramsar Convention 1971

**How big is a hectare (ha)? A hectare is 100m by 100m or 2.4 acres. It is a bit bigger than a football pitch and about the same area as the inside area of a 400m running track at a sports ground.**

# The State of Nature

The state of nature in Cheshire, mirrors national trends, with **declines in all priority habitats** since 1980. Cheshire and Warrington may appear green, yet many of these seemingly natural areas have limited value to wildlife. Many habitats have been lost and fragmented, causing declines in some of the county's landmark species.

Cheshire's biodiversity has become less diverse, with possibly the highest loss of species recorded out of any county in England, higher than the average of 133. A further 3,935 species were last recorded between 1990-2010 but have not been recorded since (see Appendix 1). In some cases, this could be due to lack of experts to identify and record key species.

“ **99% of species rich grasslands have been lost in Cheshire since the Second World War** ”



## Current statistics in Cheshire and Warrington show a clear downward trend

- Hazel dormouse was deemed locally extinct in 2010, despite reintroductions.
- Since the 1970's, 80% of all butterfly species have declined in abundance, distribution or both.
- 4 local reptile species, 2 have had a rapid decline (adder and grass snake) and 2 have a relatively stable distribution but numbers may be low and populations could be lost due to the island effect (common lizard and slow worm).
- Marked declines in farmland birds e.g. Curlew and Yellowhammer, and even in woodland birds, such as the Willow Tit, Spotted Flycatcher and the Dipper. The Lapwing is now becoming so scarce that there are only a few records compared to quite widespread distribution many years ago.
- Water Vole has been lost from 94% of its range.

We need more people to take an active interest in our local wildlife, recruiting, training and supporting anyone interested to develop their identification skills to a competent level.

We also need to encourage more people to send in records of what they have seen to Cheshire RECORD.

# What do we need to do?

Following the Lawton Principles<sup>6</sup>, if the areas we do have for nature are made **more, bigger, better, and joined up**, we can help nature recover and thrive while at the same time helping protect areas from floods and droughts, tackling inequalities and enabling everybody to live and work in healthier and happier places. Our farmers and agricultural businesses could thrive, working with nature, producing healthy food, providing an attractive landscape and a more resilient ecosystem.

## Our nature recovery principles

Our Nature Recovery Network is based on evidence and established thinking on nature recovery in the UK, in particular, the Lawton Review of 2010 which said that we need to make our network of sites for nature “bigger, better, more and joined up”. This recognises our best remaining wildlife sites as the basis of our Nature Recovery Network and guides us to act to:

- **improve** the quality of wildlife sites by better management.
- **increase** the size of habitat sites.
- **enhance** our sites for nature by improving connections between them
  - corridors and stepping stones.
- **create** new sites in rural and urban areas.
- **safeguard** existing sites, and all of nature, by taking pressure off the wider environment – reducing pollution, climate impacts, disturbance, invasive species etc.

<sup>6</sup> Making space for nature: a review of England's wildlife sites published today- gov.uk

**What is the ecological network?** Ecological networks are the basic, joined up infrastructure of existing and future habitat needed to allow populations of species and habitats to survive in fluctuating conditions<sup>7</sup>.

Although we have 24 specific habitats grouped in four themes, it is important to note that **all habitats are interconnected** and for a landscape like Cheshire and Warrington's, a mosaic of habitats provides the best way to support nature, people and the economy.

<sup>7</sup> Planning and the ecological and Nature Recovery Networks | Somerset Wildlife Trust

**What is a mosaic approach?** The Mosaic approach means looking at what species need in habitats – some species need different habitats in stages of their lifecycle from bare ground, dead wood, tall flower-rich vegetation, to scattered trees and scrub. This means having a mixture of habitats.



We need to take a practical and holistic approach to the landscape, recognising everyone's different roles. The expertise of farmers as stewards of the land, the academic expertise of our universities and colleges, the local knowledge and passion of our Wildlife Trust, other conservation organisations and community groups, the statutory role our Local Authorities and other regulatory bodies such as the Environment Agency, the Forestry Commission and Natural England can work hand in hand to recover nature and deliver economic and social benefits.

**The following set of 11 Cheshire and Warrington nature recovery delivery principles need to be applied to policy, funding and delivery.**

01

### **Right habitat in the right place for the right reason**

Consult with Local Nature Partnership members. Ensure that habitat creation proposals occupy suitable sites and do not damage or displace existing quality habitats. Sensitive habitat restoration should be the go-to option for sites that already nature-rich.

02

### **Follow best practice and standards**

Comply with current legal requirements, standards, guidance, best practice, as well as required permits and licences when creating and restoring habitats e.g. UK Forestry Standards. Ensure nature is at the centre of all new development and neighbourhoods by design. An example of good practice, in addition to the UK forestry standards, includes: *Decision framework for peatland protection*.

03

### **Think about long-term resilience**

Put nature at the heart of new development, so nature and places are resilient. Plan at the start for long-term habitat management, maintenance and funding. Ensure that schemes are resilient to future climate change impacts, pests and diseases.

04

### **Be ambitious and evidence-led**

Ensure that any nature restoration or any new habitat project is evidence-led and ambitious in its aims and objectives. Understanding the geology, soil type and biodiversity and archaeological importance of a site before undertaking any habitat improvement by seeking expert help.

05

### **Maximise multiple benefits**

Communicate and maximise the wider benefits of nature recovery actions such as improving health and wellbeing, storing carbon, or reducing flood risk.

06

### **Involve residents and communities**

Work collaboratively with residents, landowners, farmers, partnerships and business for nature's recovery.

07

### **Improve responsible access**

Support and work towards fair and improved access for individuals and communities (where appropriate), so everyone has responsible and equitable access to nature.

08

### **Raise awareness**

Ensure that the public are made aware of nature's recovery and the importance of their support e.g. biosecurity, help identifying species, volunteering, Countryside Code etc.

09

### **Support farmers and landowners**

Support, and work in partnership with farmers and landowners, for example to encourage the uptake of Environmental Land Management Schemes. Help farmers and landowners to make informed decisions based on expert advice and knowledge. Go to: Funding for farmers, growers and land managers - GOV.UK

10

### **Seek expertise - ask an expert**

Whenever thinking of creating or restoring a habitat at a landscape scale, experts should be involved to help identify the best opportunities for biodiversity; seek expert guidance on large and small projects.

11

### **Make it cohesive, join it up and blur the boundaries**

Nature has no boundaries - think through how actions can connect - speak to neighbours, create blurry edges, and a diverse patchwork of habitats. For new habitat creation along rivers, discuss water management with neighbours to ensure consistency and collaboration in catchments.

# LNRS habitats and themes - strategic priorities

The following sections show each of the habitats and themes, explains the state of nature, the pressures they face, outlines the opportunities and lists the priorities and actions we can take to support nature recovery and build our Cheshire and Warrington Local Nature Network.

These sections cover:

- ▶ Woodlands, hedgerows and trees
- ▶ Grassland & heathland
- ▶ Watercourses
- ▶ Peat & wetlands
- ▶ Species
- ▶ Farmland
- ▶ Urban
- ▶ Nature based solutions

Following the habitat sections, we cover key priority species that need bespoke actions over and above habitat actions that benefit them, followed by themes that bring relevant topic based actions together.

In each of the habitats and theme sections, you will see a 'Key Habitat' or 'Key Topic' highlighting our highest priorities for the next 10 years.

Key habitats demonstrate the habitat's importance to the landscape character and historical aspects of the region. Whereas key topics align with the main issues facing Biodiversity and intrinsic links to impacts on society and/or the economy.

For further understanding around delivery, please refer to Appendix 7, which will help to inform consideration of priorities and actions in terms of accessing relevant guidance and standards to inform LNRS delivery note that this appendix shows mapped actions in bold for ease of reference.



# Priorities and actions shortlist terminology

The below common terms will be used throughout the priority habitat types and themes in the priorities and actions shortlist.

**Safeguard** - This safeguard represents the need to protect existing nature sites, external to those of which are our core nature sites through buffers. Although this may sound prohibitive to development, this is not the case. The LNRS cannot prohibit development from taking place but it does need to have regard to the LNRS and ensure that the nature site is improved by the development (following BNG guidance) or that nature is integrated into the development.

**Restore** - Habitat restoration refers to:

- Action on sites which support relict habitat that leads to the expansion of wildlife-rich habitat. Examples would include where fragments of wildlife-rich habitat remain and action on land or water surrounding these fragments re-establishes the habitat, increasing the total extent of the wildlife-rich habitat. Only the newly established habitat will be counted towards the target.
- Action on degraded habitat where single or multiple actions need to be undertaken to address on or off-site pressures so that wildlife-rich habitats of sufficient quality can become established, e.g. addressing nutrient enrichment and invasive non-native species pressures to restore a lake.
- Action on existing habitat (possibly wildlife-rich) that has developed in a degraded ecosystem; consequently, the existing habitat may be considered degraded. Examples include the restoration of blanket bog from dry heath on drained peat, or action to reduce grazing pressure on upland acid grassland to restore priority habitat such as upland heath or upland oakwood<sup>8</sup>.

**Create** - Where viable, wildlife rich habitats are established on land or water where such habitat is currently absent.

**Enhance** - Actions that improve the condition, structure or composition of existing wildlife-rich habitats but is not considered within the scope of creation or restoration despite following actions relating to those priorities.

**Promote** - LNP partners and local authorities (LNRS team) to promote nature friendly solutions within their representative organisations and to developers and businesses.

**Increase** - Where possible, 'stepping stones' (large areas of similar habitat) should be created. Appropriate - definition of the term is shown in Appendix 7. Furthermore, the Appendix also describes appropriate habitats.

<sup>8</sup> Version 1 - Environment Act Habitat Target - Definitions and Descriptions (1).pdf

# Woodlands, Hedgerows and Trees

This section outlines the current state of our woodland, hedgerow and trees, the pressures they face, opportunities for nature recovery, the priorities and actions for this habitat.

## Cheshire and Warrington's woodlands, hedgerows and trees.

- Total tree and woodland cover: 12.69% (slightly above North West average).
- Woodland cover: 6.51% (2022 NFI) (less than NW and England average) (of which 4.17% is in front of broadleaf woodland - in other words, majority of Cheshire woodlands are broadleaf).
- Trees outside woodland cover: 6.17% (2023 unpublished data higher than NW and England average) 0.75% coniferous.
- 7,194ha deciduous woodland in LNRS area (3.14% of LNRS region).
- 1,702ha wood Pasture and parkland (0.74% of the LNRS region).
- Ancient woodland 1.03% (2349.47ha of which: 78% is Ancient Semi Natural Woodland [1,460 ha]).
- 284ha traditional orchards (0.12% of LNRS region).
- 325 recorded veteran trees.
- 10,118km of hedgerow in Cheshire (making up 3.2% of England's total hedgerow network).
- An estimated 9% of wildlife habitat lost in region since 1980's is deciduous woodland.
- 66% of Cheshire's woodlands are not sustainably managed (this is measured by a Forestry Commission Key Performance Indicator).
- Urban tree cover varies significantly in Cheshire and Warrington, ranging from as little as 4% in some wards in Ellesmere Port, Chester and Warrington to 30% in some wards on the edge of our towns and villages.

In total the area of woodland and trees outside woodland covers 12.69% of Cheshire and Warrington (slightly below national average of 14.87%). Just 6.51% of this is woodland cover (lower than the England average of 10%), while trees outside woodland such as those found in urban areas, along hedgerows and in parkland collectively cover a further 6.17% (higher than the England average of 4.68%).

Although formerly ancient hunting forest, relatively little ancient woodland remains (0.8%), we have 325 recorded veteran trees (some of which are ancient), but these are likely to represent a fraction of current and past ancient trees once seen across our landscape. We have a variety of types of woodland which are home to different species but are fragmented, facing common and specific risks, including a lack of management (regular thinning for woodland products that once took place), pressure from development, climate change, diseases, invasive non-native species like Rhododendron or disturbance from recreation.

### Did you know?

## Beetles need dead wood...

Around 650 UK beetle species are thought to require deadwood at some point in their lifecycle – our woodland, trees and hedgerows are home to deadwood invertebrates which in turn become part of the food chain and support other wildlife which eat them.



# Woodlands, Hedgerows and Trees - types of habitat

**Broadleaf woodland** covers 4% of our area, making up just over a quarter of priority habitat overall in this strategy. It includes Dry Oak woodland, Ash woodland and upland oak woodland. Shell Brook Valley near Wincle (see photo) and woods near Cumberland Cottage in the South Pennines SAC are considered some of the best examples of Upland Oak woodland in the UK. These woodlands are very important for birds including the Wood Warbler, Redstart, and Pied Flycatcher. They are also home to rare moths and the Purple Hair-streak Butterfly.



**Wet woodland, (priority habitat)** can be found in poorly drained or seasonally wet locations and is commonly known as 'carr'. There are three main types in Cheshire – Willow, Alder and Birch Carr reflecting the tree species found most in each.

In the uplands, moorland cloughs and river valleys can support Birch and Alder wet woodland, providing important habitat for birds, which help to improve water quality. In lowland areas, wet woodland can often be found along watercourses, around open water and in mosaics with other wetland habitats and as part of larger woodlands. Researchers have recently highlighted that wet woodland as a peat forming habitat has been overlooked, so as well as being a priority habitat in its own right, hosting important invertebrates and the threatened Willow Tit, it is also likely to help reduce the impacts of climate change.

**Plantation woodland**, the UK imports over 80% of the timber it uses, so more use of home-grown timber should be explored. And by applying the UK Forestry Standard, productive plantation woodlands can be managed in a responsible and sustainable way. At Delamere Forest, the largest plantation woodland in the area, Forestry England is increasing structural and species diversity and open habitat to deliver biodiversity alongside timber production. These, along with access, recreation and events, boost health and wellbeing and the local economy.

**Wood pasture and parkland** is found in all 15 estates across Cheshire, from Lyme Park in Disley to Eaton Estate on the Dee. It is often home to veteran and ancient trees. Wood pasture and parkland is important because of the high numbers of ancient and veteran trees alongside unimproved grassland. It can also be classified as ancient wood-pasture.

**Ancient woodland and plantation on ancient woodland sites (PAWS)** are irreplaceable habitat only covering 1% of Cheshire.

**Heroic Hedges:** As well as being good for nature, healthy hedges provide a wealth of benefits to farmers and landowners including providing wind and frost shelter for arable crops, reducing pesticide use by providing homes for natural predators on arable pests and season round habitat and foods for pollinators that help field yields; they also help protect our grazing animals by providing shelter from heat and cold, provide different foods for grazers, and a source of self-medication for animals and vital biosecurity – protecting against disease spreading. Hedges reduce water run-off and protect soils, reduce phosphate and nitrate run-off to water courses, their deep roots can reduce flood impact, and improve and draw up nutrients to the soil surface. Hedgerows store carbon above and below ground, new hedgerows can store between 600-800kg of CO<sub>2</sub> per year, per km.

# Pressures

**Grey squirrels** - An invasive species that can have significant impacts in woodlands as they severely damage young, establishing woodlands through their bark stripping habits. This can impact our ability to meet the tree and woodland cover targets, as set out in the Environment Act 2021 amongst other pressures as discussed below.

**Deer** - There are six species in the UK in the wild. Red and Roe are the native species found in the UK and both have been recorded in Cheshire. Non native species in UK include Sika, Chinese Water Deer, Muntjac and Fallow. In Cheshire, Fallow and Muntjac have been recorded<sup>9</sup>.

Some estates in Cheshire actively manage deer herds in their parkland. For example Tatton Park has both Red and Fallow herds. Dunham Massey has Fallow.

Deer fencing prevents access but doesn't address numbers. Sustainably managed populations are also important. While fencing to exclude deer helps to limit browsing impact, this doesn't address the density that populations can reach and their impact across the wider landscape.

**Disease** - Climate change poses an imminent threat to many of Cheshire's trees, as new diseases have spread northwards especially acute oak decline and Phytophthora ramorum, which affects a number of tree species, including Larch and also Rhododendron (an invasive species rampant in the UK), so eradication of Rhododendron could help to prevent the potential spread of Phytophthora to other species of trees. Another major disease, already rampant, is ash dieback but there are signs that certain young ash trees are becoming resistant to this disease.

<sup>9</sup> Deer Distribution Survey - The British Deer Society

**Open areas in woodland: Openings in the woodland canopy are important to let light in and enable younger and smaller trees and shrubs, plus flowering plants like Bluebells, Wood Anemones, brackens and grasses to flourish and provide food for animals and insects.**



# Nature recovery opportunities for Woodlands, Hedgerows and Trees

## Case study: National Trust's Historic Landscapes Programme

Funded by Defra Green Recovery Challenge fund, the Historic Landscape programme aimed to enhance nature and start to combat the effects of climate change in five areas across Cheshire and Greater Manchester. Projects include planting 20,000 trees and laying or improving 4km of hedgerow to provide a nature corridor through Quarry Bank and Lyme Park. Other projects include wetland creation at Dunham Massey and Alderley Edge, bringing Egrets back to the area.

- Woodland restoration, especially PAWS restoration, through improved management and species diversification.
- Sustainable agroforestry could be a key element of a sustainable farming business and contribute to increased biodiversity as well as a different income stream within the farming landscape.
- Diversify woodland structure through natural regeneration, tree planting and coppicing favouring species and provenance suited to expected future climate.
- Ensure climate resilient trees are planted and increase area of canopy openings to benefit woodland species.
- Re-establish local timber production to encourage better management
- Establish a landscape-scale deer and grey squirrel strategy to enable young woodlands to thrive.
- Manage livestock access to facilitate successful tree and woodland establishment.
- Retain dead wood and mature trees with cavities to provide habitat for multiple species.
- Develop a continuous canopy cover approach for the urban tree environment.
- Adopt natural colonisation as a woodland establishment method and natural regeneration within existing woodlands, using planting where colonisation/regeneration are not successful, where appropriate.

**What are veteran and ancient trees?** A veteran tree is one that has features like cavities, decay holes and fungi growing on the trunk, they are an important habitat in their own right, significantly contributing to wider forest or woodland biodiversity and often have a rich cultural and historical value. Sometimes prominent in the landscape, they mark historic boundaries or locations. An ancient tree is one that has passed beyond maturity and is in its old age, often with a wide trunk but smaller crown. The deadwood from ancient trees is an important habitat.

Priority	Actions
<b>W1. More, bigger, better and joined up wildlife rich woodland networks across the landscape</b>	<ul style="list-style-type: none"> <li>• W1.1 Establish sustainable, biodiversity-positive management of all woodland, increase % of open space, resilience to pests, disease and climate change regardless of size.</li> <li>• W1.2 Establish buffers to woodlands using a variety of methods.</li> <li>• W1.3 Create woodlands to UK Forestry Standard.</li> <li>• W1.4 Create and restore clough woodlands for natural flood management and increased biodiversity.</li> <li>• W1.5 Increase connectivity between existing woodlands through different suitable habitats.</li> <li>• W1.6 Safeguard mosaics (different habitats within one landscape) to complement and support woodland through good design and management</li> <li>• W1.7 Increase the biodiversity in all woodlands.</li> <li>• W1.8 Encourage positive management of woodlands by encouraging renewed interest in extracting timber for products and sale.</li> <li>• W1.9 Manage and minimise invasive, non-native species and deer impacts on new/current woodland and scrub/hedgerow habitats.</li> <li>• W1.10 Create and expand wet woodland in appropriate places.</li> <li>• W1.11 Create and maintain woodland scrubby edge habitats.</li> <li>• W1.12 Manage wet woodlands to promote a varied age structure and species diversity alongside maintaining a high-water table.</li> </ul>
<b>W2. A network of well-connected, well managed and restored ancient woodlands and plantation on ancient woodland sites (PAWS), veteran trees, orchards and exceptional trees</b>	<ul style="list-style-type: none"> <li>• W2.1 Safeguard and encourage positive management of existing ancient woodlands and plantation on ancient woodland sites (PAWS).</li> <li>• W2.2 Create woodlands, woodland belts and hedgerows to buffer and connect existing ancient woodland sites.</li> <li>• W2.3 Improve protection of and safeguard all veteran and exceptional mature trees.</li> <li>• W2.4 Establish new trees that can become veteran and exceptional trees of the future.</li> <li>• W2.5 Record and map existing veteran trees and ancient woodlands.</li> <li>• W2.6 Re-establish voluntary tree wardens or community volunteers across Cheshire to help record, safeguard and encourage the positive management of veteran or exceptional trees and orchards.</li> </ul>
<b>W3. Urban areas with a network of trees, hedges and woodland, sustainably managed, delivering nature recovery and more environmental benefits to residents</b>	<ul style="list-style-type: none"> <li>• W3.1 Better safeguard and manage tree assets in urban areas and only remove as a last resort.</li> <li>• W3.2 Establish and manage tree assets as a continuous viable tree cover.</li> <li>• W3.3 Plant suitable replacement urban trees, native (UKISG nursery) or non-native, where planted urban trees are coming to end of life.</li> <li>• W3.4 Create and safeguard a network of urban trees and woodlands.</li> <li>• W3.5 Safeguard, retain and improve conditions for exceptional mature trees in the urban environment.</li> <li>• W3.6 Prevent damage to retained trees.</li> <li>• W3.7 Safeguard, manage and expand community woodlands.</li> <li>• W3.8 Raise awareness of the benefits of trees, hedges and woodland.</li> </ul>
<b>W4. More, bigger, better and joined up hedgerow networks</b>	<ul style="list-style-type: none"> <li>• W4.1 Safeguard and enhance existing hedgerows to achieve species diversity and enhance landscape value.</li> <li>• W4.2 Create or restore 5,000km of additional species rich hedgerows.</li> <li>• W4.3 Promote benefits of hedgerows and their positive management across Cheshire and Warrington.</li> <li>• W4.4 Better value and safeguard and increase the number of veteran and exceptional trees in our hedgerow network.</li> </ul>

## Species - the list of species and species assemblages that benefit from the above actions:

- Grassland fungi assemblage
- Deadwood invertebrates assemblage
- Farmland birds assemblage
- White-Letter Hairstreak butterfly
- Willow Tit
- Western European hedgehog
- Badger
- Bats assemblage

# Key habitat - Hedgerows

Hedgerows play a vital role in the lifecycle and survival of many farmland species including amphibians, small mammals, invertebrates and birds. They complement and connect other areas of habitat and provide food, shelter and breeding sites. They are found on the Cheshire plains and on the lower slopes of the Pennine foothills. The most common tree species to be seen in our hedgerows and in-fields (historic hedgerows) include Oak, Sycamore, Lime, Field Maple and Holly.

## What happened?

- From 1976 to 1997, the EU CAP (Common Agricultural Policy) scheme paid farmers to remove hedges to target increased production by having larger fields.
- 66% of remaining hedgerows are in poor to moderate condition due to historic inconsistent national policy and guidance around management.

## Are hedgerows in recovery now in Cheshire? What policies and regulations are there to protect them?

- Since 1997, there has been legislation in the UK preventing the removal of ecologically or historically important hedgerows without the consent of the local authority.
- There are farm subsidies available for farmers to lay hedgerows and to maintain them with the Sustainable Farming Incentive, Countryside Stewardship scheme and Higher Level Stewardship, which has helped to see a marked increase in the number of new hedges.
- From 2024 onwards, there have been new hedgerow management regulations in place to prevent the degeneration of hedgerows by residents, farmers, local authorities and developers<sup>10</sup>.

