LIVERPOOL CITY REGION

liverpoolcityregion-ca.gov.uk

Local Nature Recovery *Strategy*

STATEMENT OF BIODIVERSITY PRIORITIES

LIVERPOOL CITY REGION COMBINED AUTHORITY

METRO MAYOR LIVERPOOL CITY REGION

Contents

© LCRCA

Foreword
Steve Rotheram
Mayor of the Liverpool City Region

Over the past few decades, we've seen the precious habitats and ecosystems of some of our native species left exposed to both human activity and the effects of climate change – and the results are alarming. With so much of our country's wildlife and natural biodiversity at risk, these fragile ecosystems need to be protected more than ever.

Wildlife is something to be cherished and enhanced for future generations, so we're looking for opportunities to help nature thrive. For this strategy to work we all need to take responsibility and do as much as we can to address the decline of wildlife across our region. How fantastic would it be, for example, to see our famous red squirrel population growing again?

Our residents deserve to live in a greener, cleaner city region with thriving green spaces on their doorstep and protecting and sustaining our natural world will be key to achieving that ambition.

A lot of work has already been done to map in detail all the wonderful places where people go to enjoy nature and wildlife. But no-one knows the Liverpool City Region better than the 1.6m people who call it home – from the well-known parks and reserves to cherished local community spaces. This is an opportunity for everyone to have their say and make sure nothing has been left out.

Foreword
Cllr Anthony Burns,
LCRCA Cabinet Member for Net Zero

The Liverpool City Region is not alone in seeing its nature depleted. Our post-industrial legacy has left biodiversity in a state of decline.

This Local Nature Recovery Strategy enables the first step of urgent action required to restore the natural environment, which provides a range of benefits to the people of our region. Nature-based solutions can improve our air and water quality, help us to achieve Net Zero, build resilience to climate change and provide access to thriving green spaces.

We have made great strides already in our journey to net zero carbon with our Climate Action Plan. But there is much more to do. To play our part in the climate crisis we all need to work together, collectively and quickly.

This same collaborative spirit can help us in the fight to restore nature and help it to thrive, reversing the effects of human activity on our natural environment and identifying opportunities to create and nurture new habitats.

How we interact with the world has fundamentally changed over the last twenty years and to get to where we need to be we'll need to change again. The path towards a new greener, cleaner age of innovation and growth can go hand in hand with a renewed effort to restore our precious nature.

Foreword
Gideon Ben-Tovim OBE,
Chair of Nature Connected

It has been a privilege for Nature Connected to have been centrally involved in supporting the development of this exciting Local Nature Recovery Strategy (LNRS) for the Liverpool City Region.

As the Local Nature Partnership for the Liverpool City Region, we have for the last 10 years been building a network of collaboration and action amongst environmentalists, local authorities, public, private and voluntary bodies, academics and activists to protect and enhance the beautiful blue and green resources of our unique region.

We see this strategy as a very significant step forward in this journey. As the Chair of the LNRS Advisory Board I am very grateful to all the stakeholders who have supported our work in advising the Liverpool City Region Combined Authority on the development of the strategy. I thank too the members of the LNRS Technical Advisory Panel, led by the Chief Executive of the Lancashire Wildlife Trust, for their expert input and advice in the development of the strategy and Mersey Forest for their invaluable efforts in coordinating both the LNRS Advisory Board and LNRS Technical Advisory Panel.

Finally, I must pay tribute to the outstanding work of the Liverpool City Region Combined Authority for their commitment, skill and inclusivity in weaving together the work of the core team, including colleagues from Merseyside Environmental Advisory Service and Liverpool John Moores University, into a compelling final document.

The next steps will of course be to move towards the successful delivery of this excellent, far-reaching strategy. We as Nature Connected look forward to continuing to play a vital part in helping to strengthen our region's extraordinary and much-valued natural assets.

Bee Orchid © Mike Roberts

1. Vision

Our vision is one of a wildlife-rich Liverpool City Region with a clear pathway to nature recovery, where the benefits of nature are maximised, appreciated and enjoyed by all.