<sup>10</sup> The Management of Hedgerows (England) Regulations 2024





# Farming and Woodland, Hedgerows and Trees

Below list demonstrates the benefits for farmers from utilising the above habitat theme and how farming benefits these habitats:

## Woodland, hedgerows and trees benefits to farming:

- Diversified source of income through Agroforestry.
- Contributes to achieving carbon neutrality on the farm through carbon sequestration<sup>11</sup>.
- Improved animal welfare as livestock utilise woodlands, hedgerows and trees for shade from all weather conditions as livestock can suffer from heat stress in the summer months, leading to lower productivity rates, negative effect on weight gain, and decreases conception rates. Also, trees can offer livestock additional food contributing to diet diversity<sup>13</sup>.
- Reduces the likelihood of diseases<sup>12</sup>.
- Flood mitigation.
- Soil enhancement.
- Improves water quality.
- Silvoarable can provide extra income through fruits, nuts or timber being produced in alleys in and amongst crops.
- 20% average yield advantage from Silvoarable system.

## Farming benefits for woodlands, hedgerows and trees

- Increased management providing diversity in structure of woodland and ensuring that hedgerows form the "A" shape commonly associated with healthy hedgerows (Cyclical management)<sup>14</sup>.
- Farmers provide trees in the most suitable area on their farm to ensure the best outcome for the trees as well as their livestock, soil or arable crops.

<sup>11</sup> National Farmers Union: Achieving net zero - farming's 2040 goal - AFN Network+

<sup>12</sup> The Benefits of Silvopastures: What are silvopastures, and how do they benefit our farmland and waterways? - Lancaster Farmland Trust

<sup>13</sup> Agroforestry - Woodland Trust

<sup>14</sup> Hedgerow Management Advice | Hedgelink

# Key topic - Agroforestry

## What is it?

Agroforestry is the integration of trees into a farming system, while maintaining or enhancing the farm's agricultural output<sup>15</sup>.

## What types of agroforestry are there?

There are two types of agroforestry practices:

- Silvo-pastoral agroforestry
- Silvo-arable agroforestry

## What is silvo-pastoral agroforestry?

This type of agroforestry is where livestock graze under trees. There are mutual benefits for both the livestock and trees, with animals enriching the soil whilst the tree provides shelter and nutrition for livestock.

## What is silvo-arable agroforestry?

Silvo-arable<sup>16</sup> agroforestry is defined as 'agricultural or horticultural crops grown simultaneously with a long-term tree crop, such as fruit or nut trees, which provides an annual income while the tree crop matures. Trees are grown in rows with wide alleys in-between for cultivation.

## How is agroforestry relevant to Cheshire's nature recovery and agriculture?

Nature benefits from forestry within agriculture systems, especially when it comes to wood pasture and orchards as these can provide habitats for a wide range of species<sup>17</sup>.

- Inputting trees within hedgerows provides an increase in tree canopy cover and provides nesting sites for birds and other creatures.
- Agroforestry can help to enhance soil health and protect from extreme weather, which can boost crop production and help with shelter for livestock.
- The yields of crops in between the trees is not reduced by shading until the tree reaches alley width, in which case the system can become silvo-pasture.

According to Agroforestry Research Trust, competition between trees and the alley crop for water is not present in the West, whereas during drought summers, this might be present in the East.<sup>12</sup> In a silvoarable system, nitrogen leaching could be reduced by up to 28% in areas where leaching was deemed high, but this is entirely dependent on tree density.

<sup>15</sup> What is agroforestry? | Soil Association

<sup>16</sup> Silvoarable - The Agroforestry Research Trust

<sup>17</sup> A guide to agroforestry - GOV.UK



# Grassland and Heathland

This section outlines the current state of our grassland and heathland, the pressures they face, opportunities for nature recovery and the priorities and actions for this habitat.

## The state of our grassland and heathland

### What types of grassland and heathland are good for nature?

Species rich grassland (shown on the right) is what we need, buzzing with insects, with different heights and types of plants and surface texture including tussocks and lumps. Improved grasslands may sound good – but in fact they are not very good for nature. Most of our species-rich grasslands, full of different types of grasses and wildflowers, have been lost to fields that may look green but are in fact species poor crop grassland of rye grass or a very limited species mix (e.g. clover, buttercup and ryegrass). This type of grassland is not that effective in protecting and improving our soils or supporting insects or other animals. Less than 2% of Cheshire and Warrington area is species-rich grassland and heathland habitat.



- Most grassland in Cheshire is improved (species-poor) grassland (73,077ha), mainly rye grass for agriculture.
- Second largest habitat is coastal and floodplain grazing marsh, at 1,315ha (again most is species poor).
- 99% of Cheshire's species rich meadows have disappeared since 1930.
- 466ha of lowland meadow priority habitat left below 200m, with a further 141ha in the upland fringe.
- 26ha of calcareous grassland - a unique habitat in the North West as it is normally found in the chalk area in the South of England.
- 63% of Local Wildlife Sites on grasslands have lost all their unimproved neutral, acid or calcareous grassland habitat.<sup>18</sup>

Grassland and heathland habitats cover a small area of Cheshire and Warrington, including grazing land, as well as road verges, parks, golf courses, riverbanks, lakesides, churchyards and along access routes and within open space in woodlands. Our grasslands and heathlands are fragmented, under pressure from drainage, development, agricultural improvement, recreational disturbance, and lack of management that leads to succession (when grasslands become areas of scrub, with woody plants, as nutrients increase).

The best examples of species rich grassland can have more species per square metre than any other habitat. Cheshire has irreplaceable wax-cap meadows and pastures which have some of the best examples of fungi in the UK. Along with these, our old species rich grasslands are home to well-established, complex webs of plants, fungi and invertebrates which cannot be replaced if lost.

<sup>18</sup> Appendix 1: Description of the Strategy Area: Technical version

## Cheshire and Warrington's diverse habitats include a wide range of types of grassland and heathland which include the following:

**Neutral grassland** is grassland defined as having vegetation dominated by grasses and herbs on a range of neutral soils, usually with a pH of between 4.5 and 6.5. These can include up to 12 different species of grass or flower per square metre, making it one of the most biodiverse habitats alongside species rich acid or calcareous grassland, discussed below. There are multiple habitats that neutral grasslands cover, as per the UKHab classification, including lowland neutral meadow. We only have 607ha left of species-rich neutral meadow, one of the largest is at local nature reserve Swettenham Meadows (see photo) managed by the Cheshire Wildlife Trust and the local farmer with sympathetic grazing. The large number of flowering plants now supports 14 types of butterfly. Other grasslands covered under the term neutral grasslands can include meadows and pastures, as well as a range of grasslands periodically inundated with water or permanently moist.

**Waxcap grassland** is a specific habitat with groups of fungi (see photo) including those from the Waxcap family. It is nutrient poor, well-drained, semi-natural grassland, and often grazed by sheep or mowed. It can be found in pastures, reservoir embankments, churchyards or old cricket pitches. It is found in the Pennine foothills at Rainow, with its rare Ballerina waxcap, and Tegg's Nose Country Park has 18 waxcap species and 25 other types of fungi. The importance of waxcap grasslands and its rarity is highlighted through its inclusion in the species actions, as there is a need for better information about where these sites are.

**Coastal and floodplain grazing marsh** is found where the floodplain retains a high-water table for at least part of the year, providing an important habitat for overwintering wildfowl and breeding wader birds. Its water-filled ditches are an important habitat for mammals, insects and plants. Cheshire has only 1,315 ha of coastal and floodplain grazing marsh left along its major rivers. The River Gowy meadows support important endangered birds like Purple Heron, Glossy Ibis, Red-backed Shrike, Wryneck and Snipe and invertebrates such as the Mud Snail and Lesser Silver Water Beetle. Grazing marsh along Frodsham, Helsby and Ince marshes are of county, national and international importance for breeding and migrating birds, designated as functionally linked land to the Mersey estuary. We also have small areas of **fen meadow** and **marshy grassland** also known as rush pasture.

**What is a sward? It's an old English word meaning a stretch of turf or an area covered in grass. It comes from words relating to hide or skin.**





**Calcareous grassland** has formed on lime beds formed from salt mining near Northwich (around 27 ha, providing rare and complex plant life like that found on natural limestone outcrops in the Derbyshire Dales. Similar sites with crushed concrete, brick waste and other industrial material left for a generation or two can often provide incredible mosaic habitats where nutrients are at a premium, leading to a mix of scrub, woodland, open ground, very rare grassland and groups of other plants like lichen and mosses. Hard concrete and other aggregates provide an artificial hard layer to stop soil enrichment and prevent these habitats deteriorating with a lack of management of the vegetation (which would normally result in enrichment and succession). This hard landscape often provides temporary pools and bare ground. Together all these things are called **open mosaic habitat**. Many of these sites are at risk of development due to a national policy for encouraging development on brownfield sites.

**Lowland acid grassland** has only 744ha left with good examples in Cheshire East, at Kettleshulme, Wildboardclough and Rainow. These have magical sounding plant names like Sheep's Fescue, Common Bent, Tormentil, Harebell, Adder's tongue and Moonwort.

**Great grasslands:** The benefits of species rich grassland are good for nature and farmers alike. A typical three acre field can host nine million flowers on a single summer's day, producing enough nectar to support over 300,000 bees. Species rich grassland legume rich grassland or herbal lays with legume species (also found in species rich grassland) will help to reduce the costs of fertilisers, fix nitrogen, reduce the need for feed supplements and worming treatment, as a more mixed pasture will help to provide better grazing nutrition and minerals. Rotational grazing also promotes animal growth. It drains better, is more resilient to drought and provides a longer grazing season, provides five times the carbon storage than pure grass fields, and results in less weed growth. Of course, there is a cost to swapping out rye and clover for herbal lays. The Future Farming Group should be able to provide case studies and examples of how this 'reversion' back to more species rich grassland can be a win-win for farming businesses and wildlife.

**Heathland** comes in two types - **wet heathland and dry heathland**, these occur in both uplands and lowlands. Heathland is an important habitat with over 25% dwarf shrub cover found on mineral soils and thin peat. Our wet heathland is very fragmented and degraded, suffering from recreational disturbance or becoming deciduous woodland due to lack of appropriate intervention management, which could lead to natural habitat succession. It is found on the edges of blanket bog, degraded peat or on water-logged soils, with sphagnum mosses and heathers present. **Cheshire's lowland wet heath is its second rarest habitat in the area.** Dry heathland is recognisable by its gorse, heather and bilberry and is an important home to Common Lizards and in some locations uncommon species such as Green Hairstreak butterfly and Adder. Risks it faces include development, fire, climate change and air pollution.

**What is citizen science? Research conducted by the public also known as volunteer monitoring or community science. Citizen Science is widely used to study wildlife and help with conservation. We'd like to encourage more people to connect with nature, to learn more about it, and help us keep good records of common and rare species across Cheshire.**

Many of Cheshire's traditional hay meadows were ploughed up around the Second World War's 'dig for victory' campaign and then lost during the intensification of farming driven by the Common Agricultural Policy. This encouraged greater mechanisation, larger scale and simpler processes, including extensive use of chemical fertilisers, pesticides and herbicides. When species rich grasslands are lost, we see a significant impact on farmland species, particularly invertebrates at the bottom of the food chain, which also impacts small mammals, amphibians and even reptiles. So, the loss of this habitat has had a severe effect on the numbers of Lapwings, Curlews and Yellow Wagtails and Skylark since the 1930s. **Species rich grassland has been lost faster than any other habitat in the UK.**

## Pressures on Grassland and Heathland

- Increased pesticide use.
- Lack of awareness amongst residents about benefits of leaving 'no cut' areas in urban centres.
- Lack of communication between local authorities, contractors and residents relating to new mowing strategies designed to benefit biodiversity.
- Invasive non-native species.
- Soil compaction.
- Soil erosion.
- Inappropriate management techniques.
- Succession.

## Nature recovery opportunities for Grassland and Heathland

- Councils have begun to adopt better management practices, sowing wildflower areas in many of our urban areas to provide food for pollinators. More work is needed to ensure new wildflower meadows are sustainable in the long term with appropriate resources, training or volunteer support to ensure they are hay cut, and cuttings removed, to prevent enrichment, resulting in loss of diversity and value over time.
- Restore former landfill sites to grassland and other appropriate habitats, manage by hay cutting or conservation grazing.
- Lapwing, Redshank and Curlew populations will benefit from restoration and management of lowland wet grassland on floodplains.
- Implement seasonal grazing and mowing to maintain the grass cover (sward) and not impact nesting birds.
- Restore former heathland sites for example those at Goostrey Heaths & Morley Green Heath.
- Improve resident education and awareness to carry out nature friendly gardening, improve awareness of the rarity of heathland habitat and reduce the danger of wildfires at publicly accessible heathland sites.
- Restore appropriate ex-industrial sand and sandstone quarries in Cheshire to acid grasslands and lowland heath to allow animals like reptiles to thrive.

**Fact: Plantlife research shows that one typical 3 acre field can host 9,000,000 flowers on a single summers day, producing enough nectar to support over 300,000 bees.**

Priority	Actions
<b>G1 More, bigger, better and joined up nature friendly and semi-natural grasslands for people and pollinators</b>	<ul style="list-style-type: none"> <li>• G1.1 Create and enhance a network of species-rich grassland sites.</li> <li>• G1.2 Create more wildflower rich grasslands, encourage rotational grazing practices and reduced fertiliser use.</li> <li>• G1.3 Create new species rich grasslands as part of public and private development.</li> <li>• G1.4 Better manage grasslands to increase species and sward diversity.</li> <li>• G1.5 Promote better grazing practices for different wildlife-rich grassland communities.</li> <li>• G1.6 More grasslands managed by hay cuts or cut-and-collect in urban areas, to ensure quality can be sustained.</li> <li>• G1.7 Promote nature friendly gardening.</li> <li>• G1.8 Support communities to adopt public land to manage as species rich grasslands.</li> <li>• G1.9 Promote nature friendly public space and linear features (i.e. roads, railways, cycle routes, canals).</li> <li>• G1.10 Use Citizen Science to increase identification and recording of species across our diverse grasslands.</li> <li>• G1.11 Promote awareness of the value and role species-rich grasslands can play.</li> <li>• G1.12 Encourage pesticide use to be minimised.</li> </ul>
<b>G2 Waxcap grasslands, coastal and floodplain grazing marsh are extended and restored</b>	<ul style="list-style-type: none"> <li>• G2.1 Enhance waxcap grasslands.</li> <li>• G2.2 Establish appropriate conservation grazing over large areas.</li> <li>• G2.3 Restore and expand the area of coastal and floodplain grazing marsh.</li> <li>• G2.4 Map and safeguard existing known locations of waxcap grasslands.</li> <li>• G2.5 Carry out appropriate management of sites depending on location.</li> <li>• G2.6 Maintain waxcap grassland through appropriate livestock grazing or haymaking but avoid soil damage where possible.</li> <li>• G2.7 Conduct research to locate sites of importance as such mapping long established undisturbed grasslands.</li> </ul>
<b>G3 More, bigger, better and joined up Heathland</b>	<ul style="list-style-type: none"> <li>• G3.1 Restore and create wet heath.</li> <li>• G3.2 Create and enhance a network of heathland sites.</li> <li>• G3.3 Manage and maintain heathland through appropriate conservation grazing practices.</li> <li>• G3.4 Manage and expand diverse heathlands for key species identified in Cheshire.</li> <li>• G3.5 Promote the value of heathland.</li> </ul>
<b>G4 Moorland areas supporting species and structurally diverse mosaic of habitats</b>	<ul style="list-style-type: none"> <li>• G4.1 Enhance and manage moorland through plant reintroductions and translocations.</li> <li>• G4.2 Manage recreation to safeguard our moorlands.</li> <li>• G4.3 Promote awareness of moorland habitats and why they are important.</li> <li>• G4.4 Establish a network of gully blocking and re-profiling areas to raise the water table.</li> <li>• G4.5 Enable heather to complete its natural cycle.</li> </ul>

## A list of species and species assemblages that benefit from the above actions:

- Birds of prey assemblage
- Grassland fungi assemblage
- Roof nesting birds assemblage
- Reptiles assemblage

# Key habitat - Orchards

## What are orchards?

According to UKHabs classification, Orchards are an open mosaic habitat, 'that is structurally and ecologically similar to wood pasture and parkland, with open grown trees set in herbaceous vegetation'. They are different to the priority habitat complexes due to the tree species composition, the small scale of individual habitat patches and a wider distribution and greater frequency of the habitat patches<sup>20</sup>. Cheshire's traditional orchards are unique, there are 32 local cultivars of apple within the county and highly localised varieties of pear, damson, bullace (plum type), plum and pear.

## Why are orchards important in Cheshire?

Cheshire's orchards were once well-known in the conurbations of Liverpool and Manchester as Cheshire was a key supplier of fresh fruit up until the late 1940's. Majority of the estates and farms in Cheshire had their own orchard, which makes it unsurprising that the two main cities relied on the county for their 5 a day. On top of the orchard areas within farms and estates, many farms have Damson trees in hedges close to farms.

<sup>20</sup> ORCHARD | English meaning - Cambridge Dictionary

## What is normally in an orchard?

- Fruit trees (Damson, Bullace, Pear, Apple, Cherry).
- Wildflower meadow (The pollinators and predators in this habitat helps to improve the success of fruit trees).
- Ponds (This was part of the traditional orchard setting).
- Vegetable plots.

## What happened?

- Post World War 2, many of the orchards have been removed.
- However, within the historic Vale Royal area of mid-Cheshire, there are still numerous orchards that survive.
- In 2011, PTES (People's Trust for Endangered Species) found that there was only 90.2Ha of orchards left in Cheshire, but from further studies by Cheshire Wildlife Trust, there are 284Ha of Orchards in the county (see Appendix 1).

## What is going to be done to improve the figures?

- Through possible private investment into natural capital, the Cheshire and Warrington LNRS team will look to incentivise farmers and landowners to reintroduce this valuable asset into the countryside.
- Environmental Land Management schemes, which will be linked with the LNRS in the future, could help to improve the state of orchards in Cheshire.
- Also, there are community and allotment groups, which have introduced orchard trees, providing another source of food for pollinators and invertebrates and the community itself. This is being made possible through national heritage lottery funding.

**Cheshire was famous for its apples and pears. I'm in my fifties now, and things have really changed. I remember finding old orchards on farms as a child, with really old apple and pear trees.**  
Cheshire resident.

# Species-rich Grassland/Heathland and Farming

The below list demonstrates the benefits for farmers from changing their practices to incorporate the above habitats and how farming benefits these habitats

## Benefits for farming from species-rich grassland and heathland

- Keeps soil healthy and carbon rich.
- Protects soil from erosion.
- Provides a range of forage for livestock.
- Is part of the character of a landscape.
- Can be part of our cultural heritage where traditions and skills are maintained, like haymaking<sup>21</sup>.
- Provides minerals for livestock, which would not come from normal rye grass pasture<sup>22</sup>.
- Just by having a 6 metre strip along the side of a crop field, can provide multiple benefits, such as pest reduction, less diseases, cost reduction of up to £3,000per ha, when compared to the cost of pesticide use.
- In drought conditions, wildflowers have been found to cope with the extreme heat conditions better due to the varying root structure that enables them to tap into groundwater sources.
- Supports biodiversity on the farm.
- Reduces overall chemical dependence.
- Higher yields are achieved as pollination is enhanced.
- Ensures climate resilience on farms.

<sup>21</sup> Maintain species-rich grassland – Farming

<sup>22</sup> Is the rye-grass always greener

## Farming benefits to species-rich grassland and heathland

- Without farming interventions, such as haymaking or sympathetic livestock grazing, wildflower meadows tend to move into the next phase of ecosystem succession, which is becoming scrub habitat<sup>23</sup>.
- By embracing wildflowers on the borders of their fields, farmers can help to reduce run off into the watercourses, therefore benefitting overall ecosystems<sup>24</sup>.
- Farmers or land managers can help to reduce the risk of wildfires and provide a mosaic of structure on heathland by maintaining traditional grazing practices on heathland. However, stocking rates must be set to create or maintain the mosaic of habitats and vegetation structure<sup>25</sup>.

<sup>23</sup> 7 Stages of succession

<sup>24</sup> 19 Reasons Farmers Are Using Wildflowers Instead Of Pesticides - And Why You Should Try It

<sup>25</sup> Lowland heathland - Farm Wildlife



**What's a headland? Headlands are the areas at the edges of fields beyond where the main arable crop grows, it's often where the tractor and machinery turns around before going back into the main field to drill or spray it. Headlands are therefore a grassland, where lots of wild-flowers can grow providing homes and food for pollinators that benefit crops and eat pests, reducing the need for fertilisers and pesticides.**

# Watercourses

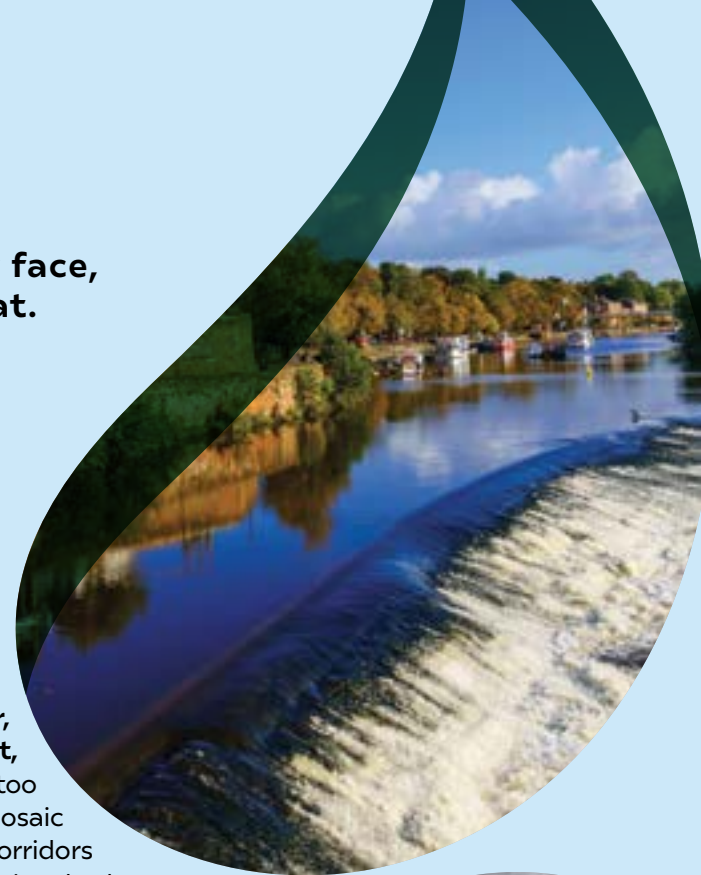
This section outlines the current state of our watercourses, the pressures they face, opportunities for nature recovery and the priorities and actions for this habitat.

## The state of our watercourses

- The majority of Cheshire and Warrington rivers and streams are in poor or moderate condition.<sup>26</sup>
- 3,704ha of mudflats make up 1.62% of the area.
- 1,112ha of rivers and streams cover less than 0.5% of our area but their catchments cover almost the entire county.
- 2,086ha coastal saltmarsh makes up under 1% of our area.
- River Dee and River Mersey estuaries are nationally and internationally designated with legal protections.

Cheshire and Warrington's watercourses include rivers, streams, estuaries and canals. **The rivers Mersey, Dane, Weaver, Wheelock, Gowy, Bollin and Dee are important ecological corridors crossing our landscape, home to Brown Trout, Atlantic Salmon and European Eel.** Alongside the numerous streams, they form a vital habitat for wildlife. Riverbanks too steep or wet for farming or timber production are home to woodland, species-rich grassland and form tiny fragments of mosaic with scrub or fen. **Our canals**, built in the industrial revolution are now important homes for wildlife, forming ecological corridors through the urban and rural environment, along with their sustainable use as recreational corridors and multifunctional role. **Some of Cheshire and Warrington's most important places for wildlife are the Mersey and Dee Estuaries with inter-tidal mudflats and saltmarshes**, which are internationally important for migrating birds.

There are many risks to nature in and around Cheshire's rivers, canals and streams with majority in less than "Good" status, exacerbated by the modifications and obstacles in them which make species movement difficult. These water bodies are under pressure from water abstraction, pollution from agricultural, urban and highway run-off, plus occasional sewage discharge overflows. Run-off from agriculture and sewage discharges add unwanted nutrients to the water which cause algal blooms and a high amount of sediment, adversely affecting native species. The linear nature of our network of watercourses helps invasive non-native species like Himalayan Balsam, Japanese Knotweed and Floating Pennywort to spread. Our waterways and river systems, especially the risk to water quality, are also increasingly affected by the impacts of climate change, including extremes of rainfall or dry weather and associated temperature changes, which alter water quality, quantity and habitats. The LNRS will look to address the impacts of these pressures alongside the impacts from climate change, such as flooding and drought, through the priorities and actions set out on page 46.



<sup>26</sup> State of our Rivers Report 2024 | The Rivers Trust

# Rivers

The **River Dee** rises in Eryri (Snowdonia) National Park in Wales and joins the English border above Chester, where it forms the boundary between Cheshire and Wales. It is designated as a Water Protection Zone (WPZ) due to its importance as a source of drinking water for three million people. It is a SAC and a SSSI because of a suite of designated features. Furthermore, The River Dee is the only SAC river in Cheshire. It was designated because of the species it supports and its fluvial geomorphology, including the most northern population of Club Tailed Dragonfly in Britain, and the only population in Cheshire.

The **River Dane** has many natural features such as oxbows, sandy cliffs and sand bars. Significant amounts of woodland can be found along the steep banks near Holmes Chapel, including ancient woodland. A tributary of the River Dane, the **River Wheelock** area is a designated Local Wildlife Site due to its reeds, Reed Sweetgrass and Reed Canary grass, which provides an important habitat for the Marsh Harrier. It is an important ecological connectivity corridor to the Sandbach Flashes SSSI.

The **Weaver** is the longest river in the county at over 50 miles rising in the Peckforton Hills and joining the Manchester Ship Canal before entering the Mersey estuary. Between Nantwich and Winsford, it is more semi-natural and meandering but downstream of Winsford, it has been heavily modified with weirs and locks to allow boats to bring in coal and export salt. It even had its own Act of Parliament to permit navigation in 1759.

Also rising in the Peckforton Hills is the **River Gowy** which follows the lowland of Cheshire for 22 miles. It is the most heavily modified river in the area, and have been straightened, dredged and had its banks raised to drain once marshy floodplain for agriculture and to reduce flooding. Yet it still provides important coastal and floodplain grazing marsh habitat in several locations along its route. It plays host to nationally rare insect species at the Gowy Marshes and is an important area for wading birds.

The **Mersey** is fed by many tributaries including the Bollin on the boundary between Cheshire and Greater Manchester. It flows through Warrington, meandering through Paddington Fields on the northern edge of Woolston Eyes, before meeting the estuary at Howley Weir. It then flows heavily channelled through the south of Warrington town centre, out to the west of Warrington, where it naturally meanders before being joined by **Sankey Brook** and the **Gowy** west of Warrington.



## Canals

**Canals** are excellent wildlife and recreational corridors, especially in urban areas. Canals do face challenges, such as non-native invasives e.g. Floating Pennywort, due to its linear nature. In Cheshire and Warrington, the Canal and Rivers Trust and other partners have been hard at work trying to boost biodiversity along these corridors and their adjacent habitats, enabling some of our rarest species to maintain a stronghold e.g. Gadwall, Reed Bunting and Willow Warbler.

# Pressures on our Watercourses

- Increased pesticide use.
- Lack of awareness amongst residents about benefits of leaving 'no cut' areas in urban centres.
- Lack of communication between local authorities, contractors and residents relating to new mowing strategies designed to benefit biodiversity.
- Invasive non-native species.
- Soil compaction.
- Soil erosion.
- Inappropriate management techniques.
- Succession.

# Nature recovery opportunities for Watercourses

- Adopt nature-based interventions in the landscape to improve water quality e.g. hedgerows, buffer strips and river-side tree planting.
- Develop and build upon the good work of the catchment partnerships to complete further Water Framework Directive (WFD) enhancement actions by speeding up river restoration and wetland creation.
- Eradicate American Mink, to help establish a viable population of Water Voles again.
- Require developers of large-scale developments to follow local planning and Biodiversity Net Gain policies regarding watercourses, by following the mitigation hierarchy. Damage to estuarine habitats through Biodiversity Net Gain policies.



## Priorities and actions for Watercourses

What are the priorities and actions to support protection and restoration of a thriving water-based ecosystem?

Priority	Actions
<b>WA1. Healthier and resilient watercourses with more abundant native wildlife</b>	<ul style="list-style-type: none"> <li>• WA1.1 Create interventions in the landscape to slow the flow, attenuate water, and reduce run-off.</li> <li>• WA1.2 Re-connect rivers and estuaries with their floodplains.</li> <li>• WA1.3 Facilitate identification, prevention, regulation and enforcement of pollution by relevant agencies.</li> <li>• WA1.4 Remove or adapt barriers to allow fish and other river species full access to our rivers and streams.</li> <li>• WA1.5 Enhance natural structures in rivers for biodiversity benefits.</li> <li>• WA1.6 Ensure better natural recharge of water bodies during low rainfall periods.</li> <li>• WA1.7 Create and restore a variety of riverside (riparian) and in-channel habitats.</li> </ul>
<b>WA2. The whole river catchment, from source to sea, functions as naturally as possible</b>	<ul style="list-style-type: none"> <li>• WA2.1 Re-naturalise rivers by re-connecting rivers to their floodplains.</li> <li>• WA2.2 Create a mosaic of habitats in the catchment that holds and slowly releases water over time to refill our waterbodies for nature and people.</li> <li>• WA2.3 Reduce pollution in our watercourses and catchments.</li> <li>• WA2.4 Enhance canals by improving and creating better habitats for nature.</li> <li>• WA2.5 Restore natural processes of erosion, transportation and deposition through the implementation of nature-based solutions.</li> </ul>
<b>WA3. Our estuaries are restored for nature and enhanced by local communities</b>	<ul style="list-style-type: none"> <li>• WA3.1 Enhance and create habitats along our estuaries.</li> <li>• WA3.2 Manage and re-align flood defences to conserve intertidal habitats.</li> <li>• WA3.3 Reduce the impact of public access on feeding and nesting birds.</li> </ul>

### Species - the list of species and species assemblages that benefit from the above actions:

- White-Clawed Freshwater Crayfish
- Migrating fish assemblage
- Mud Snail
- Lowland raised mire invertebrates
- Exposed riverine sediment invertebrates
- European Water Vole
- Common Club-Tail Dragonfly
- Desmoulin's Whorl Snail

**What is diffuse water pollution?** Diffuse water pollution comes from lots of smaller, scattered and intermittent sources including run off from transport, agricultural soils and nutrients, pesticides and leaching through soils or underground drainage, which all combined to pollute our watercourses.

# Key habitat - Estuaries

The middle of the Mersey Estuary is designated as a Special Protection Area (SPA), Ramsar and SSSI. It is an important part of a major bird migration route. The upper Mersey Estuary, near Warrington consists of intertidal sand and mudflats and saltmarsh. They are classified as functionally linked land to the SPA. Since the industrial revolution, the river has been subject to industries dumping heavy metals, such as zinc lead and arsenic, into the river. But as many of these industries have disappeared, fish and other aquatic life have returned, attracting Cormorant, Heron and Grebe as the river came back to life.

The Dee Estuary is protected by SPA, SAC, SSSI and Ramsar designations and is one of the top ten estuaries in the UK for wintering and passing waterfowl populations. Throughout the year, it provides a key area for internationally designated birds, in with its mudflats support a variety of marine invertebrates.

Our estuaries, especially the Dee's saltmarshes, have been managed well by the RSPB but certain pressures still persist across the Dee and Mersey. These include effects of persistent historic and current pollution, increased storm surges because of climate change and recreational disturbance, along with invasive species like the Chinese Mitten Crab.

## What are the pressures impacting estuaries?

Estuaries are unique habitats as it comprises of multiple habitats within one ecosystem. Some of the key pressures include:

- Poor water quality from agricultural, sewage and litter pollution.
- Recreational disturbance (see Appendix 1).
- Sea level rise.
- Coastal erosion.
- Invasive non-native species.
- Development pressure.



# Key issues - Water availability

**Cheshire and Warrington's landscape will be undergoing vast amounts of pressure on its water resources in the near future:**

- Twice the amount of housing allocation- All boroughs in Cheshire and Warrington.
- 10x higher abstraction from water-reliant industries such as salt, manufacturing, renewable energy, food manufacturing and agriculture.
- The River Dee supplies three million people on both sides of the border in England and Wales.
- The Weaver-Gowy catchment is an unusual catchment in the North-West as it is predominantly abstracted for non-public water supply, meaning that it is under more pressure than other rivers in the region.

**The majority of Cheshire's water bodies are falling below good ecological and chemical condition, with only a few reaching "Good" status.**

## **How does ecological and chemical condition impact water abstraction?**

The main rivers in Cheshire and Warrington, which face possible water scarcity in the near future include the Weaver, Gowy and Dane. The rest of the catchments are following closely behind with the upper Mersey being a source of concern. All of these rivers are classified as moderate, poor or bad condition, for both ecological and chemical condition. By not having ecological and chemical condition of watercourses at "Excellent" or "Good" status, it can cause problems to businesses through:

- Businesses with abstraction licences, with higher volumes of water, may have their volumes reduced.
- There will need to be a re-distribution of abstraction among existing sources within the catchment.
- The Environment Agency will possibly change licences under Section 51/52 of the Water Resources Act 1991, as they are committed by law to ensure that designated sites are not impacted and they are committed to address serious damage, actual and at risk water bodies under the abstraction plan.

## **What is the likelihood of water scarcity and what could happen to abstraction licences in Weaver, Gowy and Dane?**

- In Water Resources West Water means Business report<sup>27</sup>, it is stated that declining low flows are becoming a stark reality for the Dane, Gowy and tributaries of the Weaver. Low flows that abstractors could expect to see, specifically in the River Dane, during dry summers for the next 30 years, could be 9% lower than the previous 30 years. We are experiencing water scarcity in both the Gowy and Weaver too, and low flow alarms are being recorded. In August 2025, rainfall was only 33.7%. For abstractors, the EA have set up Hand-Off Flow (HOF) conditions in their licences, meaning that if river flows fall below the HOF threshold, abstraction is restricted. If investment is not put into water security through nature-based solutions and river restoration, this could become more frequent as climate change takes hold.

## **What is being done to prevent this?**

The solutions proposed to mitigate the potential impact of low water availability in the next 10 years are as follows:

- The Weaver-Gowy private investment scheme, which is a natural capital scheme, will be directed by the combined authority, providing farmers and landowners with funding to provide nature-based interventions in the landscape to slow the flow, reduce flood risk, store carbon and improve biodiversity on their land. This scheme will be paid for by a range of stakeholders with an interest in water availability, carbon sequestration, nature restoration, water quality and high quality farm produce.

<sup>27</sup> WRW Water Means Business Report



# Farming and Water

The below list demonstrates the benefits for farmers from changing their practices to incorporate these habitats and how farming benefits these habitats:

## Water benefits to farming:

- Lower water usage can help to reduce costs for farmers, making their operations more economically sustainable.
- Improved water management can help to improve soil health by preventing soil erosion and maintain soil structure, promoting better crop growth.
- Holistic water management by capturing rainwater through techniques like swales and ponds, which allow soil infiltration and aquifer recharge, can protect farmers in future extreme climate conditions, such as droughts and flooding, thus making the business sustainable<sup>29</sup>.
- Agriculture, water and maintenance of natural environment has been previously seen as separate issues, but by creating a holistic catchment management approach, centred around all 3 together, we can help to resolve many problems faced by each one synonymously<sup>30</sup>.

## Farming benefit to water:

- In areas where irrigation is used, farmers can be efficient by optimising irrigation piping placement to ensure water is evenly distributed across crop fields and by integrating large trees within crop areas to minimise evaporation and reduce water needs<sup>31</sup>.
- Many farming techniques can help with water conservation that can help improve water quality and boost biodiversity:
  1. Drip irrigation.
  2. Capturing and storing water (rainwater harvesting).
  3. Irrigation scheduling.
  4. Drought resistant crops.
  5. Dry farming: Method of crop production that does not rely on irrigation during dry seasons but instead utilises soil moisture stored from previous rains<sup>32</sup>.

## Urban areas and water

Unlike other themes in the LNRS, watercourses are a key and permanent feature of our urban areas as majority of the world's urban centres are centred around watercourses. The amount of water used by an average person in the UK at present is now 143 litres per day, whereas in the 1960's, it was 85 litres per day<sup>33</sup>. With urban areas expected to increase in the UK, the pressures on making our water use and management system sustainable and efficient. Flooding and water quality problems will be the main topic of contention over the next few decades and some of the key solutions are discussed in this document e.g. Sustainable Urban Drainage Systems (SUDS).

<sup>28</sup> Water Conservation in Natural Farming | Water-Smart Farming

<sup>29</sup> Nurturing Nature: The Crucial Role of Water in Regenerative Farming | Eight Oaks Farm Distillery

<sup>30</sup> Agricultures-impacts-water-quality.pdf

<sup>31</sup> Water Use in Agriculture Key Facts and Figures

<sup>32</sup> Agricultural Techniques for water conservation

<sup>33</sup> Future of the subsurface: Urban water management in the UK



# Peatland and Wetlands



This section outlines the current state of our peat and wetlands, the pressures they face, opportunities for nature recovery and the priorities and actions for this habitat.

## The state of our peatland and wetlands

- 2,627ha standing open water (of which 156ha is priority habitat).
- 692ha Blanket bog.
- 16,000 Ponds (formerly 41,000 ponds classifying Cheshire as the pond capital of Europe).
- Cheshire's Meres and Mosses are internationally and nationally significant for wildlife.

Cheshire and Warrington have a range of peatland and wetlands formed after the last ice age an estimated 10,000 years ago<sup>34</sup> – known as its Meres and Mosses. These support a variety of important habitats and species including lowland raised bogs and basin mires, upland blanket bog, fens and reedbed, inland salt marsh, meres, lakes and ponds. Development pressure, climate change, drainage, erosion, nutrient enrichment from nearby ditches and watercourses, ecological succession, invasive species like Himalayan Balsam. Lastly, recreational disturbance can all put these valuable habitats at risk.

**Peatland** - There are 153ha of lowland raised bog and 20.4ha of basin mire remaining. Lowland raised bogs formed gently curving domes of peat up to 12 metres thick, rising above the surrounding landscape and fed only by rainwater. Their swampy pools are filled with willow, other wetland-loving tree species and reeds, followed by vegetation and sphagnum mosses growing on rafts above the surface of trapped water beneath. Over the years, this formed peat, an important carbon store. This process still occurs in places like Abbot's Moss, also known as 'quaking bogs. Today, most of the mosslands of Cheshire and Warrington are relict peat. The small areas of mossland support rare species of invertebrates, such as the Raft Spider, aquatic beetles and Small Heath Butterfly. While the best mosslands support rare plants such as Royal Fern, Juniper, Cranberry, Bog Rosemary, Sundew and host multiple species of sphagnum moss.



**Succession – it's natural but it's a problem. Succession is a threat to some habitats but what does it mean? Nothing stays the same, and that is natural. So, habitats evolve – soils build up as plants rot down, ponds fill with silt and plants, unmanaged grassland 'scrubs up'. If ponds aren't cleaned out, new ponds aren't being created, there will be no new sites for rare species to move and habitats will be lost. With so few protected or safeguarded spaces, nature is at more of a risk, so we need to ensure that succession does not mean we lose our last remaining habitats for key species.**



**Upland blanket bog** - There are 153ha of **lowland raised bog** and 20.4ha of **basin mire** remaining. Lowland upland blanket bog began to form around 7,500 years ago and since then mosses accumulated, trapping organic matter and carbon to create waterlogged expanses of peaty soils, to depths that were present until recent history. On average, the IUCN state that active peat formation is likely to be only 2mm per year highlighting the importance of the need for active peatland restoration in the region. Peat forming species colonise this habitat, such as sphagnum mosses, accompanied by Common and Hare's Tail Cotton Grasses. Cheshire's upland blanket bog is found on the flanks of the South Peak's Pennine hills where the habitat supports birds like Merlin, Golden Plover and Short Eared Owl. This is a protected landscape, alongside Risley Moss and other meres and mosses within the area, that is reflected in international, national and local designations. Sadly, our upland blanket bogs have dried out in some cases, others have been subject to high levels of historic pollution and disturbance which destroyed tracts of peat making it more vulnerable to erosion and wildfires. Efforts are being made to restore naturally functioning blanket bog and related habitats with a view to halting carbon emissions and turn them back into carbon sinks. This relies on healthy bog vegetation, in which peat building sphagnum mosses flourish once again. Gully blocking, planting sphagnum and works to stabilise existing peat are actions which help to retain water and provide the conditions for restored function to happen. Healthy functioning peatlands provide environmental benefits, such as better water retention and flood risk reduction.

**Wetlands** - Within Cheshire, 28 of its wetlands are designated as SSSI's, and considered as nationally important examples of lowland habitats, largely formed through post glacial process, and support an array of rare flora and fauna. In addition, a significant proportion of these are internationally important, designated in clusters such as the:


- West Midlands Mosses SAC
- Midlands Meres & Mosses Ramsar Phase 1 & 2
- Manchester Mosses SAC (e.g. Risley Moss)

**Fens and reedbeds** - (photo) occur on the edges of open water in valleys and depressions and around springs and flushes, where the soil remains waterlogged most of the year. Fens and reedbeds form an important mosaic of varied habitat around the meres (lakes) of Cheshire and are home to the famous booming Bittern, groups of Warbler and flowers – Marsh Violet, Purple Loosestrife and Meadowsweet. We have nearly 500 hectares of fen and reedbed, reduced over the years through drainage for agriculture and the lowering of the water table on neighbouring land. Flood barriers have acted to disconnect rivers from their floodplains which in turn damages many of these wetland habitats.

**Inland saltmarsh** - is Cheshire's rarest habitat and due to its fragmentation and a lack of recording we don't know its current extent. It is an important habitat (one of the most at-risk habitats across Europe) found near salt workings where brine springs come up. Forming part of a mosaic habitat it supports Saltmarsh Grass and Lesser Sea-Spurrey.

**Meres & mosses** - are mainly located across lowland Cheshire and include natural glacial meres ranging in depth from 1 – 27m, artificial reservoirs, flooded sand and gravel pits, subsidence lakes and flashes (wetlands formed in old mining areas). These all provide vital habitat for insects, dragonflies and wildfowl. Cheshire's meres and mosses have suffered from pollution, from human pressure – nitrogen leaching from sewage works, overstocking with fish, disturbance from boats and through the spread of invasive non-native species.





## Pressures facing Peatland and Wetlands

- Increased pressure from development on unknown locations.
- Climate Change.
- Recreational disturbance.
- Inappropriate management techniques.
- Dredging.
- Intensification of agriculture.

## Nature recovery opportunities for Peatland and Wetlands

- District Level Licencing ( DLL) project.
- Decision support framework for peatland protection, the establishment of new woodland and re-establishment of existing woodland on peatland in England, in conjunction with the Open Habitats and Breeding wader policy.
- Peat restoration projects are currently taking place with the Great North Bog project and the Great Manchester Wetlands project, which includes areas of Warrington.
- Trials of wet farming techniques have been established with the Mersey Rivers Trust and this could be expanded to ensure floodplains are re-connected to the rivers.

<sup>34</sup> Introduction to the Glaciation of Britain - AntarcticGlaciers.org

**What is Wet Woodland? Willow Carr and Alder Carr are types of wet woodland that grow in fens and bogs with a bulky ground layer of plants like Royal Fern, Yellow Flag and Meadowsweet.**

## Priorities and Actions for Peatland and Wetlands

Priority	Actions
<p><b>P1. Peatlands restored and buffered with semi-natural habitats</b></p>	<ul style="list-style-type: none"> <li>• P1.1 Where possible, peatland habitat should be restored. Where development is proposed, it should not create harm, which cannot be mitigated.</li> <li>• P1.2 Improve the condition and functioning of upland peatlands through appropriate measures to re-wet habitats, to revegetate bare peat, to establish appropriate vegetation, and to stabilise areas of erosion, reducing carbon emissions and creating conditions for future peat formation, carbon sequestration and improved natural flood management.</li> <li>• P1.3 Increase lowland raised bog restoration.</li> <li>• P1.4 Enhance and restore blanket bog plant diversity.</li> <li>• P1.5 Develop opportunities for local businesses to invest in peat restoration.</li> </ul>
<p><b>P2. More, bigger, better and joined up wetland habitats</b></p>	<ul style="list-style-type: none"> <li>• P2.1 Target wetland creation in naturally wet areas.</li> <li>• P2.2 Expand existing wetlands and species diversity through restoration.</li> <li>• P2.3 Re-introduce and increase the sphagnum moss and companion species cover across our meres and mosses.</li> <li>• P2.4 Minimise recreational disturbance, where possible.</li> <li>• P2.5 Create buffer zones around known sites to prevent damage from surrounding land use practices.</li> <li>• P2.6 Safeguard, restore and improve wetland habitat, providing buffers to protect water quality and by managing invasive non-native species.</li> </ul>

### Species - the list of species and species assemblages that benefit from the above actions:

- Open Mosaic Butterflies and Moths
- Desmoulin's Whorl Snail
- European Water Vole
- Birds of Prey assemblage
- Lesser Silver Water Beetle
- Lowland raised mire invertebrates.



# Key Habitat - Ponds

## What is a pond?

It's a water body less than 2 hectares in size. Ponds have a life cycle – gradually silting up and becoming marshy at the edges as trees and plants encroach. Eventually they're visible as clumps of trees, and may only have water in during the winter as some dry up in the summer, this sometimes serves to remove fish present that predate on most other aquatic life. A pond that is good for wildlife is species rich with lots of variety and plant life at different stages to support aquatic and insect species.