- Where nature is recovered and thriving.
- Where people and nature are connected.
- Where action is community-led.
- Where the importance of the natural environment is understood and respected.
- Where green and blue spaces address the needs of local communities.
- Where nature underpins the local economy and informs decision making at every level.
- Where the impacts of climate change are mitigated.
- And where together the Liverpool City Region contributes towards national nature recovery.

Liverpool City Region

2. What is a Local Nature Recovery Strategy (LNRS)?

The Local Nature Recovery Strategy (LNRS), introduced in the Environment Act (2021), is an evidence-based, locally-led, spatial strategy, designed to provide a joined-up, regional approach to nature recovery.

There will be 48 LNRSs covering the whole of England, together forming the Nature Recovery Network, a major commitment in the Government's 25 Year Environment Plan.

Our strategy follows the same boundary as that of the Liverpool City Region (LCR), which comprises Halton, Knowsley, Liverpool, Sefton, St Helens and Wirral.

Using local knowledge from a variety of stakeholders and residents of the LCR, it identifies and maps opportunities for habitat enhancement, restoration and creation, where the biggest benefit will be felt to both nature and people.

The strategy is intended to be used by all, no matter how big or small a contribution to nature recovery you could provide. We all have a role to play, from planters in gardens to landscape scale habitat creation. A joined-up approach is needed to help nature thrive across the region.

'We all have a role to play, from planters in gardens to landscape scale habitat creation'

2.1 Purpose and remit

Foxglove © Mike Roberts

Sand Lizard © Philip Smith

Building on the Lawton Principles[1] of more, bigger, better, and joined-up habitat networks, the LNRS establishes a set of priorities for nature recovery across the region, providing a framework for coordinated, collaborative action that will result in the biggest benefit for nature and for people.

The LNRS focusses on areas that could provide opportunities for nature recovery and the measures (practical actions) required to deliver this. The Local Habitat Map that accompanies this document identifies these opportunity areas as well as our existing protected wildlife sites. However, it does not commit landowners within the identified opportunity areas to implementing any changes in land use, nor does it prevent development or give permission to create habitat without appropriate consultation and approval. It also does not prevent anyone improving nature and our biodiversity outside of the identified areas on the Local Habitat Map.

While the strategy is nature-led, wider environmental benefits are also core to the LNRS and factored into the opportunities identified for nature recovery. The strategy seeks to optimise environmental outcomes, contribute to national environmental objectives, address societal needs and enable access to the broadest range of potential funding sources for delivery of nature positive outcomes.

The LNRS aims to be both ambitious and realistic, considering local pressures and land uses wherever possible. The strategy will complement existing nature conservation plans, initiatives and habitat management plans, notably on designated sites.

The LNRS must align with and be additional to the actions set out within existing designated site management plans. For this reason, actions for important species such as sand lizard may not be included as plans are already in place to support their recovery. The strategy can however promote wider actions such as buffering designated sites.

The LNRS will be reviewed and updated in 3 – 10 years, as and when responsible authorities are instructed to do so by the Secretary of State.

1. Lawton Principles from Making Space for Nature: A review of England's Wildlife Sites and Ecological Network

2.2 Strategic context

The LNRS aligns with both national legislation, local plans and policy.

Nationally

The Environment Act, which became law in 2021, sets the UK's framework for protection of the natural environment. For nature, it establishes a legally binding targets to restore or create in excess of 500,000 hectares of wildlife-rich habitat outside protected sites by 2042; halt species abundance decline by 2030 and ensure species abundance in 2042 is greater than it is in 2022; reduce the risk of species' extinction by 2042; increase tree and woodland cover to 16.5% of land area by 2050; and reduce nitrogen, phosphorus and sediment pollution from agriculture into the water environment by at least 40% by 2038. It also strengthens the biodiversity duty on public bodies, introduces **Biodiversity Net Gain**, protected site strategies and species conservation strategies, and launches **Local Nature Recovery Strategies**.