## What is synonymous between ponds and Cheshire?

Cheshire has one of the densest pond landscapes in the country with 16,600 ponds remaining out of the pre-20th century's 41,000 ponds. Areas close to Handforth, Arley and Tabley are particularly rich in ponds. Old pond locations or 'ghost ponds' can be seen as contours on the ground or found on old maps. Cheshire also has the greatest concentration of Great Crested Newts in England. Ponds act as a network of wildlife habitats and as stepping stones in the landscape for aquatic and wetland species. Cheshire's marl pits (clay pits) were dug at a similar time and many have not been actively managed. Many of these ponds are reaching the later stages of their life cycle, silted up and succession has led to scrub and woodland establishment, often seen as clumps of trees in the landscape. In the last 40 years, many of Cheshire's ponds have been adversely impacted by chemical drift and fertiliser run off and sometimes taken over by invasive species.

## What is currently being done for ponds?

- In Environmental Land Management schemes, farmers and landowners can get payments to create ponds on their land and additional payments for managing and buffering the ponds with appropriate habitat.
- Across the UK, there is currently a District Level Licensing (DLL) Pond scheme, where landowners can apply to create or restore ponds, specifically for Great Crested Newt (GCN) mitigation from new development (further information below in the case study).



## Case Study: Lindow Moss Landscape Partnership

Lindow Moss is a unique and historically important place in Wilmslow, Cheshire, home to Lindow Man, the preserved bog body discovered in the 1980s. Lindow Moss is one of the largest lowland peatlands in Cheshire and is a diverse mosaic of habitats and a key area for carbon storage due to its peat content. The Lindow Moss Partnership was established in February 2024 by Wilmslow Town Council, Transition Wilmslow, Cheshire Wildlife Trust, Groundwork Cheshire, Lancashire & Merseyside, Cheshire East Council, Natural England, Friends of Lindow Moss and Mersey Rivers Trust. They have developed a 10 year **action plan** and secured a national lottery grant to begin work to achieve their vision of a landscape in recovery, for nature, for the climate and for our citizens.

## Case study: Natural England's District Level Licensing (DLL) Pond scheme

The idea behind DLL is that a landscape scale approach is used to improve GCN populations across England, focusing on the whole species rather than individuals, which is the opposite approach to traditional mitigation licensing (see [YouTube link](#) for more information). This doesn't mean DLL will replace mitigation but will work alongside it, especially in places where DLL hasn't/will not launch in the future.

Natural England use an ensemble model to determine where GCN are (core), likely to be (fringe) and good habitat for GCN. Each county that DLL has launched in models these Strategic Opportunity Areas (SOAs) to outline suitable areas for pond creation or restoration. The data gathered is from local record centres where GCN have been recorded and where known GCN populations already exist. You can have a look at the SOA for Cheshire and Warrington by following [this link](#). We ask our delivery partners to create/restore ponds within the core & fringe areas to increase the distribution and range of GCN, but outside of SOA can also encourage GCN to find new areas and link up metapopulations.

Natural England's partners in DLL are made up of farming and wildlife advisory groups, Wildlife Trusts and Councils who have experienced ecologists.

DLL was first introduced in 2017, and was first launched in Kent and Cheshire, due to higher GCN populations, according to the baseline surveys. We wanted to understand how pond delivery would work, if our partners were able to deliver ponds works effectively and if we could have a positive impact on range, distribution, and colonisation of GCN. In the first monitoring year, we had a 3% presence rate with 85 ponds being created/restored.

It uses eDNA water sampling to determine if GCN are present. The samples taken are sent to labs who test each pond sample for GCN DNA.

Each pond also has a Habitat Suitability Index (HSI) score, which is undertaken by Natural England's partners, who are experienced ecologists. For GCN, each pond should have a HSI of 0.7 (means the pond is good and suitable for GCN) or higher (this will mean the pond is excellent for GCN).

This has proved quite successful, as it showed that GCN were finding the ponds and using them. Since then, the scheme has been extended to another 21 counties with a potential of adding more. Overall, the scheme had a presence rate of 34% of roughly 2,754 ponds colonised by GCN across England. The scheme has now delivered 4,000 ponds. Monitoring runs from April 15th to June 30th, the evidence has suggested this is after GCN have emerged from hibernation and will already be in the ponds or just entering, they will likely be mating during this period, releasing more eDNA which is more likely to be detected with the eDNA testing.



# Farming and Peatland

The below list demonstrates the benefits for farmers from changing their practices to incorporate these habitats and how farming benefits these habitats:

## Peatland and wetland benefits to farming:

- It is a net carbon source and the ecosystems associated with peat can provide farmers with an area that livestock could graze sympathetically and can provide a diversified source of income through carbon credits when the peatland is restored from a damaged state<sup>35</sup>.
- By adapting the agricultural practices to a wet farming technique, can help to reduce soil loss, subsidence and can increase productivity, especially with regards to crop cultivation. However, there will need to be a move away from dredging and tillage to enable this transition. Understanding suitable areas and crops to be identified. Technical challenges of wet farming will still need to be overcome. The recognition and provision through developing agri-environment schemes will be key<sup>36</sup>.

- Protection against climate change effects i.e. flooding and drought.
- Reduced drainage intensity systems may deliver partial reductions in the rate of emissions, with smaller modifications to existing systems that could help farmers overcome the challenge of maintaining crop production and help them to minimise their environmental harm<sup>37</sup>.

## Farming benefit to peatland and wetland:

- By moving to paludiculture (wet farming), farmers can help to re-establish peat layers and providing cultivated crops. This will support native wildlife in these habitats, such as Golden Plover and Sundew.
- Agricultural 'wasted' peat could be suitable for wet woodland creation, where water tables are raised to rewet the peat.

<sup>35</sup> Peatland Benefits | IUCN UK Peatland Programme

<sup>36</sup> Wet agriculture - a tool in the climate action toolbox | IUCN UK Peatland Programme

<sup>37</sup> Global Change Biology | Environmental Change Journal | Wiley Online Library



# Species

## What is this section about?

The Species shortlist forms part of step 3 and 4 of the LNRS process, as highlighted in figure 3. Although step 3 is the description of the strategy area, it has helped to inform the species longlist as it described the state of nature. Whilst step 4 identified what overall habitat actions can help improve the state of certain species. Therefore, the species shortlist is highly focussed on individual species, that need specific niche actions within their respective ecosystems, above and beyond the overall habitat improvements. These actions will help increase species numbers and spread within Cheshire.

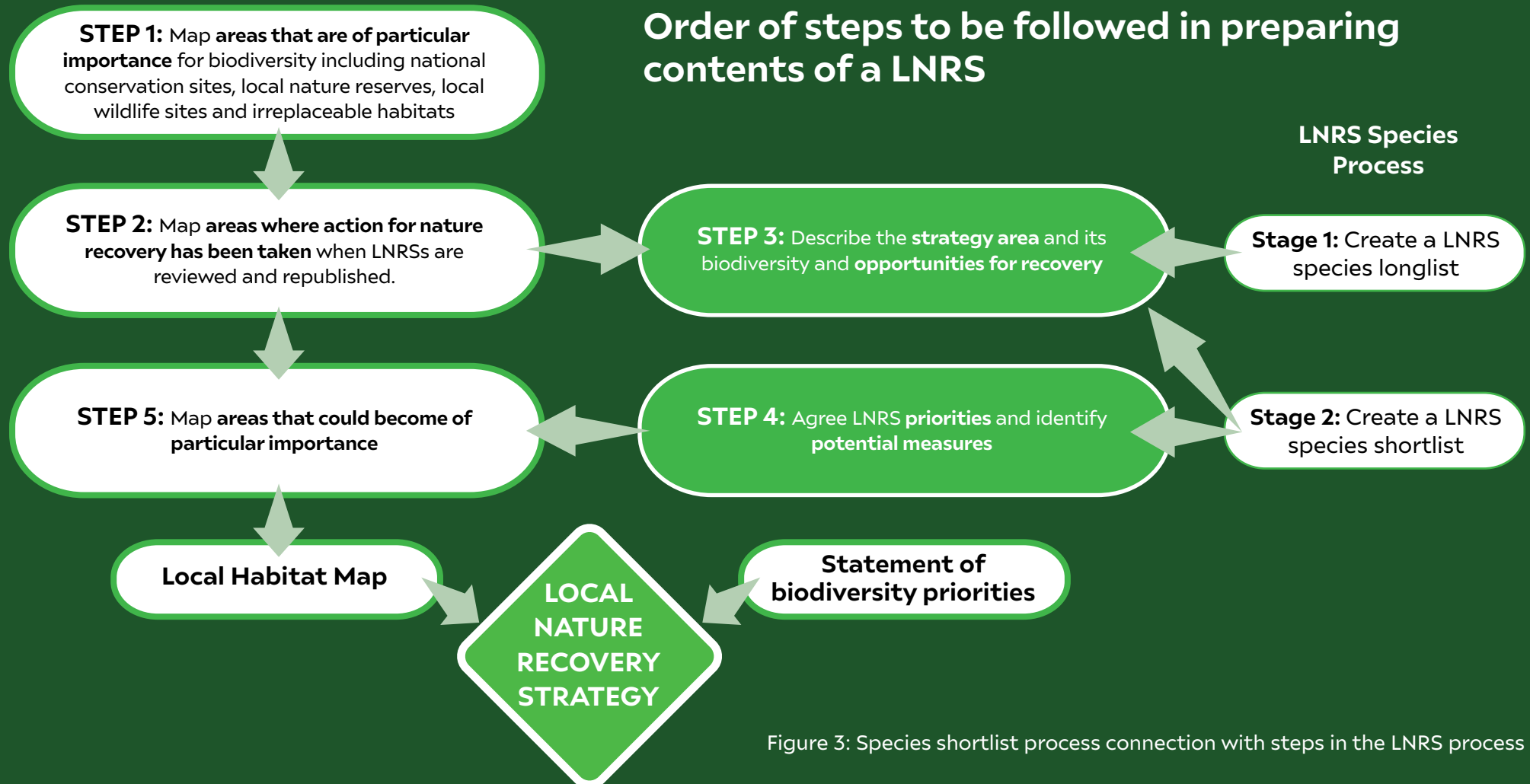
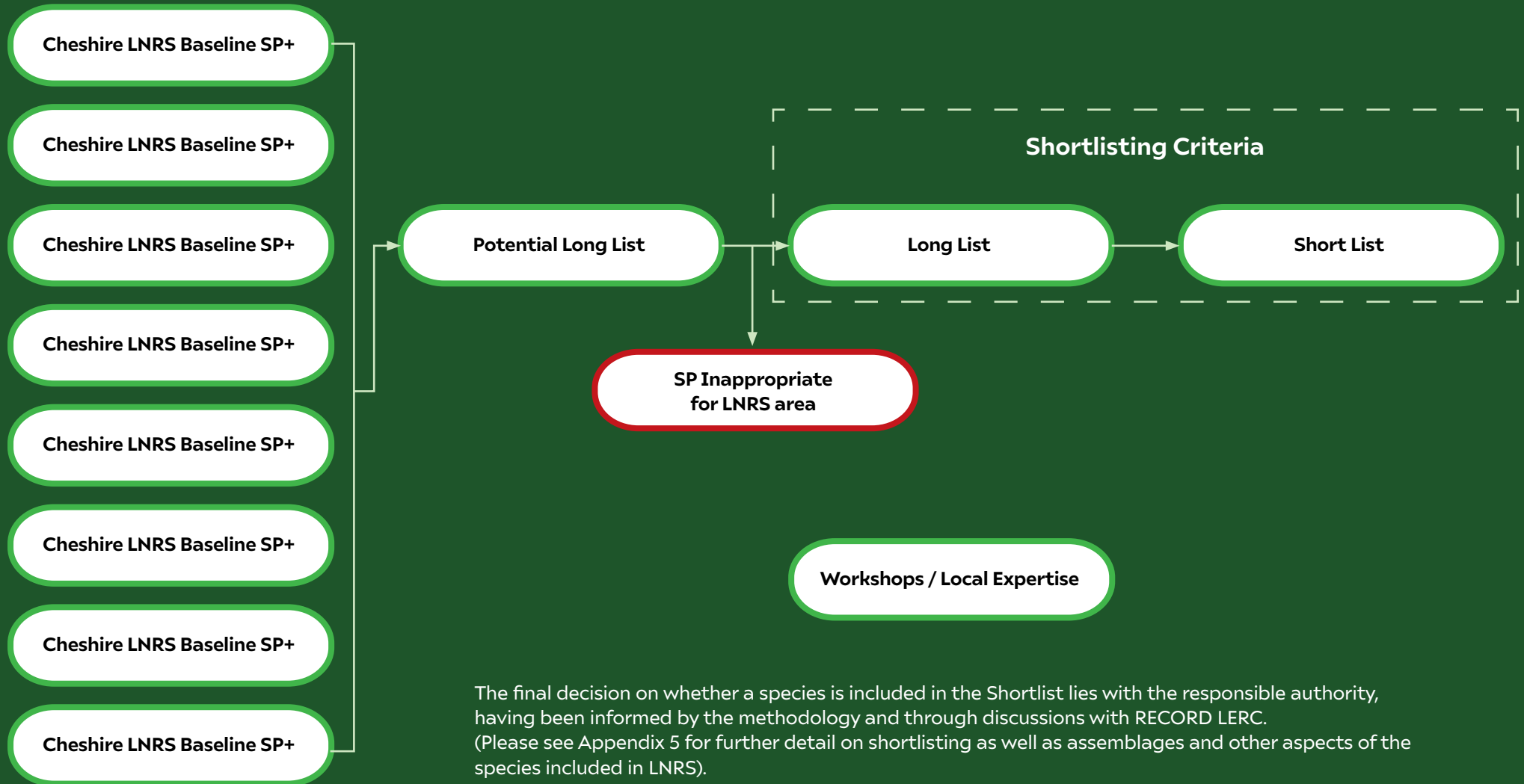


Figure 3: Species shortlist process connection with steps in the LNRS process

## How did we get a shortlist?

Cheshire RECORD LERC (Local Environmental Record Centre) led the species shortlisting process. They followed the broad species shortlisting methodology, which sets out the criteria for species shortlisting, outlined in the DEFRA document 'Species Recovery within Local Nature Recovery Strategies, Advice for Responsible Authorities (version 1: August 2023)'. The outline of the followed process, which included species experts, local residents and professionals, is shown in the diagram below:



## Why do we need a shortlist and what does it mean?

A species shortlist is key in the LNRS process to determine whether a species, identified in the IUCN Red List and extant in Cheshire and Warrington. It must have additional conservation actions put against it to improve its population and/or distribution. The Species Shortlist was assessed by RECORD LERC staff, county recorders and/or local specialists.

The species discounted from the shortlist was decided upon from detailed research (local research, survey reports, national checklists, advice and guidance) and where a species would benefit from already planned habitat actions as part of the habitat priority actions (see section 3) following the Lawton principles. In addition, the species-specific actions (detailed in the species shortlist) have been developed to avoid, where possible, any negative impact on other species of conservation concern.

From a broader perspective, the species shortlist in Cheshire works alongside other bordering authorities' shortlists to ensure consistency and align conservation actions for specific species (especially esoteric species) across the region.

The Cheshire and Warrington species short list was developed through a Natural England process and working with local species experts from the initial long list of 8,264 threatened species. Delivery of the LNRS will benefit all species on this long list in the broadest terms and the long list remains the baseline for species considerations in future iterations of LNRS when delivery of priorities and actions to date are reviewed and reconsidered.

Appendix 7 repeats the species list including the rationale and actions for each species and includes information that can help with delivery.



# Species priorities, actions & rationale

Whilst restoring and safeguarding nature in the four habitat areas and in the three themes should help halt species decline and nature to recover. We have identified priority species for Cheshire and Warrington that require special actions. These are shown here in alphabetical order.

## Species

## Actions & Rationale

### Common-Clubtail Dragonfly



- Conduct bespoke habitat management to maintain a balance of vegetation along water courses.
- Provide good water quality, nearby scrub and wood, and shading that is below 50% during May to July.
- If dredging is carried out, it should be done in sections with the spoil left long enough for larvae to make their way out, then eventually be moved away from the watercourse.

**Rationale:** Expand England's northern-most population.

**Habitat Benefit** All the species actions above will benefit the following habitats:  
Watercourses | Woodland, Hedgerows and Trees

### Desmoulin's Whorl Snail (this is just 3mm tall)



- Provide high water levels and good quality habitat, including areas of Greed Sweet-grass (*Glyceria*).
- Protect river banks from evolving into scrub.
- Do not cut river bank vegetation short.
- Do not drain wetland habitat.

**Rationale:** Maintain the presence in Cheshire of this threatened Mollusc

**Habitat Benefit** All the species actions above will benefit the following habitats:  
Watercourses | Wetlands

## Species

## Actions & Rationale

### European Water Vole



- Eradicate or control American mink.
- Create buffer strips along water courses.
- Control livestock access to river banks (through fencing or seasonal fencing).
- Carry out sympathetic bank and ditch management so the burrows are not destroyed.

**Rationale:** Support reversal of decline of local populations

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Watercourses | Wetlands | Farmland

< Water Vole Terry Whittaker 2020 Vision Wildlife Trusts

### Lapwing (as part of the Breeding wader assemblage)



- Adopt sympathetic land management practices, particularly during GROUND nesting season (eg keeping livestock away from nesting areas).
- Maintain wet features such as drains and scrapes.
- Improve water quality during winter months for resident populations.

**Rationale:** Support reversal of declining populations

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Farmland | Watercourses | Peatland and Wetlands

### Hen Harrier (as part of the Raptor assemblage)



- Raising awareness amongst the public about raptor persecution and how to reduce it.
- Increased capacity for nest watches and closer working with communities that come in close conflict with the species.
- Increase in suitable nesting sites.

**Rationale:** Address negative impacts on raptor species

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Heathland | Farmland | Peatland and Wetlands

## Species

## Actions & Rationale

### Lesser Silver Water Beetle



- Maintain livestock access to ponds and ditches, maintaining the poached margins.
- Leave vegetation in ponds and do not dredge them.
- Keep numbers of ponds fish-free to avoid predation.

**Rationale:** Positively manage for this Cheshire population

**Habitat** All the species actions above will benefit the following habitats:  
**Benefit** Peatland and Wetlands | Farmland

< Image copyright Andy Harmer

### West European Hedgehog



- Connect urban spaces through 'hedgehog holes' and road bridges/tunnels.
- Foraging areas should be considered in planning applications alongside badger setts.
- Encourage promotion of local and national citizen science projects to record hedgehog numbers.

**Rationale:** Support increased awareness and connectivity

**Habitat** All the species actions above will benefit the following habitats:  
**Benefit** Urban | Grassland and Heathland

### Atlantic Salmon (as part of the migrating fish assemblage)



- Where possible, allow river channels to return to a natural meander providing greater protection from predators.
- Modify or remove weirs and/or install fish passes.
- Create fish migration map to highlight bottlenecks and raise awareness on the impact of the barriers in watercourses.

**Rationale:** Increase migration and spawning opportunities

**Habitat** All the species actions above will benefit the following habitats:  
**Benefit** Watercourses

## Species

## Actions & Rationale

### Mud Snail



- Install or safeguard ephemeral (occasional) ponds.
- Avoid drainage and management practices that involve clearing vegetation and deepening of ponds.

**Rationale:** Reverse declines of Cheshire populations

**Habitat Benefit** All the species actions above will benefit the following habitats:  
Wetlands | Farmland

### Open Mosaic Butterflies and Moths



- Within appropriate habitats maintain a mix of 'micro' habitats with a variety of plant species and ages.
- Plant food sources such as Common Bird's-foot-trefoil and Greater Bird's-foot-trefoil alongside a variety of grasses such as False Brome and Cock's-foot.

**Rationale:** Reverse declines via suitable habitat

**Habitat Benefit** All the species actions above will benefit the following habitats:  
Open Mosaic Habitats | Grassland and Heathland |  
Woodland, Hedgerows and Trees | Peatland and Wetland

### Swift (as part of the Roof nesting bird assemblage)



- Increase suitable nesting sites through sympathetic renovation works and installation of nest boxes and swift bricks.
- Develop a communication campaign to gain public support for swifts.
- Encourage and promote people to record swifts on 'Swift mapper' or RECORD's data app 'SWIFT'.
- Encourage gardening for wildlife by planting suitable wildflowers to help increase invertebrates, providing more food sources, and by reducing weed killers and pesticides.

**Rationale:** Reverse significant decline in Cheshire colonies

**Habitat Benefit** All the species actions above will benefit the following habitats:  
Urban | Grassland and Heathland | Farmland

## Species

## Actions & Rationale

### White-Clawed Freshwater Crayfish



- Use environmental DNA testing to locate populations of White-Clawed Freshwater Crayfish and non-native crayfish.
- Identify potential future ark sites.
- Continue translocations and monitoring of ark sites.
- Control non-native crayfish to reduce competition for food.

*Ark sites are being used across the UK to create stable populations in remote areas free of disease, non-native crayfish and other threats.*

**Rationale:** Reverse declines of Cheshire populations

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Watercourses

### White-Letter Hairstreak Butterfly



*This butterfly breeds on Elm species (many of which were killed during the Dutch Elm Disease outbreaks of the 1970s).*

- Plant Wych Elm, English Elm and Small-leaved Elm.

**Rationale:** Create suitable habitat to minimise vulnerability

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Woodland, Hedgerows and Trees

*< Ian Leach, Butterfly Conservation*

### Willow Tit



- Increase the presence of woodland glades, open canopy, standing deadwood and a dense shrub layer within woodland through the creation of new areas of woodland, especially wet woodland.
- Adopt coppicing in suitable damp woodland sites to manage woodland structure.
- Create and maintain woodland's scrubby, edge habitats.
- Raise awareness of the damage of bird feeding, in Willow Tit appropriate habitats.
- Keep aware of ongoing research and implement delivery based on best practice.
- Increasing woodland scrub density benefits Turtle Dove and Nightingale, and increasing standing deadwood benefits Lesser Spotted Woodpecker and deadwood invertebrates.

**Rationale:** Expand the population across Cheshire sites

**Habitat** All the species actions above will benefit the following habitats:

**Benefit** Woodland, Hedgerows and Trees | Peatland and Wetlands

# Reintroductions

There is strong public interest around reintroducing appropriate species to the LNRS area. The survey conducted at the start of the LNRS process identified those species that the public cared most about. Expert advice informed a careful process considering which species are most appropriate and likely to benefit from reintroduction in Cheshire and Warrington. The Cheshire LNP is well placed to co-ordinate a specific reintroductions decision making group, and includes farmers and landowners, and to ensure we address supportive habitats improvement and identify viable sites.

## What would be the main objective of the Reintroductions Group?

The Cheshire and Warrington species reintroduction group will follow the UK national species reintroduction taskforce guidance. The main aim of the group will be to drive successful species reintroductions into the Cheshire and Warrington region through an expert-led and evidence-based approach with a thorough public/key stakeholder consultation process. Other aims of the group include identifying species that could provide ecosystem services such as Beaver, or help to re-balance the ecosystem to allow occurrence of repair of certain niches in the ecosystem such as Goshawk and/or Red Kite.

## Key Species Identified

As a result of the Species shortlisting process the following species have been identified with potential for reintroduction:

- Beaver (*Castor fiber*)- mammal.
- *Clubiona norvegica* (*Clubiona norvegica*)- Spider.
- *Gnaphosa leporina* (*Gnaphosa leporina*)- Spider.
- Silver-Studded Blue Butterfly (*Plebejus argus*)- Insect.
- Large Heath Butterfly (*Coenonympha tullia*)-Insect.

“

**I would add more green spaces like wildlife parks to get animals to rest and have a good space.**

”





# Farmland

Cheshire is predominantly an agricultural landscape, with productive farmland covering 60% (139,968ha) of the area. By the 12th century, Cheshire was one of the main dairy regions in the UK. The dairy industry initially relied on natural hay meadows and water meadows. The difference between today's ryegrass crop to the hay and water meadows that made Cheshire's rich yields was the introduction of industrial fertiliser. The areas of permanent species rich pasture and hay meadow worked hand in hand with the soil due to the difficulty to plough, resulting in a self-sustaining system.

In the east of the county, crops were grown in rotation with grass. After the second world war, as a result of national policy, agriculture in Cheshire intensified, causing nearly 60% of habitat loss. Changes in policy over the last 20 years have resulted in a recent focus on encouraging more traditional practices of food production to provide food security and incorporate nature recovery into farm practices.

The Environmental Land Management Schemes have provided incentives for farmers and landowners to transition to nature friendly farming. 50% of England's farmers have already signed up to the Sustainable Farming Incentive, one of the (ELM) schemes, reflecting the positive uptake and role farmers are prepared to play as the main stewards of our landscape.

**The benefits of taking nature recovery actions on each of the four habitat areas have been outlined in sections above including:**

- **Healthy hedgerows and new hedgerows** provide shelter and browsing for animals, benefits to crops, preventing soil runoff and improving water quality.
- **Species rich grassland and herbal leys** provide **minerals and nutrition** to grazing animals along with **longer grazing seasons, with greater resilience to drought and flooding** through their deeper root systems. Hay and silage cutting should be undertaken taking into account ground nesting birds, and cut and remove practice introduced to preserve unimproved grassland where livestock are not present.
- **Use of nature-based solutions and natural flood management** to reduce and slow runoff into waterways, such as natural buffers to arable crops, retention ponds, leaky barriers, riverside and floodplain woodland, riverside fencing for cows to maintain the banks as habitats, sympathetic management of ditches (eg clearance of one side, retaining spoil so larvae can hatch before spoil is removed) and reconnecting rivers to their floodplains.

There are also many actions within each of the habitat sections that farmers and landowners are encouraged to take to conserve and restore natural habitats and provide wildlife corridors. Some of these are low cost or simple changes to practices that can have a significant effect to turn around species decline, such as changing hedge cutting to every two or three years and forming an A shape hedge; or installing bird boxes and preserving headlands for species rich wildflowers. Others require more in depth planning and funding within farm business plans. Some funds are currently available, to support positive management of woodland, hedgerows, ponds and other habitats via agri-environment grants, or Biodiversity Net Gain, while other forms of support and funding are still being developed.

To deliver this strategy, the LNP are committed to providing and enabling expert support and advice so that our farmers and landowners can easily access information and resources, in partnership with the Future Farmers Group, the National Farmers Union and Countryside Landowners Association. Together we can work to make Cheshire and Warrington's farms and land both sustainable and financially successful.

### **Case Study: Mersey Rivers Trust**

Mersey Rivers Trust (MRT) runs a **water friendly farming programme** across several catchments of the Mersey basin including the upper Weaver in Cheshire. Working in partnership with others (e.g. Environment Agency and Natural England's Catchment Sensitive Farming) the Trust engages with land managers to raise awareness of the need to protect and improve water quality. Where funded, MRT can offer a small grant to implement measures identified in the plan such as soil management, cover crops, slurry management, livestock fencing and trackway improvements.

> **Mersey Rivers Trust - Water Friendly Farming Hub.**





## Pressures facing Farmland

- Intensification of agriculture.
- Increased pesticide and fertiliser use.
- Lack of awareness about ground nesting sites on the farmland.
- Low invasive non-native species management, severely impacting habitats.
- Soil erosion and compaction.
- Increased risk of livestock-borne diseases moving into the ecosystem.
- If government funding provision abruptly stops, it can impact industry confidence leading to further intensification.

## Nature recovery opportunities for Farmland

- Agri-environmental funding has been available since the 1990s to address impacts on wildlife.
- England's agri-environment schemes have been strengthened, and new schemes established such as Landscape Recovery, which is designed to support large-scale projects for environmental and climate benefits.
- Improvement in data capture and analysis with the agri-environment schemes enable us to develop an understanding of the positive impacts.
- To increase the county's farmland bird population by 10% over 10 years, many farmers can adopt certain outcomes to achieve this through schemes, such as SFI (re-opens 2026).
- If we can re-establish and extend the hedgerow network we can reduce soil loss, improve soil health, increase bird populations, benefit livestock and crop health.

# Key topic - Biodiversity Net Gain and LNRS

## What is biodiversity net gain?

Biodiversity Net Gain as defined by the GOV.UK website (2024) is 'an approach to development which makes sure that habitats are left in a measurably better state than they were before the development. This means a development will result in more or better quality natural habitat than there was before development.

In England, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). Developers must deliver a BNG of 10%.' BNG has been mandatory for large scale developments since February 2024 and small scale development since April 2024. At the time of writing, the government is currently consulting on BNG becoming mandatory for all national significant infrastructure projects and local infrastructure projects from May 2026.

## Why is it relevant to the LNRS?

Biodiversity Net Gain and the LNRS, as stated in the Environment Act 2021, are intrinsically linked to ensure that BNG, if delivered offsite, delivers more for biodiversity. The Local Habitat Map for the LNRS provides a strategic approach for off-site delivery. It maps the opportunity areas for nature recovery, where landowners will achieve 1.15x strategic significance multiplier, if their on-site or off-site BNG is delivered. This means that more units are achieved per habitat delivered as there is a higher biodiversity value associated with those sites. This means that the units that they sell to developers from their BNG sites are worth more than if the land is outside of the opportunity areas<sup>38</sup>.

## What are the specific requirements for the strategic significance uplift?

For landowners to receive the strategic significance uplift, the land prepared for BNG must incorporate the mapped actions (actions assigned to a particular land parcel and a specific habitat that can help to boost biodiversity) on the Local Habitat Map as it provides the best opportunity for nature recovery (see the map section below for further information relating to mapped actions). Sites with mapped actions will trigger the 1.15% strategic uplift in biodiversity value in the BNG Metric where that action is included in a planning application. If part of your site is within the opportunity area on the map but the rest is not, only that part and the associated action for nature recovery will be eligible for 1.15x strategic uplift.

## How can landowners find more information about BNG?

Landowners must contact their local planning authorities to understand more about the BNG process within their area. However, there is a planning process guidance for BNG on the UK government website, which provides an in-depth background to BNG for both farmers and developers and highlights how sites can be registered onto the national database:

**Meet your BNG requirements: steps to take for land managers - GOV.UK**

<sup>38</sup> Incorporating Local Nature Recovery Strategies when planning for Biodiversity Net Gain – Environment

# Priorities and actions for Farmland

Priority	Actions
<p><b>F1. Support and promote nature friendly farming, land management and sustainable food production across the landscape</b></p>	<ul style="list-style-type: none"> <li>• F1.1 Establish a Future Farmer Group to develop, showcase and promote sustainable farming that benefits nature.</li> <li>• F1.2 Help co-ordinate farm advice across the region to support sustainable farming, productivity and better outcomes for nature.</li> <li>• F1.3 Maintain and recover species rich grassland through appropriate livestock grazing, avoiding soil damage where possible.</li> <li>• F1.4 Safeguard exposed river sediments from vegetation building up, disturbance by animals, excessive run-off and pollution.</li> <li>• F1.5 Adopt sympathetic land management practices, particularly during nesting season (e.g. keeping livestock away from nesting areas).</li> <li>• F1.6 Maintain wet features such as ditches and scrapes.</li> <li>• F1.7 Encourage and promote benefits of hedgerows to livestock, soils and crops.</li> <li>• F1.8 Promote and support landowners and farmers to develop and deliver Natural capital funding.</li> <li>• F1.9 Support farmers to use nature-based solutions to reduce the risk of agricultural pollution.</li> </ul>

## Species - the list of species and species assemblages that benefit from the above actions:

- Invertebrates on exposed river sediments
- European Water Vole
- Breeding waders assemblage
- Farmland birds assemblage



# Urban

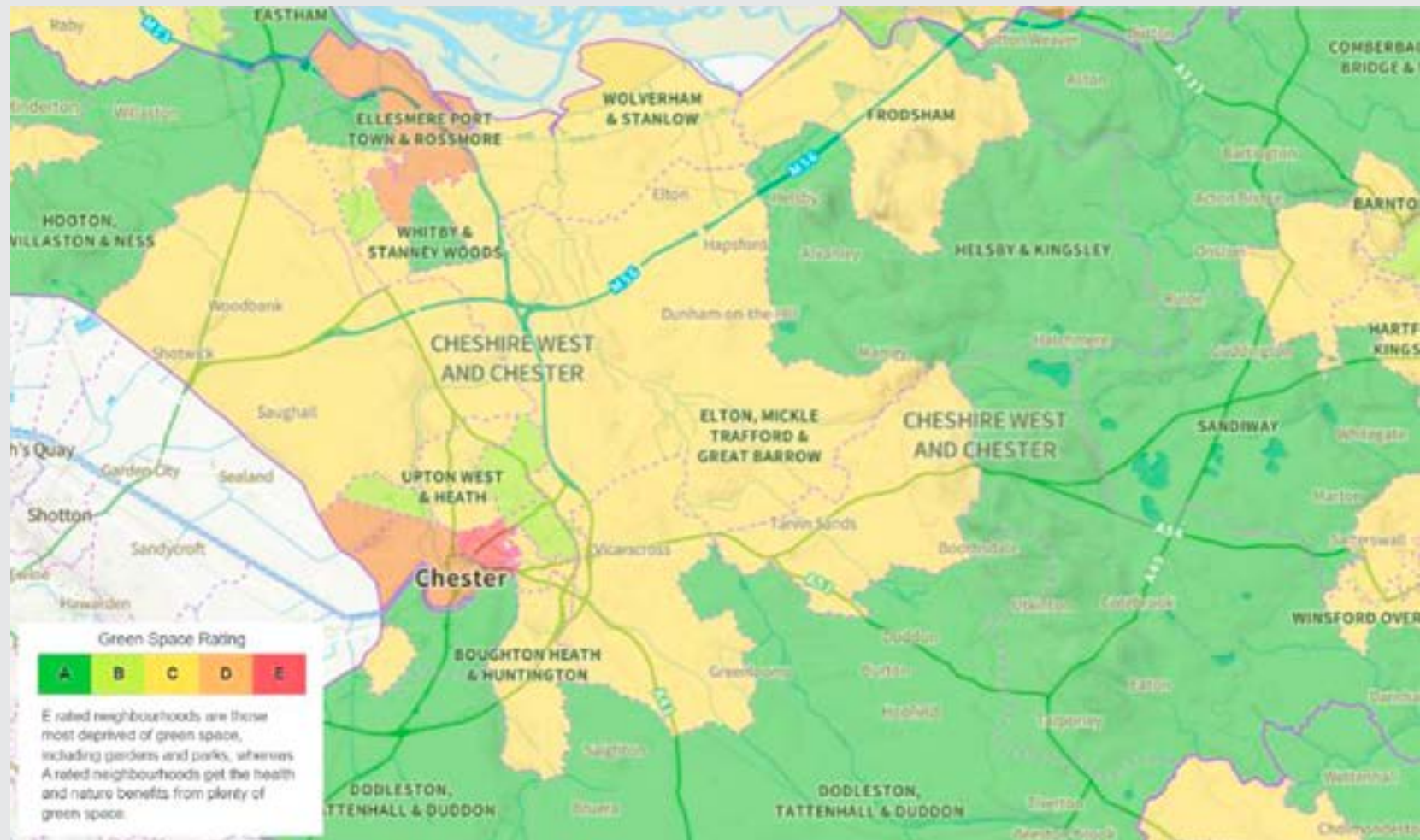
Cheshire and Warrington's urban, post-industrial landscape includes a variety of habitats, which many rare species have colonised. Cheshire and Warrington contain disused quarries, old industrial sites, former railway sidings and landfill sites, often located in the urban centres and fringes. As industrial and manufacturing processes changed during the mid to late 20th century, the road network dramatically expanded, and railways became important linear wildlife corridors. Some of our brownfield sites have evolved into rare open mosaic habitats, becoming home to nationally scarce species. The salt and sandstone industry also left areas of unique habitat, such as flashes and lime beds. Wealthy industrialists also helped to invest in formal parks, gardens, arboretums and much of the green infrastructure we benefit from today.

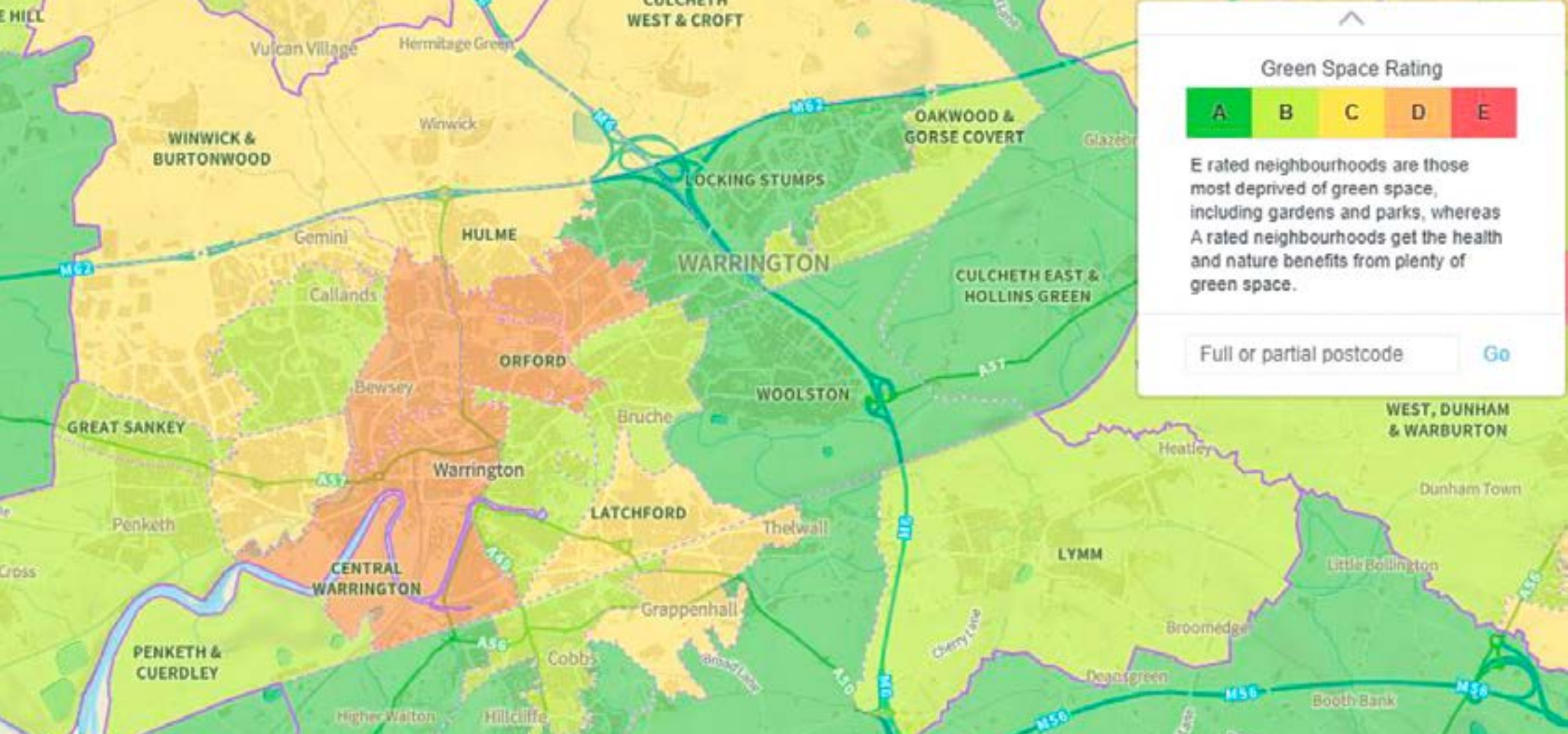
Our urban areas are vital for nature's recovery, and we can gain multiple benefits from acting for nature while also improving our air quality, reducing heat and flood risk, improving spaces for leisure and recreation and helping improve residents' health and wellbeing.

We can also tackle some of the big inequalities and make sure everyone has access to nature including being able to access green space, woodland, rivers and grassland within a 15-minute walk of everyone's home.

Currently, according to Friends of the Earth's Green Space Rating<sup>39</sup> maps, people living in some of our urban areas are deprived of greenspaces including gardens and parks, including Ellesmere Port, Chester and Wharton, parts of Warrington and Macclesfield.

<sup>39</sup> Access to green space in England | Friends of the Earth





The same often goes for trees, the tree equity score from the Woodland Trust is based on the principle that all communities should have equitable access to the benefits of trees where they live. While some urban areas enjoy abundant greenery and tree cover, others lack these essential natural assets.

**Studies show that trees and other green infrastructure in urban areas can:**

- Reduce air pollution, quieten noise and keep cities shaded and cool.
- Improve ecosystems and boost biodiversity.
- Create a sense of place, beauty and heritage.
- Create attractive environments where businesses want to invest and people want to live, work and play.
- Alleviate stress, stabilise blood pressure, ease anxiety and depression, and provide opportunity for healthy, active lifestyles.

**Urban tree cover varies significantly in Cheshire and Warrington, ranging from as little as 5% in some wards in Ellesmere Port, Chester and Warrington to 30% in some wards on the edge of our towns and villages.**

## Pressures on nature recovery in Urban areas

- Lack of understanding amongst urban residents about the benefits of wildflower meadows can lead to limited development of appropriate habitats for nature in the urban areas.
- Increase in development without consideration of nature already on the site.
- Low green infrastructure.
- Inappropriate development on floodplain areas (Low provision of SUDS).
- Litter pollution.
- Recreational disturbance.
- Water pollution from runoff.



## Opportunities to recover nature and provide wider benefits in our Urban areas

- Ensure that multi-functional green spaces are planned into new developments and regeneration schemes.
- Manage our parks and open spaces for nature rich, climate adapted habitats.
- Make sure all our schools, care homes, hospitals and other buildings have nature-rich accessible green spaces for nature and people.
- Include green space and trees in any highways or infrastructure plans.
- As part of street lighting and lighting in public spaces, consider dimming, shielding and installing sensor activated lighting (subject to security considerations) and install warmer red-spectrum lights instead of the blue-white lights so often used.
- Support and encourage more people to make their gardens, driveways and land more nature friendly.
- Support community gardens and green spaces, for nature, food growing and climate.

### Case Study: Warrington's Sky Garden

Culture Warrington's award-winning Sky Garden is based on top of a multi-storey car park in the town centre.

It was funded by Museum Development North and Hubbub, and is project managed by Warrington Museum. The idea behind the garden was to provide a space for nature in an urban environment, a space for schools to learn about botany and wildlife and a space for wider community engagement.

The site runs with help from a volunteer team and staff at Golden Square shopping centre, and free local food is grown for the community to be given away at events throughout the year.

Culture Warrington's Sustainability Officer also chairs a group of community green spaces across the borough. This is a growing community of green spaces across the Warrington area where people can share skills and resources to improve the environment and improve their health and wellbeing.

# Key topic - Light Pollution

## What is light pollution?

Light pollution is an issue first reported in the 1970's<sup>40</sup>. It is the presence of excessive artificial light in the environment, which can have various negative effects, caused by urbanisation and industrialisation, which contribute to issues of glare, light trespass and sky glow.

## How does it affect us and wildlife?

- Threatens the natural life cycles of both humans and wildlife, including reproductive and metabolic systems.<sup>41</sup>
- Due to artificial light, people can now work throughout the day, but this has led to a rise in cancer cases and mental health impacts (i.e. depression, mood disorders and cognitive impairment).<sup>42</sup>
- Further to the effects on humans, wildlife is adversely impacted by direct and indirect lighting. This includes feeding habits, reproductive success, distribution and abundance. Note that this is in the aquatic and terrestrial ecosystems.<sup>43 44</sup>

## What is currently being done about it?

In Cheshire and Warrington, each local authority follows the Bat Conservation's guidance on street lighting<sup>45</sup> and further guidance have been created internally specifically for developers when considering lighting settings. As LED technology improves, we are hoping that the brightness and colour of lighting can be adjusted to benefit both wildlife and people. There are plans to trial and test other lighting methods, which could further deliver cost savings, reductions in crime and help biodiversity.

## How can the LNRS support minimising light pollution?

Local authorities and planning applicants must have regard to LNRS. LNRS provides the necessary evidence base for developers through the associated information within the appendices and the priorities and actions set out in the document.

<sup>40</sup> Light Pollution

<sup>41</sup> Environmental Impacts of Artificial Light at Night

<sup>42</sup> Artificial light at night and risk of mental disorders: A systematic review

<sup>43</sup> Light pollution from illuminated bridges as a potential barrier for migrating fish

<sup>44</sup> Artificial light at night - pollution alters bat lunar chronobiology

<sup>45</sup> Bats and artificial lighting at night



## Priorities and actions for the Urban areas

Priority	Actions
<b>U1 Green and blue wildlife corridors between urban and rural Cheshire and Warrington, for species movement and opportunities for active travel, recreation and engagement with nature</b>	<ul style="list-style-type: none"><li>• U1.1 Safeguard and expand nature corridors within urban areas, to connect with broader rural landscape corridors.</li><li>• U1.2 Create more communal semi-natural greenspace and wildlife rich areas.</li><li>• U1.3 Re-establish and improve wildlife culverts / underpasses along our transport infrastructure.</li><li>• U1.4 Integrate nature into better urban placemaking including working towards increasing GI cover to at least 15%.</li><li>• U1.5 All housing developments are promoted to include swift/bee bricks and hedgehog highways.</li><li>• U1.6 Develop a sponge city network to reduce possible impacts of climate change.</li><li>• U1.7 Improve the greenway and active travel network for nature and people.</li><li>• U1.8 Where possible, invest in nature in brownfield sites that are not subject to development.</li></ul>

### Species - the list of species and species assemblages that benefit from the above actions:

- Western European Hedgehog
- Badgers
- Mammals in urban areas assemblage
- Bats assemblage
- Open mosaic butterflies and moths

**We can do this by using nature based solutions – for more on that, see the following section.**





# Nature-based solutions

**Nature-based solutions are interventions based on nature that provide society with other beneficial outcomes.**

Ecosystem services or environmental co-benefits are defined as “the benefits people derive from ecosystems such as clean water, food, forest products, flood control, and natural resources”<sup>46</sup>. To achieve the ecosystem services needed, nature-based solutions (NBS) (adoption of ecosystem services to address environmental problems) can be applied but must follow four principles:

1. **NBS must help to adapt and mitigate the effects of climate change but cannot be a substitute for rapid fossil fuel phase out.**
2. **Involve the protection, restoration or management of a wide-range of natural and semi-natural ecosystems on land and in the sea.**
3. **NBS must be designed, implemented, managed and monitored by or in partnership with local communities.**
4. **NBS supports or enhances biodiversity, that is, the diversity of life from the level of gene to the level of ecosystem<sup>47</sup>.**

Nature-based solutions such as increasing tree cover can reduce pollution and urban temperatures during summers, helping to regulate the climate in our towns and cities.