The Government's 25 Year Environment Plan set the vision for the protection and preservation of the environment and a first revision, the Environmental Improvement Plan (EIP) 2023, established further targets to achieve these goals. Contribution to these national targets was considered in the development of the LNRS. Notably, the EIP targets protection of 30% of land and sea for nature by 2030, in agreement with the Global Biodiversity Framework. It also strives to ensure that everyone in England lives within 15 minutes' walk of a green or blue space; restore 280,000 hectares of peatland in England by 2050; restore 75% of water bodies to good ecological status; support farmers to create and restore 30,000 miles of hedgerows by 2050; restore 75% of Sites of Special Scientific Interest to favourable condition by 2042; reduce emissions of nitrogen oxides by 73% and ammonia by 16% by 2030; and reduce the rates of introduction and establishment of invasive non-native species by at least 50% by 2030.

National targets require at least 70% of protected features in Marine Protected Areas to be in a favourable condition by 2042. Defra guidance dictates that marine opportunities should not be included or mapped in this iteration of LNRSs. However, there are opportunities upstream and within the intertidal zone that can affect the marine environment. There is strong support from stakeholders for addressing marine recovery at an LCR level. The Northwest Marine Plan provides a regional framework and future tools such as Marine Net Gain are expected to be a key mechanism to support marine recovery.

Biodiversity Net Gain (BNG)

As of 2024, the planning system now requires new developments to result in a measurably positive impact ('net gain') on biodiversity. Development must result in a 10% biodiversity uplift compared to what was there before, meaning creation or enhancement of habitat is required and this must be managed for a minimum of 30 years. Developers are incentivised through a 15% BNG uplift to create and enhance habitats in areas of 'strategic significance': those mapped within the LNRS, meaning BNG provides a way to fund delivery of nature recovery.

30%

The Environmental Improvement Plan targets protection of 30% of land and sea for nature by 2030

Locally

In line with the National Planning Policy Framework, the LCR has an existing Ecological Network that forms part of Local Plan evidence bases. The network maps designated sites, wildlife-rich habitats and stepping stone habitats following Lawton Principles. The network identifies 17 Nature Improvement Areas (NIAs) that provide strategic opportunity for targeted habitat interventions and management, and which provide an important starting point for the LNRS.

In 2022 a State of Nature Report was completed by Merseyside Environmental Advisory Service (MEAS), providing a health check for the region's natural environment. This report underlined that we are in a state of climate and ecological emergency and provided a snapshot of species and habitat trends which are heavily degraded and in a long-term trend of decline. Findings from this report are referenced throughout the strategy.

As part of its Devolution Deal with Government, the Combined Authority is preparing a statutory land-use planning framework known as a Spatial Development Strategy (SDS). The emerging SDS addresses key planning matters and has a dedicated policy for the natural environment and nature recovery. In alignment with the LNRS, this policy seeks to ensure plans and proposals protect, enhance, improve and expand valued green and blue spaces, landscapes and the natural environment, and any appropriate mitigations adequately delivered, for the long-term benefit of all.

The SDS commissioned a natural capital baseline assessment which was carried out by Liverpool John Moores University (LJMU). This includes comprehensive mapping of the LCR's habitats, as well as of the capacity of the landscape to provide key environmental services, the demand for these services, and the ecological networks that support wildlife. The mapping was used as evidence for the SDS consultation in support of the draft Green Infrastructure and Natural Capital Policy.

A Natural Environment Investment Readiness Fund (NEIRF) project was undertaken in 2023 by the LCRCA, MEAS, LJMU and consultants. It focussed on developing a model to stimulate local private investment and market-based mechanisms that support nature recovery by helping projects get ready for investment. This project marked an important step to establishing a local nature market for BNG and supports the government's goals in the environmental improvement plan.

LNRS's should be used by Local Planning Authorities "to inform the way they address the National Planning Policy Framework requirement for plans to protect and enhance biodiversity"[2].

The six Local Planning Authorities of the LCR are at different stages of Local Plan preparation. Throughout development of the LNRS, the Local Authorities (including planning, greenspace and climate teams) have been engaged and contributed positively to this strategy ensuring priorities, measures and the Local Habitat Map are aligned with Local Plans and their policy maps.