Hedgerows, tree belts, more diverse grasslands and buffer strips can reduce runoff from agricultural fields, reducing soil loss and improving water quality in our rivers.

Nature-based solutions can help to combat the effects of climate change; re-connect rivers to their floodplains can increase flood capacity, reducing flood risk downstream. Riverside planting, buffer strips and even leaky dams in smaller streams can also ‘slow the flow’ to help increase water volume in drier months to sustain wildlife in our rivers and provide drinking water and sufficient provision for industrial processes.

Nature-based solutions are often a more natural, sometimes cheaper, and more nature-friendly alternative to hard engineering, which only solves one problem and sometimes creates others.

<sup>46</sup> Overview Ecosystem Services & Nature Based Solutions - Native Plant Conservation Campaign

<sup>47</sup> Nature-based Solutions Initiative | NbS Guidelines

# Nature recovery opportunities for nature through Nature-based solutions in the Urban and Rural environment

- Strategic planning of a multi-functional nature-rich greenspace especially in new developments enables nature to recover and people to become more connected with nature.
- Encourage rural communities to plant clough woodlands in the uplands, to reduce flood risk, help to build flood resilience and enhance the woodland network in the uplands.
- Encourage more schools, preschools and nurseries to create richer and wilder green infrastructure spaces within their setting. Encourage students and staff to use these spaces in diverse ways such as forest schools, environmental education, outdoor classrooms and learning to foster positive relationships with nature from an early age.
- Use design standards and good practice, such as the **Building with Nature Standard** or actions outlined in Wildlife Trust's **Swift and Wild report**, to encourage new developments to be more nature-friendly.
- Encourage developers to join the **Homes for Nature** initiative to ensure that every new home built has a bird-nesting brick or box, and hedgehog highway as standard in addition to meeting Biodiversity Net Gain requirements.
- To reduce flood issues, require developers to install sustainable urban drainage systems such as swales, rain gardens and permeable surfacing that support wildlife and reduce flood risk.
- As part of installation, maintenance and replacement for street lighting or other lighting, we need to swap out blue-white public lighting and replace it with nature friendly lighting (warmer, lower wavelengths) in urban and rural environments to reduce impact on bird, bat<sup>48</sup> and other species. Also consider opportunities for ensuring lighting is no brighter than necessary or shielding street lighting subject to security and road safety considerations.
- Install wildlife-friendly green roofs and walls.
- Bat and bird boxes designed into buildings.
- Establish nature corridors to help invertebrates, reptiles, hedgehogs and other mammals to move between habitats.
- Planting should include native, locally sourced wildlife-friendly plants to reduce invasive species impact.
- Mandatory Biodiversity Net Gain is correctly implemented, monitored and strictly maintained.

<sup>48</sup> Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals

# Key topic - Sustainable Urban Drainage Systems (SuDS) & Natural Flood Management (NFM)

Reduced Flood Risk and Better Water Quality

## What are SuDS and natural flood management?

SuDS (Sustainable urban Drainage Systems) are approaches to manage surface water, which take account of water quality (pollution), amenity, water quantity (flooding) and biodiversity (wildlife and plants). The key aspect of SuDS is to mimic nature and manage rainfall through natural geoprocesses<sup>49</sup>. The difference between SuDS and natural flood management is that SuDS help the urban areas mimic nature whereas NFM techniques refer to the restoration of natural ecosystems, such as wetland restoration or reforestation to help 'slow the flow' and helps with soil management<sup>50</sup>.

## Why are SuDS and NFM techniques important for society and the environment?

- By implementing SuDS in the urban area, the urban heat island effect is minimised along with a reduced flood risk and provides a habitat for biodiversity and natural flood management.
- NFM- providing more wetland areas in Cheshire would enable many rivers to store water and help with river recharge during droughts and reduce flooding impact on farming in the rural areas.
- NFM- work on NFM in Cheshire's rural landscape would provide farming businesses and rural residents more resilience to flooding, which will save money in terms of insurance and business costs.

<sup>49</sup> Sustainable drainage

<sup>50</sup> Natural Flood Management (NFM) | The Flood Hub

Benefit Category	What it covers
 Flood risk management	Impact on people and property
 Water quality management	Surface water quality improvements to aesthetics, health, biodiversity etc.
 Biodiversity and ecology	Sites of ecological value
 Amenity	Attractiveness and desirability of an area
 Air quality	Impact on health from air pollution
 Building temperature	Thermal comfort, cooling (summer) or insulation (winter)
 Carbon reduction & sequestration	Operational & embodied carbon reduction together with sequestrian (planting)
 Crime	Crimes against people or property
 Economic growth	Business, jobs & productivity
 Education	Enhanced educational opportunities
 Enabling development	Water infrastructure capacity (headroom) for housing / other growth
 Flexible infrastructure / Climate change adaption	Improved ability to make incremental changes & adapt infrastructure no regrets
 Groundwater recharge	Improved water availability or quality
 Health & Wellbeing	Physical, emotional, mental health benefits from recreational aesthetics
 Pumping wastewater	Reduced flows of wastewater to treatment works
 Rainwater harvesting	Reduced flows into sewers, pollution or dependence on potable (mains) water
 Recreation	Involvement in specific recreational activities
 Tourism	Attractiveness of tourist sites
 Traffic calming	Reducing risk of road accidents or increasing street-based recreational opportunities
 Treating wastewater	Reduced volume of wastewater to treat from combined drainage systems

## Priorities and actions for Nature-based solutions

Priority	Actions
<b>NBS1. Nature, people and economy thriving through more, bigger, better and joined up Green and Blue Infrastructure</b>	<ul style="list-style-type: none"> <li>• NBS1.1 Hedgerow creation prioritised over fencing within new development with a min 1-1.5m width (see hedgerow actions).</li> <li>• NBS1.2 All individual trees removed should be replaced with at least two trees (removal of veteran or exceptional trees is not to be permitted unless risk is evidenced).</li> <li>• NBS 1.3 Create and/or retrofit new green roofs/walls and spaces where feasible.</li> <li>• NBS1.4 Mitigate the impacts of pollution from waste, transport and landfill for the benefits of nature and people.</li> <li>• NBS1.5 Design buildings and infrastructure with nature benefits and improved placemaking in mind.</li> <li>• NBS1.6 Increase urban tree canopy cover, to provide multiple benefits by working towards a 15% tree (or GI) cover target for all wards by 2035, prioritising action in wards of highest disparity.</li> <li>• NBS 1.7 Diversify amenity grassland in urban greenspaces to provide more semi-natural habitats and multi-functional greenspaces.</li> <li>• NBS1.8 Safeguard and expand blue/green corridors (for multiple benefits) in urban areas, to connect with broader rural landscape.</li> <li>• NBS1.9 Encourage more nature in school grounds, well-designed with maintenance in mind.</li> <li>• NBS1.10 Target habitat creation or enhancement in urban areas.</li> </ul>
<b>NBS2 Improved biodiversity by mitigating specific sources of pollution</b>	<ul style="list-style-type: none"> <li>• NBS2.1 Remove or mitigate against light pollution, particularly along the river and canal network.</li> <li>• NBS2.2 Mitigate pollution from agriculture, waste, industry and recycling management processes.</li> </ul>
<b>NBS3 Better functioning watercourses for nature, people and a thriving economy</b>	<ul style="list-style-type: none"> <li>• NBS 3.1 Create, enhance and celebrate nature-based solutions throughout catchments to ensure plentiful, clean water for wildlife, people and economy.</li> <li>• NBS3.2 Store water and slow the flow through upstream habitat investment.</li> <li>• NBS3.3 Promote the benefits of functional green and blue spaces for a vibrant economy.</li> </ul>
<b>NBS4. More sustainable drainage and natural flood management, making space for water in our catchments and communities</b>	<ul style="list-style-type: none"> <li>• NBS4.1 Install Sustainable Drainage Systems to deliver multiple benefits for nature, people and local businesses.</li> <li>• NBS4.2 Install permeable surfaces and green / blue infrastructure to manage surface water.</li> <li>• NBS 4.3 Identify areas of significant flooding and develop nature interventions and investment opportunities to reduce risk and impact.</li> <li>• NBS4.4 Develop Cross-county strategic design guidance that benefits nature, encourages more semi-natural greenspace and mitigates climate impacts.</li> </ul>

### Species - the list of species and species assemblages that benefit from the above actions

- Urban mammals assemblage (e.g. Western European Hedgehog, Badgers)
- Bats assemblage
- Open Mosaic Butterflies and moths assemblage
- Roof nesting birds assemblage
- Birds of prey assemblage
- Breeding wader assemblage

# Tackling Invasive Non-native Species

As mentioned in the different habitat sections, some of the threats and pressures to our most important wildlife comes from invasive non-native species particularly Himalayan Balsam, which shades out other species, Japanese Knotweed, and Floating Pennywort, a species that starves the water of oxygen and causes shading in waterbodies, which results in other species dying off.

American Mink predate the native Water Vole, and the non-native American Signal Crayfish are spreading through our river and canal network, outcompeting the native White Clawed Crayfish and spreading disease, decimating the White Clawed Freshwater Crayfish populations.

Careful monitoring, management and schemes to control or eradicate these non-native invasive species are important to Cheshire and Warrington's Nature Network.



## Priorities and Actions for Invasive Non-Native Species

Priority	Actions
<b>INNS 1 Invasive non-native species (INNS) minimised across Cheshire and Warrington</b>	<ul style="list-style-type: none"> <li>• INNS 1.1 Collate and promote good practice and build capacity for management and eradication of invasive non-native species.</li> <li>• INNS 1.2 Eradicate and manage harmful invasive non-native species across all watercourses in Cheshire and Warrington.</li> <li>• INNS 1.3 Discourage inappropriate planting of invasive non-native species as part of landscaping and development schemes e.g. Rhododendron.</li> <li>• INNS 1.4 Identify and understand spatial prevalence of INNS, and coordinate planning and action to eradicate them, using the catchment-based approach.</li> <li>• INNS 1.5 Promote the national "Check, Clean, Dry" biosecurity campaign across the county for boats, fishing equipment etc.</li> <li>• INNS 1.6 Require and support landowners to manage, reduce extent of and minimise invasive non-native species.</li> <li>• INNS1.7 Regulate the importation and management of soils as part of highway and major infrastructure projects to prevent spread of invasive non-native species.</li> </ul>

### Species - the list of species and species assemblages that benefit from the above actions:

- European Water Vole
- Exposed riverine sediment invertebrates
- White-Letter Hairstreak Butterfly
- White-Clawed Freshwater Crayfish
- Migrating fish assemblage

# Cheshire and Warrington's nature network - Local Habitat Map

**Our local habitat maps shows our best existing habitats and show where the best opportunities are to expand, join or create these habitats.**

They provide guidance for developers, businesses, environmental groups, community groups, local authorities and public on where certain habitats should be created (and where habitats should not be created – ensuring the mosaic habitat is maintained, and that valuable rare habitats are restored). The maps can be used as evidence to support grant funding applications and can direct businesses where to target investment in carbon, as part of their environmental social governance (ESG) or biodiversity credits.

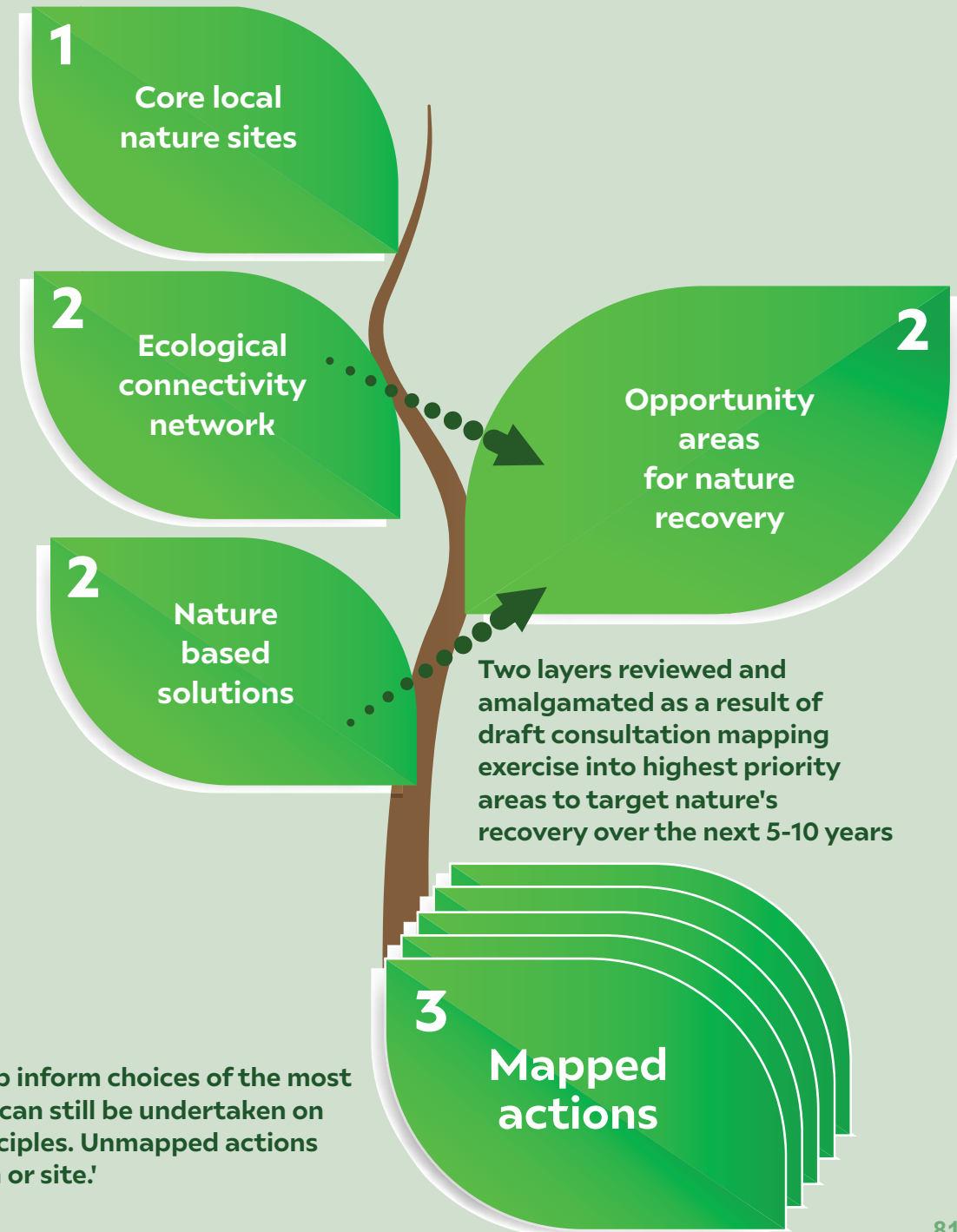
**The Local Habitat Map consists of 3 layers:**

1. Core local nature sites (areas of particular importance for biodiversity).
2. Opportunity areas for nature recovery (areas that could 'become of importance for biodiversity' consisting of opportunity areas offering wider environmental benefits).
3. Mapped actions – the mappable actions from our priorities and actions for nature recovery.

These can be viewed in an online, interactive map.

**For Guidance Only:** (To inform landowners / land managers)

Relevant actions can be viewed as a list for each mapped site to help inform choices of the most suitable actions that can be taken in that location. Other activities can still be undertaken on a site even if they are not mapped subject to the LNRS delivery principles. Unmapped actions apply across the LNRS area wherever they are relevant to a location or site!



# 1. Core nature sites

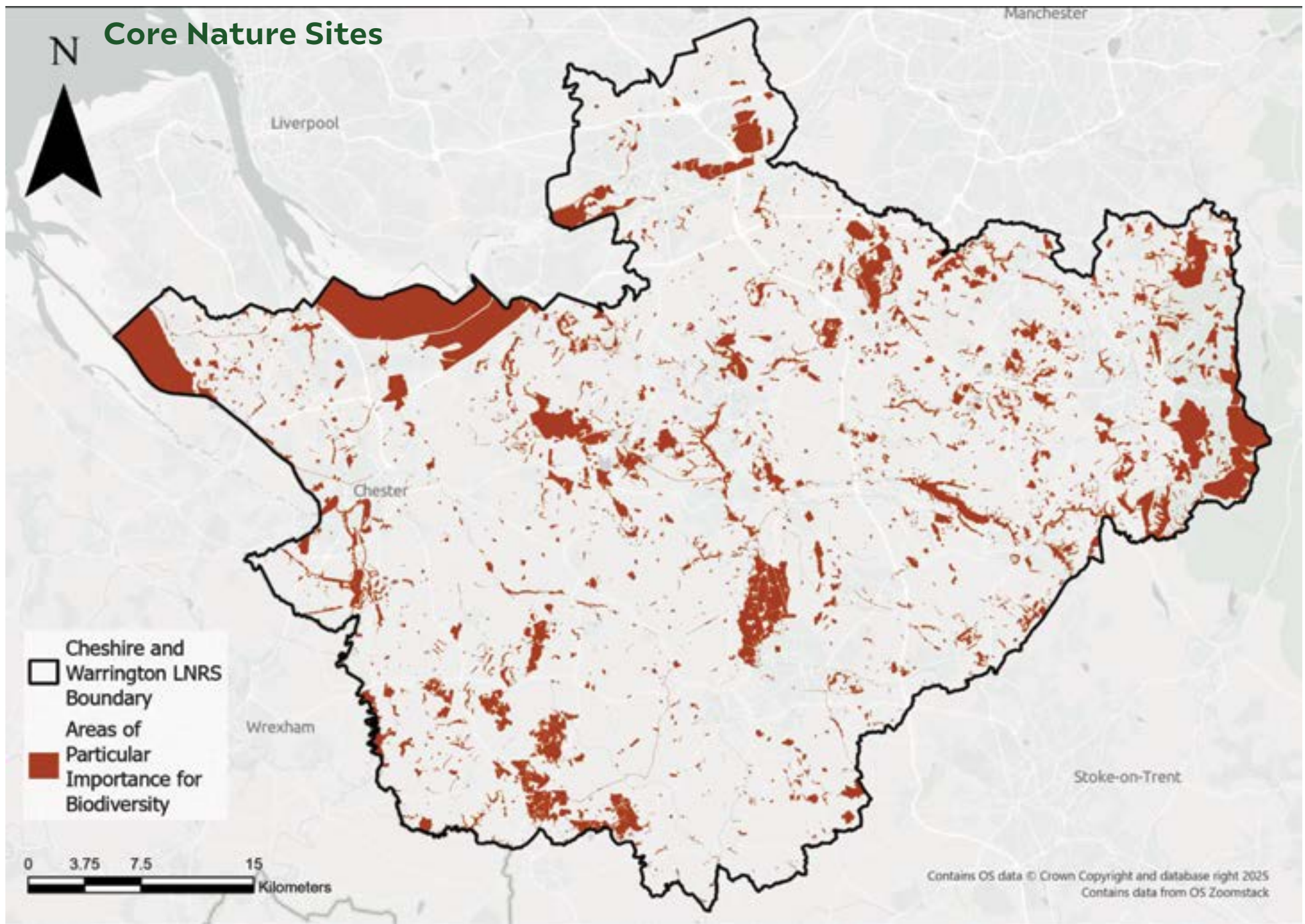
**Our best remaining wildlife sites across the area (our “areas of particular importance for biodiversity”).**

These are statutory (protected under UK, EU and International Law) and non-statutory (recognised in local planning policy as being of importance in the local area<sup>51</sup>) designated sites and irreplaceable habitats.

These are the most important sites for nature, core areas of our ecological network and the foundation of our nature network, that we need to protect, restore, improve, connect and expand.

<sup>51</sup> Guidance: statutory and non-statutory wildlife site designations | Thames Valley Environmental Records Centre





## 2. Opportunity areas for nature recovery

The opportunity areas for nature recovery consist of a nature first approach. The map was created using ecological network modelling that looked at the resistance to species movement in the landscape (e.g. transport and infrastructure effects). Alongside this the Ecoservr model was used to assess where modelled areas achieved the best ecosystems services score to help focus areas for potential nature recovery, deliverable in the next ten years. (See Appendix 4 for further technical detail).

Higher priority is given to a specific area, which can provide not only nature recovery benefits but also wider ecosystem services e.g. natural flood management, improved mental and physical health and higher productivity in the workplace.

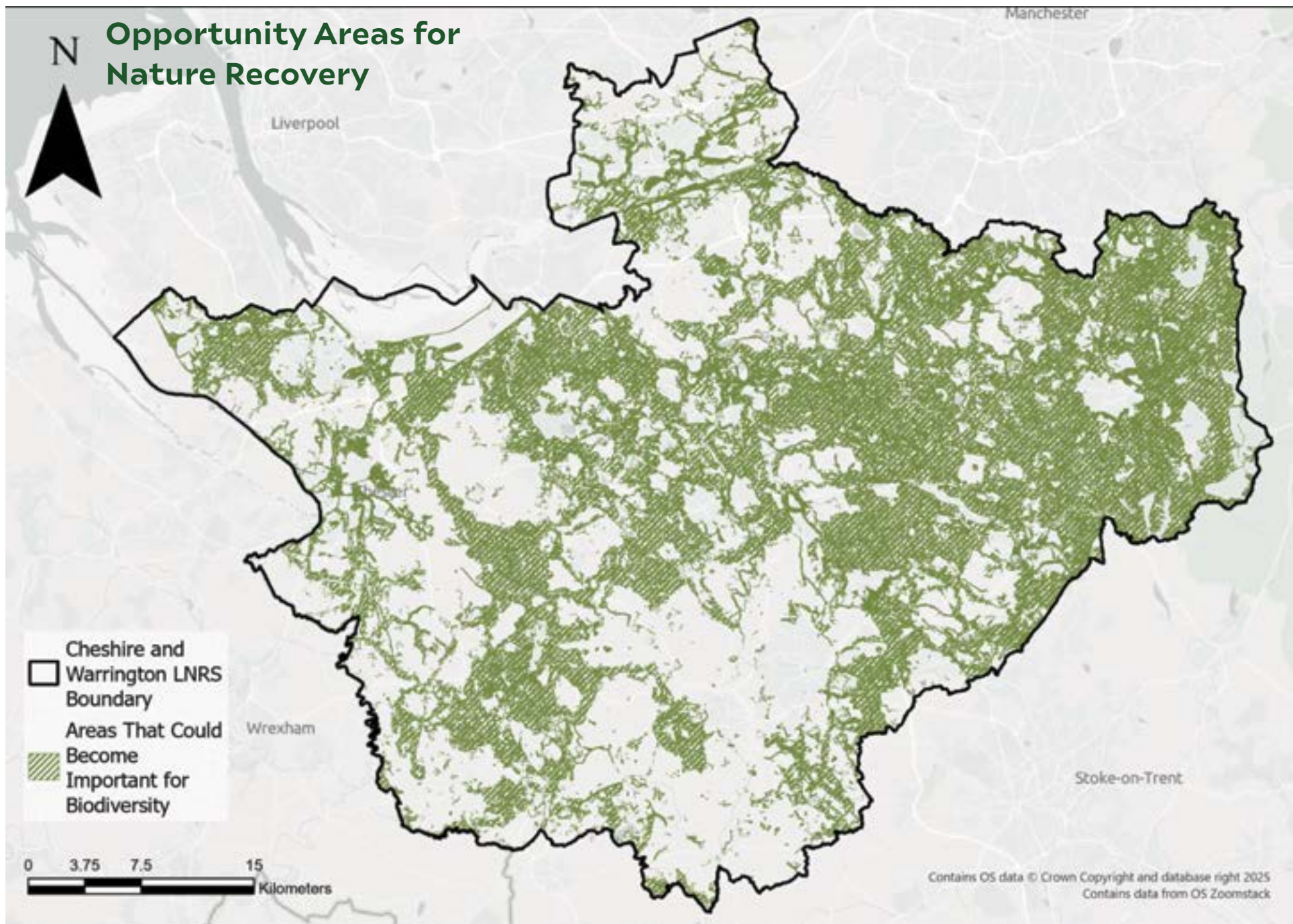
The maps displayed in this section, demonstrate where combined opportunities lie to create, expand or improve the right habitats or a mix of habitats to form these essential arteries. The 'corridors' and 'stepping stones' to link core sites, vital to ensure nature's recovery and a more effective, robust ecological network across Cheshire and Warrington, where investment could bring extra benefits.

Some places where we would wish to invest in nature could also provide essential services for people, the economy, and businesses (also known as ecosystem services). These include: cleaner air, noise reduction, helping communities and businesses adapt to the effects of changes to our climate, to reduce the risk of flooding, and provide clean water for people to drink and water for our industries. To provide places for people to engage with and benefit from nature for their improved health and wellbeing.

Areas identified to provide other benefits, further strengthen the value of investment.

The opportunity areas contain the mapped actions (explained in the following section) but also indicate wider areas where the maximum benefit can be achieved across wider environmental, social and economic benefits. There is no requirement on any farmer, landowner or developer to deliver what is mapped, as the LNRS is only an evidence base to inform best options for nature recovery, ecosystems services and natural capital.





### 3. Mapped actions

## Actions available within opportunity areas for nature recovery

The maps below show actions for each habitat, species and theme. On the Local Habitat Map, users are able to click on a location or site and see a list of the actions mapped that could be delivered to benefit nature.

Some locations may have different actions mapped for the same space, providing options of which action or mix of actions a landowner or land manager may be able to choose to help deliver, if they wish to do so. That is compatible with other land uses, suitability of soils, aspect, water, and business needs.

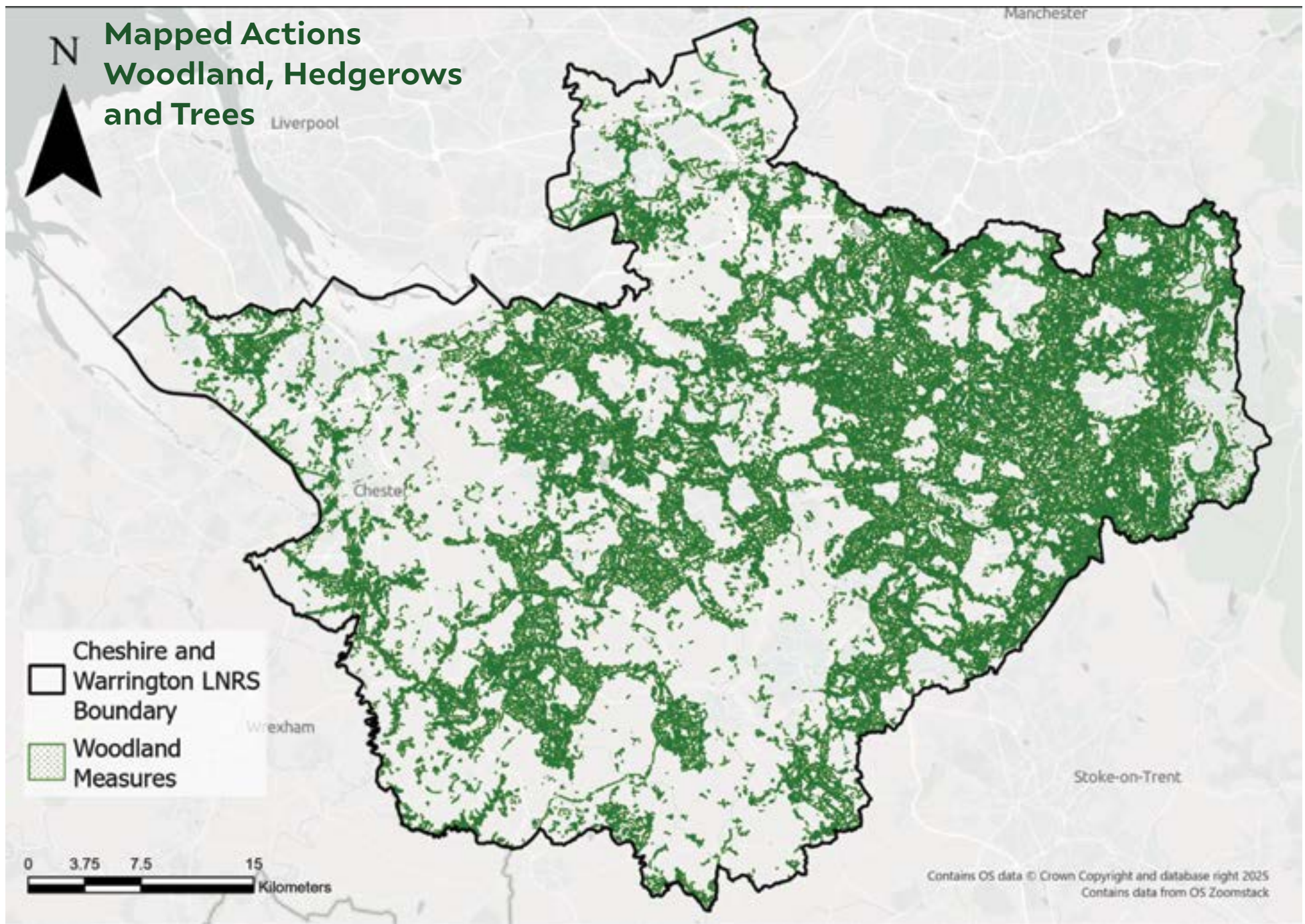
By looking at the interactive mapping, it allows everyone to see all the opportunities where actions could be delivered for each priority / theme.

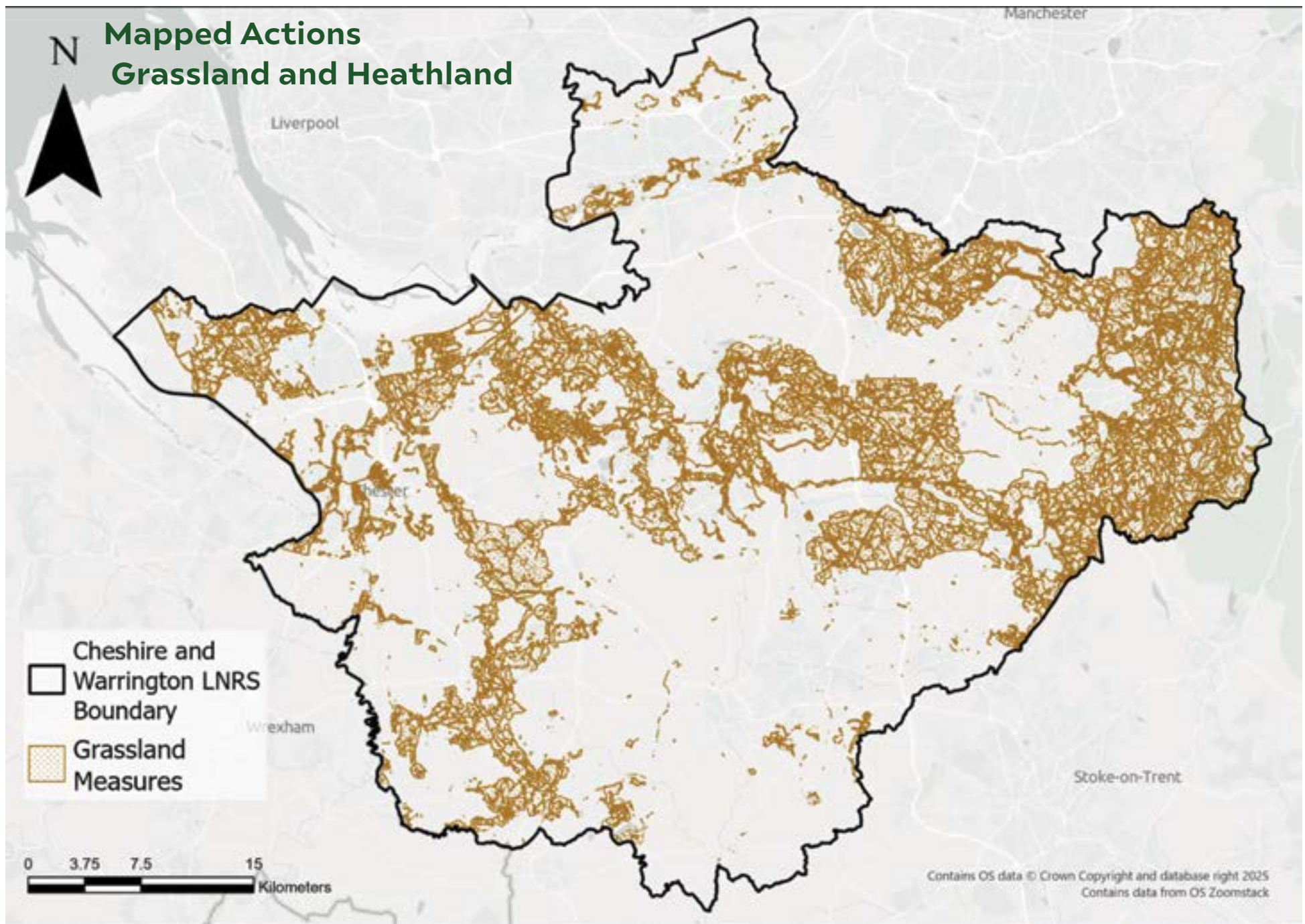
There are quite extensive opportunities to make a difference to nature by delivering all these actions across our rural and urban landscapes.

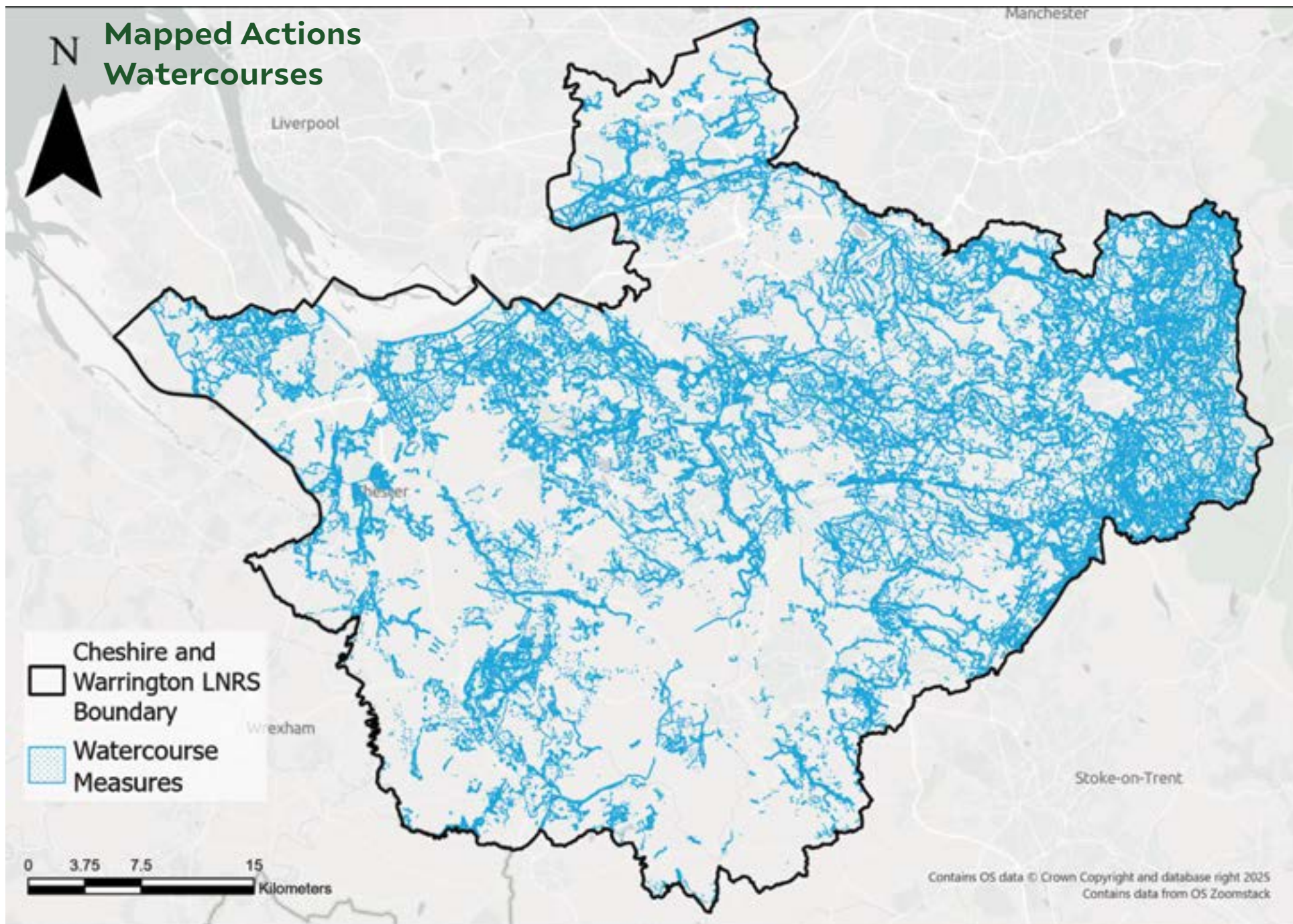
Actions include the desire to buffer existing important sites, to improve and protect current valuable habitat and expand it. They also include the opportunity to deliver new or improved habitats, or a blend of these habitats (a mosaic) to provide the strategic arteries – ‘corridors’ and ‘stepping stones’ indicated in the opportunity areas for nature recovery, between our core nature sites. Sites will be even more valuable if they can deliver important ecosystem services.

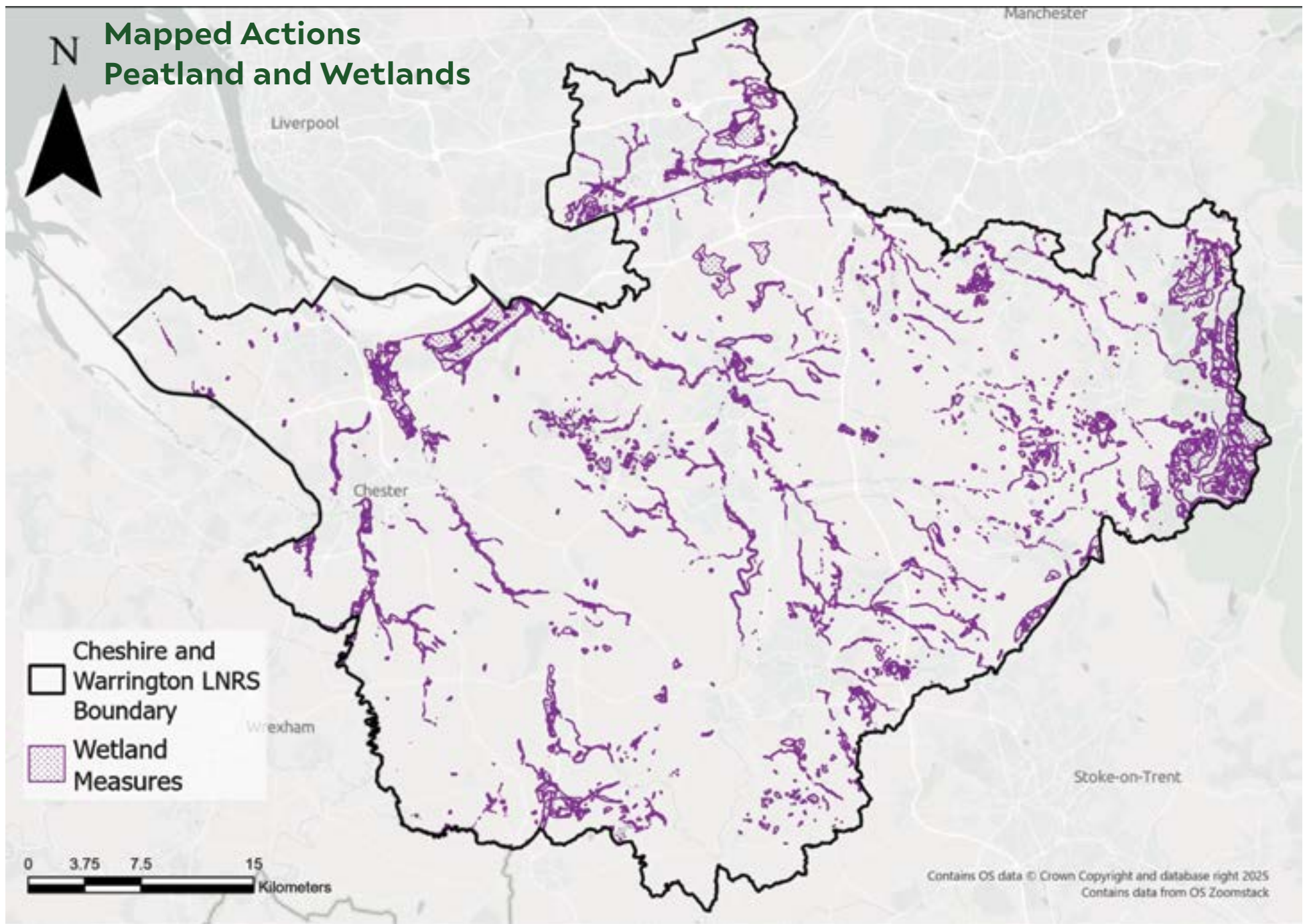
The mapped actions will steer developers on the type of habitat or best actions that could be delivered on site or off-site to achieve the strategic significance multiplier on their Biodiversity Net Gain units.

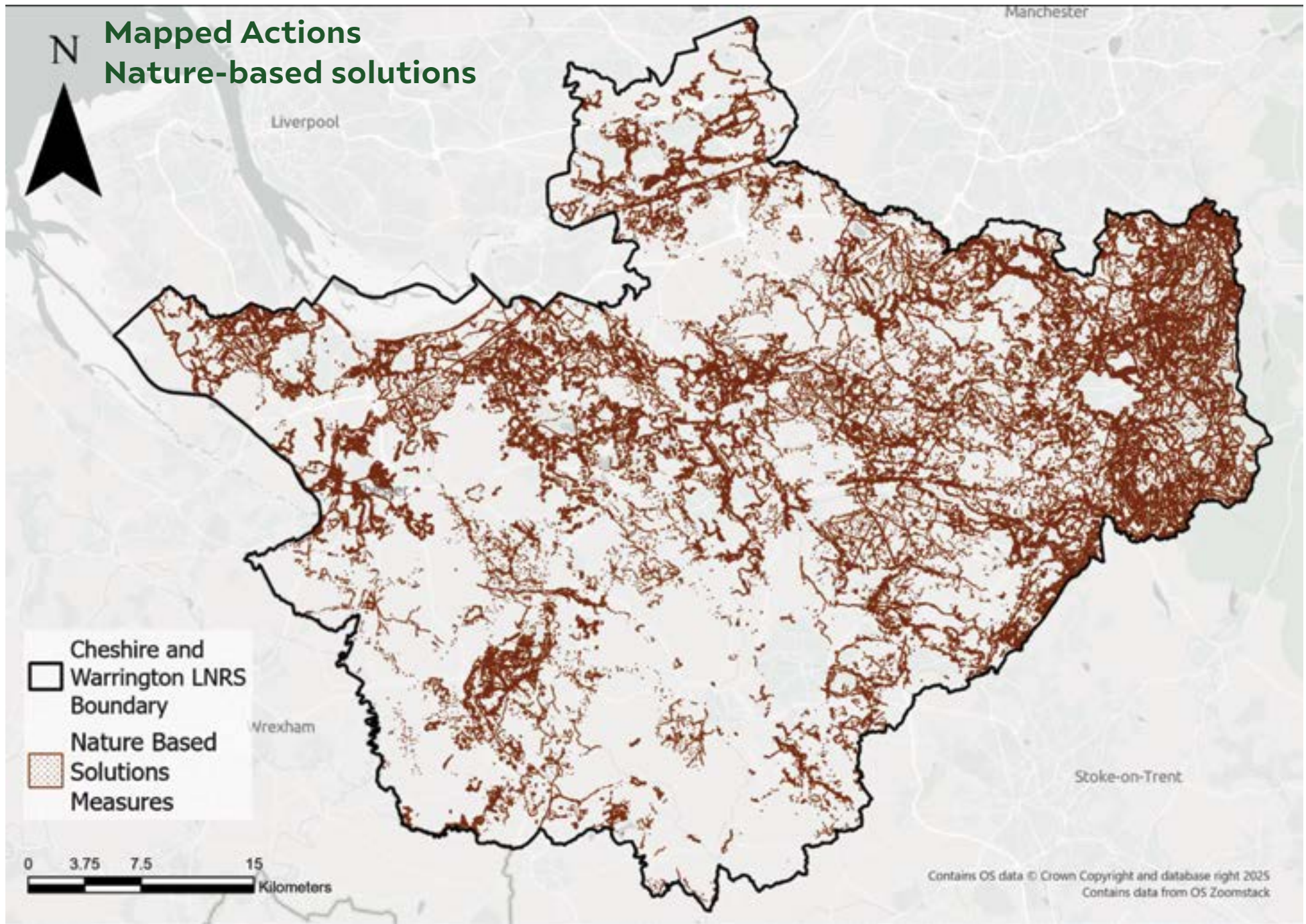


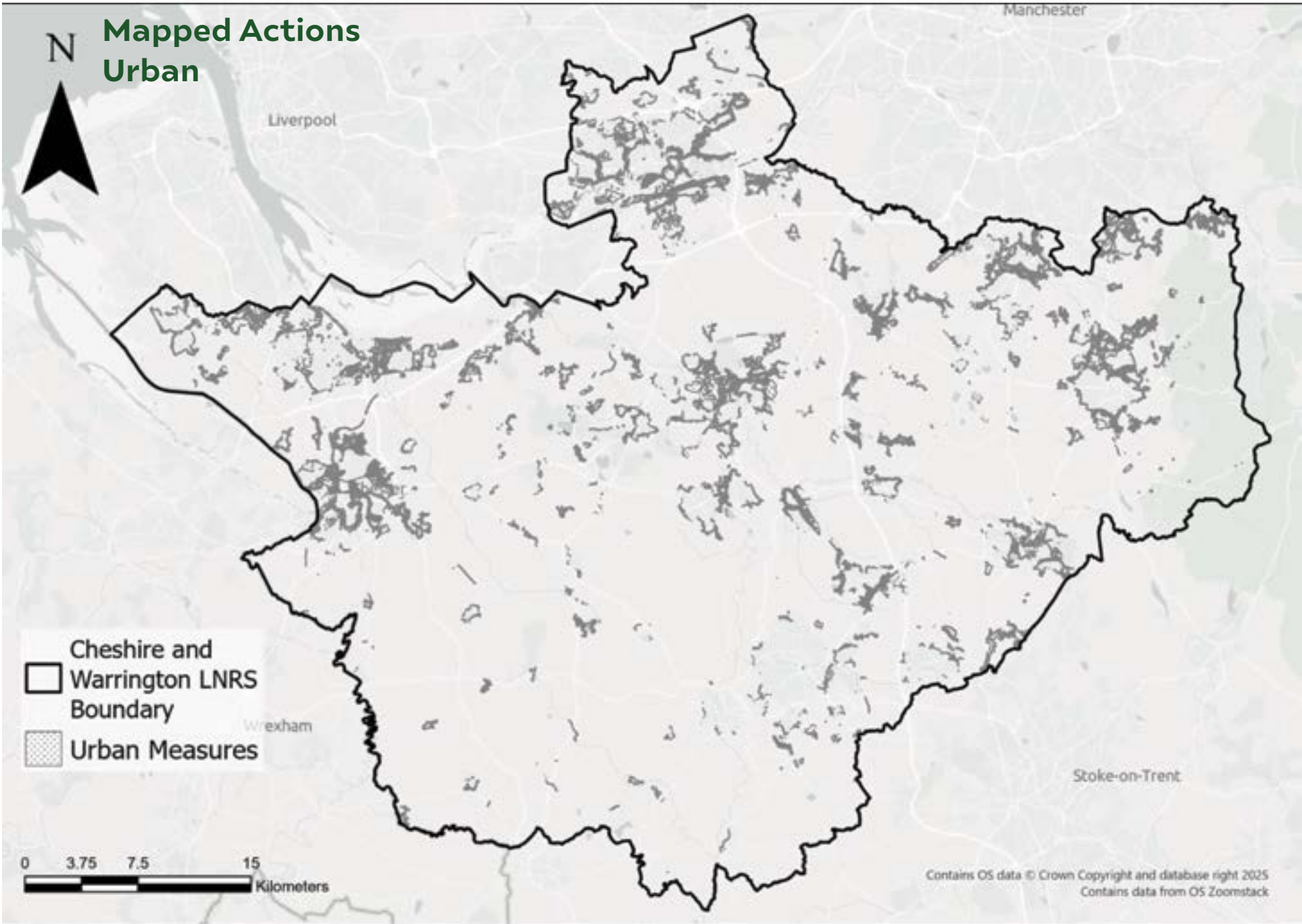














**It is important for nature recovery considerations to prioritise, wherever possible, the mapped actions to the locations where they have been mapped. This is because the mapping has been developed with the best locations modelled for habitats and species to improve and thrive. LNRS also contains many unmapped actions and these can be undertaken wherever they are relevant to a location.**