2. Local nature recovery strategies – GOV.UK

2.3 How was the LNRS developed?

The LCR Combined Authority was appointed by Defra as the Responsible Authority for the LCR LNRS and led the preparation of the strategy.
It was co-produced with support from Merseyside Environmental Advisory Service (MEAS), Merseyside BioBank and Liverpool John Moores University (LJMU), and with support from Natural England, Forestry Commission and Environment Agency.

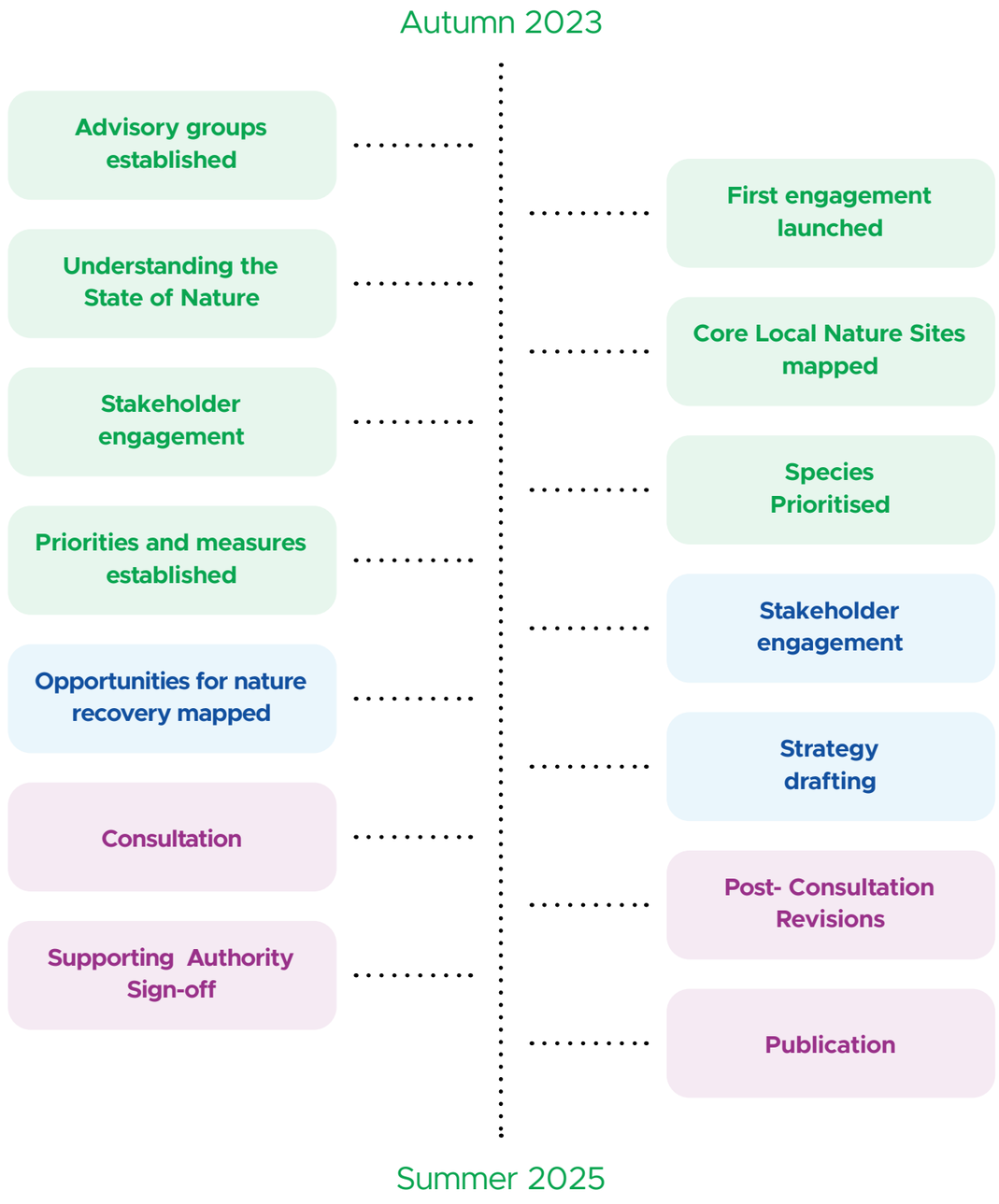
The evidence-based and locally-led approach incorporated local and national data, local expertise and local opinion. The public and stakeholders from all sectors were involved throughout the process and their feedback was pivotal in shaping the strategy.

The strategy was developed following the statutory and non-statutory guidance provided by Defra and Natural England and took a species-focussed approach.

The process assessed the current state of nature across the LCR, mapped existing core local nature sites, established a set of priorities (goals) and measures (actions) for habitats and species and mapped locations where there are potential opportunities for habitat enhancement and creation that would support species survival and provide wider environmental benefits.

The evidence-based and locally-led approach incorporated local and national data, local expertise and local opinion.

LNRS development process



Eastham Woods © Ayla Thompson

MEAS led the Species Technical Group and habitat work, priority and measures development and opportunity mapping.

LJMU led on ecosystem service modelling and decision-making around nature opportunity area selection, and provided expert input on basemap construction and ecological network modelling.

Local environmental record centres **Merseyside BioBank** and **Cheshire RECORD**, and **Cheshire Wildlife Trust** provided local data and expertise, with Merseyside BioBank taking a lead on species, habitat and opportunity mapping.

DEFRA arm's length bodies **Natural England, Forestry Commission** and **Environment Agency** provided instrumental support and guidance.

The LNRS **Species Technical Group**, consisting of local experts, provided guidance and expertise on species and habitat prioritisation.

Nature Connected, our Local Nature Partnership, hosted two dedicated LNRS advisory groups (**LNRS Technical Advisory Panel** and **LNRS Advisory Board**) consisting of stakeholders from all sectors who provided regular strategic oversight and invaluable guidance.

The six **Local Authorities** of the LCR acted as Supporting Authorities to the LNRS, offering guidance throughout strategy development and providing formal sign-off of the strategy before consultation and publication.

Residents of the LCR, and **local stakeholders** from the private, public and voluntary sectors were involved throughout strategy development.

The LCR Combined Authority thanks every individual and organisation that contributed in any way to the collaborative development of this strategy.

3. Why do we need a Local Nature Recovery Strategy?

Global decline

Biodiversity is the variety of all animal and plant life on earth. **Globally, biodiversity is in serious decline following centuries of habitat destruction.** Since 1970, 70% of mammal, bird, fish, reptile and amphibian populations have been lost[3]; however historic declines predating the 1970 baseline far exceed these figures. An estimated 1 million plant and animal species are now threatened with extinction[4] and these unprecedented, and accelerating losses are the result of human activity. Urbanisation, industrialisation, and intensified food production have resulted in 75% of the terrestrial and 65% of the marine environment being "severely altered"[4].

Within the UK

The UK has lost nearly 50% of its biodiversity. Centuries of habitat loss have placed it in the top 10% most nature depleted countries in the world[3]. Nearly 1 in 6 species in the UK are threatened with extinction[5].

Local decline

The LCR is no exception to this. The region's post-industrial legacy has left its biodiversity in a state of decline, with human activity causing significant habitat loss and driving species to local extinction. Our remaining habitats are fragmented and often in poor condition, and our positioning as a coastal region leaves us vulnerable to further losses arising from the effects of climate change.

"When our environment is thriving, we thrive."
Halton resident

The consequences of inaction

Biodiversity is central to human life on earth. We rely on nature to clean our air, filter our water, provide our food, protect us from the effects of climate change, and for spaces to enjoy for their natural beauty as well as physical and mental health benefits.

Failure to reverse recent biodiversity declines, risks losing these vital ecosystem services that nature provides. The consequences of living in a nature-depleted country are vast, with impacts on wildlife, human health, ability to adapt to climate change, as well as the economy. Degradation of the natural environment could result in a 12% loss to UK GDP[6]. Pollinator insects for example, are "worth millions of pounds to UK agriculture"[7]: their rapidly declining populations pose a serious risk to food security.