**Unmapped actions range across the habitats, species and themes and can be delivered anywhere across the LNRS area that they apply. They can also provide wider environmental, social and economic benefits. You can see all the priorities and actions in the main document alongside other useful information. Appendix 7 also contains all the priorities and actions in a list with the mapped actions in bold to clearly identify both types. There is also further technical guidance on how to achieve all the actions.**

**Unmapped actions also include those activities wider than simple habitat or species actions that drive efforts to engage people to think about and get active in delivering nature recovery in their communities. There are actions around awareness raising, promoting awareness of habitats and species, developing investment opportunities as well as some, that target specific community groups such as schools with useful activities.**

**As a reminder, there is a requirement for all public bodies to have regard to the LNRS in its entirety including mapped and unmapped actions.**





Users can access the Nature Network online and click on your site to see the relevant habitat and species actions that could be taken for that location. These key actions can bring the best results on a school field, across a parish council or community asset, on a landowners or farmer's estate, on council land or where a development is planned.

These actions offer nature recovery options for users to look at for inspiration. They can also check where else similar actions are needed, and share funding bids, equipment, or expertise with the support of the LNP.

# Supporting your decision-making



The LNRS does not have statutory powers to restrict development or compulsory land changes. They provide information to help landowners and decision makers to decide how to manage land and make informed choices that benefit nature's recovery, place making, and the local economy.

Likewise, if you want to do nature conservation work in an area that isn't mapped as a priority area in the LNRS, you still can - The LNRS doesn't preclude investment and action in other areas (we'd like to see nature helped everywhere), it prioritises and maps those areas where action may be most beneficial.

The types of actions that LNRS's propose are intended to play an important role in meeting the government's targets and commitments for recovering nature and improving the environment. The government must track and report progress on these targets to determine where to focus efforts.

You can use LNRS's to help identify which environmental land management activities are most appropriate for your land and to see where there are opportunities for working with other land managers on landscape-scale nature recovery.

In future, LNRS's will help government when considering applications for funding specific nature recovery activities, by acting as criteria in applications for some schemes. LNRS's will also guide and incentivise landowners to create or enhance habitats for Biodiversity Net Gain (BNG).

**Have a look at the nature network maps and see what you can find.**

# What next?

We will be working hard alongside the Local Nature Partnership (LNP), local authorities, river catchment partnerships, farmers, landowners, foresters, communities and individuals to drive nature's recovery across Cheshire and Warrington. Over the next 5-10 years, the priorities developed through an extensive engagement process will be key to help us achieve a nature positive future.

Developers will be encouraged to invest in on and off-site biodiversity net gain units in these priority areas, but other funding will be directed for ecosystem services and general nature improvement through the LNRS, with the support of the LNP. The LNRS will provide information to farmers and land managers to help them choose which options are appropriate for their land, to help groups of farmers and land managers to shape nature recovery priorities for their area, and to encourage collaboration across holdings and landscapes.

Cheshire and Warrington have very passionate and motivated farmers and landowners, who are willing to consider how investment in nature's recovery, carbon sequestration and other ecosystem services can be integrated into their farming businesses. This could provide us with the opportunity to map more land, in addition to the 37.5% coverage of Cheshire, where good opportunities exist to invest in nature's recovery over the next 5-10 years, to reverse the biggest decline in species experienced in any county across England over the last 70 years.



# Delivering nature recovery: How to use this strategy

Every person and every organisation can take action to help nature's recovery, from landscape scale projects through to small actions at home in your garden or window box. There is something we can all do.

This section explains how different organisations and individuals can use this strategy and the accompanying interactive opportunity mapping.

## This includes:

- Farmers and landowners
- Developers and planners
- Business
- Community groups, environmental charities and partnerships
- Residents
- Local authorities
- Town and parish councils

Appendix 7 provides some evidence-based resources with activities that can support the actions listed in the above habitats and themes and detailing the benefits to some sectors of taking action to deliver nature recovery.

Our **pledge map** shows many of the projects being carried out across Cheshire and Warrington by volunteers or residents at home in their garden:



We invite everyone to continue to share actions you intend to take for nature or to celebrate things you have achieved. By sharing your stories and pictures we may be able to inspire even more people, communities and organisations to take positive action for nature across Cheshire and Warrington.

## Case studies

### Chester Zoo's Networks for Nature project

Built upon the success of Chester Zoo's nature recovery corridor project, the Networks for Nature project aims to help people to connect with nature, make it more accessible, drive nature recovery, empower communities to protect and restore nature and more importantly, create a network for nature. So far, they have improved over 62 hectares for wildlife and directly engaged more than 12,000 people.

### Chester Wetlands Project

This project aims to utilise an underused part of the Countess of Chester countryside park to restore an increasingly rare floodplain meadow habitat. The organisations involved include University of Chester, Environment Agency, Cheshire West and Chester Council, Bangor University, The Land Trust, The Conservation Volunteers, Chester Zoo and Cheshire Wildlife Trust.

### Forestry England's expansion at Delamere Forest

Hondslough Wood is a 40ha woodland being created to buffer Delamere Forest and provide a space for people to enjoy, an improved habitat for wildlife and a sustainable supply of home-grown timber. This has been supported by Coronation Wood, a national scheme to create 2,000ha of woodland by 2026 and support government targets to boost tree planting across the UK.

### Mersey Forest with Snugbury's ice cream farm

A popular ice cream farm in Cheshire have introduced more flavours to its menu thanks to the range of trees they've planted this season as part of an agroforestry scheme.

Snugburys is a family run ice cream parlour, operating alongside the farm business, which grows organic grass. Using Trees for Climate funding they've planted over 2,300 trees on their site near Nantwich.

The owner had done lots of research around agroforestry and worked alongside local farming advisors, ELM associates, to design a planting scheme which would work alongside their business.

Key features include:

- Walnut and hazelnut trees have been planted in rows, 36 meters apart, to allow machinery to fit in between the rows.
- The nut and fruit trees will provide additional flavours for the ice cream business.
- Landowner keen to farm with nature.

# Farmers, landowners and foresters

Farmers and landowners work across over 60% of the land in Cheshire and Warrington and hold the key to nature's recovery by aligning their businesses, land use and farming practices acting as stewards for the habitats in this strategy. Whilst, also providing nature-based solutions to make their farms and assets more productive. As outlined in the farmland section and habitat sections of this strategy, restoring and replanting hedgerows, sensitively and sustainably managing woodland and grasslands as well as preventing runoff into our waterways while re-naturalising some of our rivers could have an instant impact in helping support nature's recovery across Cheshire.

Farmers and landowners can work with each other through the future farmer group and the Cheshire LNP to help shape nature's recovery, Environmental Land Management Schemes (ELMs), and more specifically the Sustainable Farming Incentive (SFI), Biodiversity Net Gain and other investment, funding, information, and expert guidance.

## Farmers and landowners can use the strategy and maps to:

- Understand how their land fits into the nature network
- Inform strategic and business plans for their land
- Integrate opportunities for nature-friendly farming practices
- Inform and support applications for funding and project delivery on their land

# Planners and developers

Biodiversity Net Gain is a statutory duty introduced in 2024 for all developments and from November 2025 for infrastructure developments, which enable developers to leave the natural environment in a measurably better state than it was beforehand. This means that any biodiversity on a development site must be retained and enhanced by 10% in area or quality, and if not possible, that nature is improved off-site.

Under the Environment Act 2021, local planning authorities and decision-makers must have regard to the LNRS in their policies including the Local Plan. Expected to come into force later in 2025, will make it a legal requirement for plan-makers to "take account" of LNRS's. The LNRS will help to inform better place-making. Moreover, the LNRS cannot be used to refuse development from taking place. It will instead help to encourage developers to identify and adopt the best nature enhancement measures on their sites, that will boost nature recovery.

## Developers can use the strategy and map to:

- Integrate nature into the planning and place-making development process including master planning.
- Guide the most effective delivery of Biodiversity Net Gain on-site.
- Guide where off-site investment can provide the greatest benefits for nature (e.g buffers to irreplaceable habitats to protect and improve with resilience, additions to ecological corridors).
- Identify irreplaceable habitats which must be protected and retained.
- Install nature based solutions to reduce flooding, provide urban cooling, green space access and support the nature network.

The LNRS's will be one source of evidence used to inform the preparation of local plans that determine where development should occur (these plan preparation processes have their own consultation and engagement requirements so that different needs for land can be balanced by the plan maker).

**Homes for Nature is an initiative which developers are encouraged to join, to provide positive developments for wildlife. Homes for Nature members commit to provide a bird-nesting brick or box installed for every new home built and hedgehog highways in-built to every development as a standard. This is in addition to Biodiversity Net Gain regulations. Other aspects from the Homes for Nature group include guides on how to implement SUDS, pollinator friendly landscaping, bat roosts, insect bricks and hibernacula, which can help make the development supportive of nature. Native, wildlife friendly plants used in gardens and landscaping, wildlife-friendly boundaries between gardens and open space, deadwood piles or bug hotels should all be a standard feature of any development.**

# Business

We hope that this strategy inspires businesses to support a healthy natural environment for the benefits it can bring to the workplace, retail environments, employee performance, attendance, and satisfaction. They may want to invest in nature-based solutions locally, so that their employees and customers benefit from quality environments to live, work and play, whilst meeting corporate social responsibility aims or targets to offset carbon emissions.

**Nature is good for business- did you know? Employees with views of trees and landscapes took an average 23% less sick leave per year than employees with no view. Shoppers are willing to spend 9-12% more for goods and services in shopping areas with large mature trees. The cost to businesses from flooding is an estimated £82,000 per flooding event, loss of 50 working days and 40% reduction in productivity – installing rain-gardens, permeable surfaces in car parks and sustainable drainage systems is vital.**

**In 2021, 92 businesses were affected by the floods in Northwich. By introducing natural interventions upstream and in Northwich itself, such as re-connecting the rivers to their natural floodplain, holding the flow back in smaller streams and ditches through leaky dams, more hedgerows, woodlands and species rich grasslands can help reduce the likelihood of future flooding events by increasing infiltration into the ground and reducing peak flows during high rainfall events.**

## **Businesses and other organisations can use this strategy to:**

- Identify opportunities to invest in nature or take action to contribute to nature recovery.
- Act on their sites to create green space and nature friendly schemes.
- Identify team-building, volunteering or sponsorship opportunities.
- Support local charities and community groups running schemes.

**Case Study: Bentley have implemented several new natural features around their manufacturing plant at Crewe. Their green wall alone produces around 40 kg of oxygen a year as well as helping to absorb heat, provide natural insulation and filter VOC toxins and dust. The living wall also attracts and supports local biodiversity. Bentley now has 300,000 flying bees located in hives at the edge of its factory site and has planted over 1,000 flowers around the site to support them. Although not the core aim of the scheme, the reduction in their CO2 emissions has been significant with the site now being considered carbon neutral.**

# Community groups, environmental charities and partnerships

Community groups, environmental charities and partnerships are vital to delivering nature recovery, and are often the local experts on the places and species that are most at risk. Many of these groups have been fundamental to developing this strategy.

Local community groups are key to recruiting, inspiring, training and coordinating dedicated volunteers, for nature recovery, but also for social and training reasons, so they can help build people's skills, provide green social prescribing, health and well-being schemes, tidy-ups and schemes to keep their neighbourhoods litter-free, safe and attractive.

We hope to continue working in partnership under the Cheshire Local Nature Partnership to deliver the actions in this Strategy and provide ideas and support to groups wanting to develop and deliver projects.

## **This Local Nature Recovery Strategy helps local volunteers and community groups to:**

- Understand the needs of many of Cheshire and Warrington's most important habitats and species, to inform what action they can take to help.
- Understand how their local natural environment and green spaces fit within the nature network.
- Apply for funding for project delivery.
- Work with wider communities, local businesses, local authorities and landowners.
- Join networks of like-minded community groups to share support and information.

# Residents

People who live in Cheshire and Warrington are vital for nature's recovery and there are lots of ways you can help.

## You can use the strategy to:

- Understand what nature is on your doorstep and where the most valuable habitats are.
- Make your garden or land more wildlife-friendly and work with your neighbours to put in wildlife corridors, ponds, swift bricks and nesting boxes to make yours a wilder neighbourhood.
- Become a volunteer - check out the map on the **Local Nature Partnership** website of all the opportunities to get involved with others in helping wildlife (e.g. Friends & Conservation Groups, LNP partners like Cheshire Wildlife Trust, Trust for Conservation Volunteers (TCV), Groundwork, National Trust and others).
- Keep your eyes open – spotting and recording wildlife is vital - we need more people to use apps on their phones (iNaturalist, iRecord, Merlin) and learn what different species look like and record where you've seen them.
- Once you have learned some species, you can send information of what you've seen to Cheshire RECORD using email or the swift system. Understanding what species are where, helps us to understand how healthy their populations are and when we might need to act to help some that are in danger.
- Join in wildlife spotting events like the big garden birdwatch every January or the big farmland bird count in February.
- Use our **Pledge Map** to let us know what you're going to do for nature and how you are getting on.

# Public sector, education, health and care settings

The key Defra agencies Natural England, Forestry Commission and the Environment Agency, are engaged in nature recovery and can use LNRS to inform their activities locally.

Institutions like the National Health Service (NHS), schools, colleges, universities, medical practices to care homes all have land and estates that could become places for nature that help the people they serve.

The benefits of nature have been well-documented and are becoming increasingly well-known and accepted in patient health and recovery, staff wellbeing, contributing to optimum learning environments, supporting social wellbeing and voluntary opportunities to tackle mental and physical health challenges.

We are delighted to see that more schools are seeing the benefit of using their outdoor spaces in diverse ways to support their children's learning and wider development, particularly through forest school. These opportunities are helping young people develop an understanding and connection to nature, with the potential to increase their value, use and stewardship of nature in the future.

## Institutions can use this strategy and the resources in Appendix 7 to:

- Integrate nature into planning and enhancing their estates and assets.
- Understand what nature is on their doorstep and how they can become part of the nature network, creating new spaces for nature and ecological corridors or resting places from tiny forests to wildflower patches, bird boxes and ponds.
- Identify irreplaceable habitats which must be protected and retained.
- Install nature based solutions to reduce flooding, provide urban cooling, green space access and support the nature network.
- Involve staff and service users in nature based projects from spotting and identifying wildlife and species through to planting and caring for green spaces.

# Local Authorities: Cheshire West and Chester Council, Cheshire East Council, Warrington Borough Council and Peak District National Park Authority

This Local Nature Recovery Strategy is a statutory policy document that will be used by local planning authorities to inform local planning policy and practice in line with the National Planning and Policy Framework and guide the delivery of Biodiversity Net Gain.

The Strategy provides evidence of action by the Local Authorities as part of their enhanced biodiversity duty under the Environment Act 2021. It also guides them to consider how they might protect and enhance biodiversity further through all their other functions.

As landowners and managers, the priority and action mapping could help local authorities to manage their assets more effectively to support nature's recovery.

## Town and Parish Councils

Under the 2021 Environment Act, public authorities (including town and parish councils) operating in England must consider what they can do to conserve and enhance biodiversity.

### **Government guidance states that town and parish councils must:**

- Consider what they can do to conserve and enhance biodiversity.
- Agree policies and specific objectives based on their consideration.
- Act to deliver their policies and achieve their objectives.

### **Town and Parish Councils can use this strategy to:**

- Understand how their local area fits into the Nature Network and develop an action plan.
- Help deliver and manage more accessible, natural green spaces for their residents to enjoy.
- Support applications for project funding.
- Inform environmental and land use policies and Neighbourhood Plans.
- Inform responses to planning applications and ensure they refer to biodiversity and nature recovery.





## How could we guarantee nature recovery and deliver this strategy?

**Cheshire Local Nature Partnership (LNP) brings together many of the key delivery organisations needed to ensure the actions identified in this Strategy get done.**

**Cheshire Local Nature Partnership** provides leadership and coordinates joint initiatives and work to attract funding for nature recovery projects in our area. Its activities include:

- ✓ Establishing and maintaining a strong effective partnership for management and delivery.
- ✓ Administering and coordinating funding backed by robust and efficient procedures.
- ✓ Ensuring funding is targeted to agreed plans and objectives.
- ✓ Putting in place staffing and resourcing for LNP and to deliver joint projects and initiatives.
- ✓ Targets to increase financial investment into nature and nature-based solutions, through supporting farmers to choose which options are appropriate for their land and facilitate groups of farmers to collaborate across holdings.

Visit the CLNP website at: [www.cheshirelnp.co.uk/](http://www.cheshirelnp.co.uk/)

This Strategy enables the partnership to work together in a coordinated way to influence and support communities, landowners and strategic work for nature across the county, such as our catchment and landscape recovery partnerships.

The LNP supports the establishment of a Future Farming Group and continues to provide critical input for new opportunities.

The first step for the Local Nature Partnership was to create a delivery plan. It collates, monitors and records actions being taken across the partnership, along with landowners, communities and other organisations who are willing to share information, so that we can demonstrate how we are all taking action to deliver the LNRS, monitor what difference this is making, evaluate what is working well and what needs improving.

To measure progress, we use a monitoring framework , which is maintained by the Cheshire West and Chester Council, as the 'Responsible Authority', and Cheshire RECORD ( Cheshire's Local Environmental Record Centre).

**Some of the indicators that are included are:**

1. Hectarage (ha) of land put forward for Biodiversity Net Gain, established and delivered.
2. Ha of land actively managed for sustainable food production and habitats.
3. Ha of sustainably managed woodland.
4. Ha of habitats created or enhanced.
5. % tree cover in urban and rural wards.
6. km of rivers re-naturalised across the catchments.
7. £££s of investment into nature recovery/carbon or water by private sector.
8. km of hedgerows restored in our landscape.



# Acknowledgements

We would like to thank all those who contributed their time and effort to produce this strategy together for Cheshire and Warrington. Our particular thanks go to:

## Steering Group (Cheshire and Warrington LNP)

- Barnston Estate (Representing the CLA)
- Canal & River Trust
- Cheshire East Council
- Cheshire RECORD
- Cheshire West & Chester Council
- Cheshire Wildlife Trust (co-chair)
- Chester Zoo
- CPRE
- Environment Agency
- Enterprise Cheshire and Warrington
- Forestry Commission
- Groundwork Cheshire, Lancashire & Merseyside
- Mersey Forest
- Mersey Rivers Trust
- National Trust
- Natural England
- NFU
- RSPB
- Sandstone Ridge Trust
- Tatton Group (Chair)
- United Utilities
- Warrington Borough Council
- Weaver Goway Catchment Partnership
- Woodland Trust



## Officers Group

- Cheshire West and Chester Council
- Cheshire East Council
- Warrington Borough Council
- Peak District National Park Authority
- Natural England
- Forestry Commission
- Environment Agency

## Further Contributions

In addition to the contributions given by the Steering & Officers group, we would like to specially thank those who have provided the documents, facilitation and additional work for the LNRS, which include:

**Cheshire Wildlife Trust and Cheshire RECORD for the Description of the Strategy Area technical document, Opportunity mapping, and Species shortlist and workshops**

**Edsential for the Cheshire and Warrington LNRS education pack.**

**Majestical for the creation and development of the public engagement video.**

**Quantum Strategy and Technology for the editing and formatting of the final draft document.**

**Rhizome Cooperative for their facilitation of the public workshops.**

**Chester Zoo for hosting the LNP workshops.**

**Cheshire Platters for providing food and refreshments during the public workshops.**



# Appendices

**Appendix 1. Area Description: technical Version**

**Appendix 2. How LNRS relates to other council plans and strategies**

**Appendix 3. Methodology – how the LNRS was developed**

**Appendix 4: Step 5 mapping ( Methodology and Interpretation)**

**Appendix 5. Species list report**

**Appendix 6. Stakeholder Engagement**

**Appendix 7. Delivery Guide to LNRS: Technical Information & Resources**

**Appendix 8. Benefits to Audiences**



**“ The LNP are delighted to have been able to support the LNRS development, which represents a significant step forward to protecting and enhancing nature and our environment, and we look forward to being the key delivery partner once it is published. The strategy is just the start of a holistic approach to incorporating the three pillars of sustainable development, which is a rich natural environment, a growing circular economy and a strong community. ”**

Annette MacDonald, LNP co-chair

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**Cheshire and Warrington**  
**Local Nature Recovery Strategy**  
**2025-2035**