What can be done?

However, nature-based solutions, actions which support and draw on nature to provide wider environmental, social and economic benefits while simultaneously benefiting biodiversity, can help us to address many of the challenges we face.

The LNRS is an ambitious and vital opportunity to join-up efforts to protect our natural environment in a way that benefits people and attracts long-term investment into nature recovery. Large scale interventions and individual actions are equally as important and can together connect nature across the region, allowing it to thrive once more.

"We depend on nature, just as it depends on us"
Wirral resident

3. WWF Living Planet Report 2020
4. Global Assessment Report on Biodiversity and Ecosystem Services
5. State of Nature Report 2023
6. Assessing the Materiality of Nature-Related Financial Risks for the UK
7. Pollinator monitoring more than pays for itself

3.1 Biodiversity loss and climate change

While climate change is well discussed and interventions to address it widely underway, the equally as damaging, rapid declines in biodiversity are often overlooked. However, climate change and biodiversity loss are twin crises that must be addressed simultaneously.

Climate change is one of the pressures causing biodiversity loss, and in turn, biodiversity loss and ecosystem breakdown are accelerating climate change. If mean global temperatures rise by 1.5-2.5 degrees, a third of all species could go extinct[8].

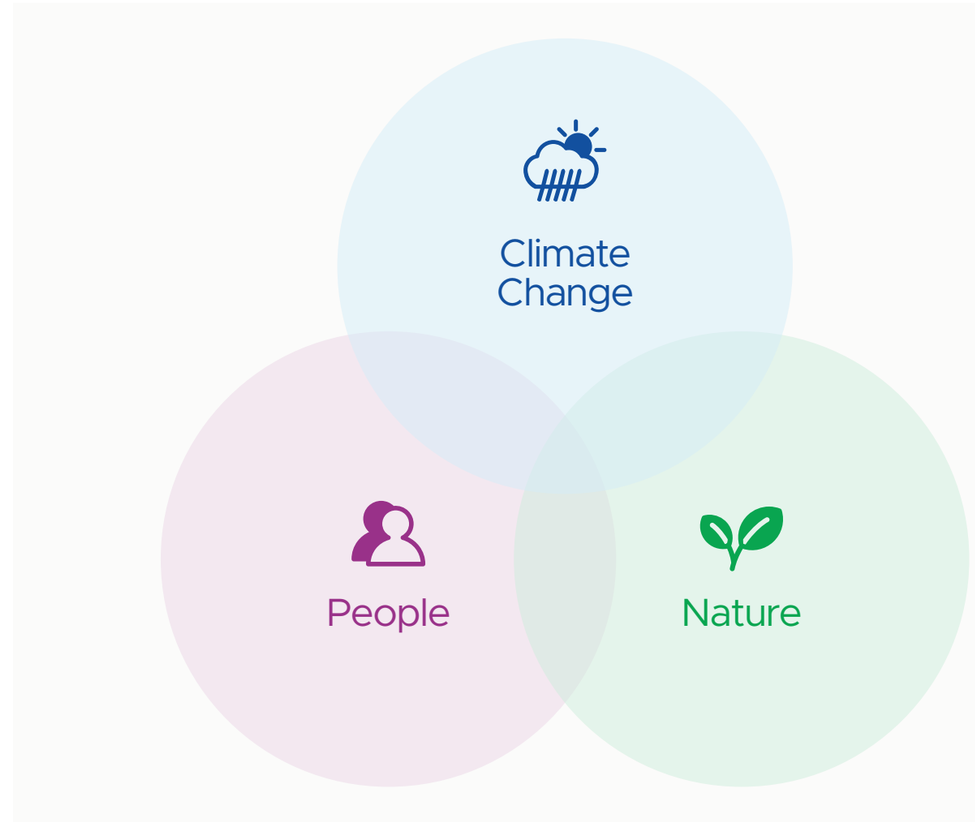
Our peat bogs, woodlands, oceans and wetlands absorb large amounts of carbon from the atmosphere. However, when poorly managed and degraded, these habitats can become sources of carbon emissions.

Nature-based solutions are one of the most cost-effective ways to mitigate and adapt to climate change, reducing vulnerability to its effects and increasing our economic resilience.

The interdependency of climate resilience, and a restored and functional natural environment should not be separated. Climate and ecology are inextricably linked, their success being mutually-dependant on one another.

"Climate change is the pressing issue of the future, and nature is the greatest shield we have to combat it."

Wirral resident



"Nature underpins our societal functions and impacts the health of every person in this region. Nothing is more important."

St Helens resident

8. Recent responses to climate change reveal the drivers of species extinction and survival

3.2 What do people in the Liverpool City Region think about nature?

In October 2023, a public engagement survey was carried out to determine which parts of our natural environment are most valued by the citizens of the LCR, and what they think should be prioritised in the LNRS. The findings were incorporated into the habitat and species priority setting process (section 6).

Spending time in nature

60% of people surveyed spend time in their gardens on a daily basis, while 75% of people visit their park at least once a week. 63% spend time at a nature site within their local authority area at least weekly and 61% visit a nature site outside of their area at least once a month.

Reasons why:

- to enjoy the natural beauty (78%)
- to improve their mental health (70%)
- to see wildlife (59%)
- to exercise (55%)

"To improve mental health" was the most common response by those under age 35.

Benefits of nature

The wider benefits that nature provides to society are highly valued. **71% of people believe that nature builds resilience to climate change, while 85% of people think that nature benefits mental and physical wellbeing.**

Habitats and species

The species groups that people would most like to see supported by the LNRS are mammals, plants and birds. The red squirrel was popular amongst responders, with 10% of people highlighting it as a priority species in our region. This also links with support for more / better woodland which was high on the public's habitat list along with urban green spaces and coastal areas. Hedgehogs and bats were also well supported.

Common themes that people would like to see prioritised:

- Urban green spaces
- Education
- Community involvement
- Protected areas
- Tree planting
- Access to nature

"Our natural spaces are of incalculable value in terms of environmental and health resources."
Sefton resident

"Nature is what keeps human beings happy and healthy. Without it we lose our sense of well-being. It makes us feel safe, connected and grounded."
Halton resident

"Nature helps people see the beauty where they live and feel more connected."
Knowsley resident

4. The natural environment of the Liverpool City Region

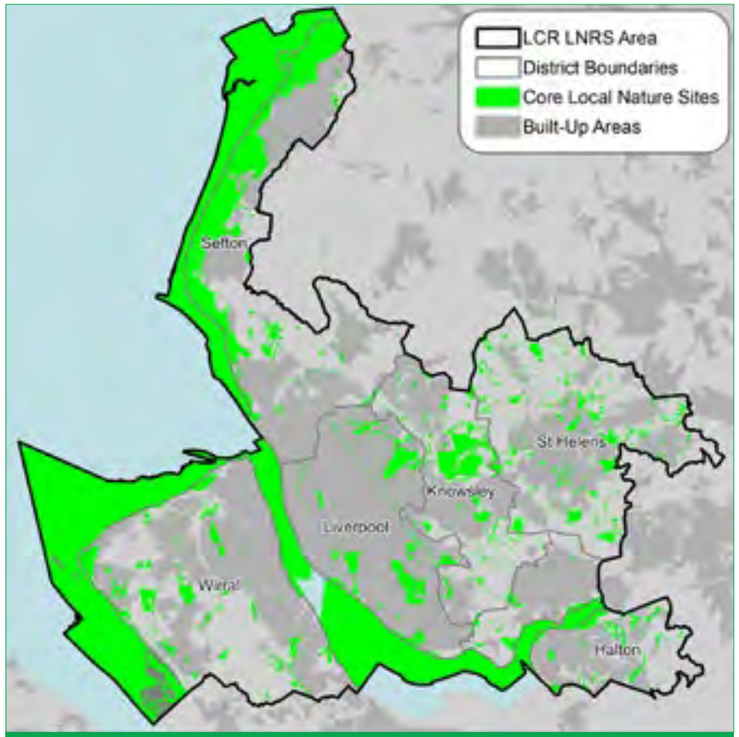
Lying on the coast of Northwest England, the LCR is home to just over 1.55 million people. Lancashire lies to the north, Greater Manchester and Warrington to the east, Cheshire to the south and North Wales to the west; all of which have close links and ties with the LCR. Centred around the River Mersey and the port city of Liverpool, the LCR extends to include the boroughs of Halton, Knowsley, Liverpool, Sefton, St Helens and Wirral. Whilst having an urban core, the LCR contains large stretches of undeveloped coastline and rural areas comprising fertile agricultural land.

The LCR is rich in natural assets. It has a strong maritime history that brought prosperity to the region through the development of its ports and industries that continue to play an important role in the region's economy today. The varied landscape character contributes to a much-valued sense of place, local distinctiveness and quality of life. Though historic habitat loss is widespread, long-standing partnerships and local expertise have driven creative conservation and pioneered restoration ecology across the region and beyond.

Approximately 40% of the strategy area (which includes the intertidal zone) is already designated as nature conservation sites, and North Merseyside has the highest density of Local Wildlife Sites in England[9]. The region also supports 243 of England's priority species[10] (those which are most threatened and requiring urgent conservation action).

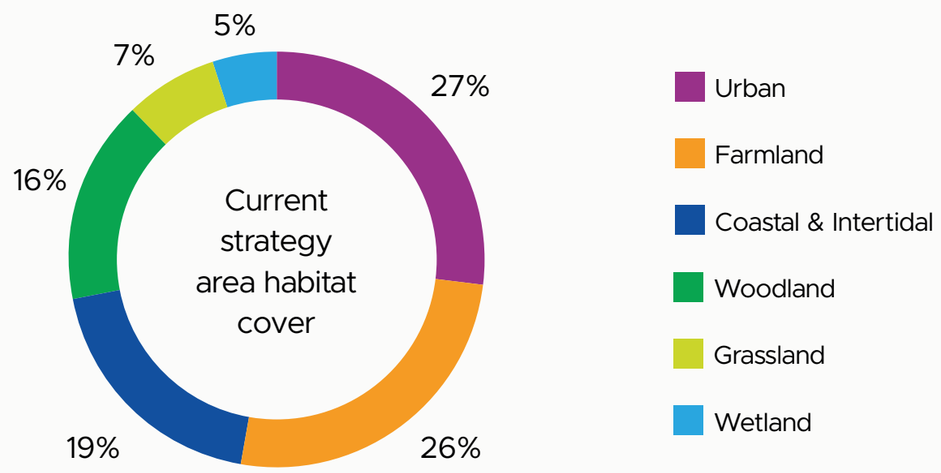
The variety of habitats found across the region are underpinned by a rich mix of soils. These soil types determine the character of the landscape and the habitats found in different areas. Understanding of our local soils is fundamental to the success of habitat restoration and nature recovery.

Similarly, as a region shaped by water, the dependence of our extensive river, coastal and intertidal habitats on good water quality can not be understated. The Dee and Mersey estuaries, for example, form some of the most important sites in Europe for wintering birds.



Map of the LCR LNRS area showing existing core local nature sites

- 18 Sites of Special Scientific Interest
- 384 Local Wildlife Sites
- 3 National Nature Reserves
- 29 Local Nature Reserves



9. Reference pending publication

10. Habitats and species of principal importance in England - GOV.UK

Halton

Halton is characterised by the upper Mersey estuary that passes through the borough, either side of which is a legacy of heavy industrial development, leaving areas of the surrounding environment highly polluted. Despite this, extensive areas of saltmarsh and mudflat remain and provide habitat for a range of intertidal species.

Many areas of the borough are important for wildlife. Areas of Runcorn and Daresbury contain important old and ancient woodland. The Bridgewater and Manchester Ship Canal as well as Keckwick and Ditton Brook provide important waterbody habitats.

Runcorn Hill overlooking the Mersey, is the best remaining example of lowland heath in the borough and sites such as Pickerings Pasture in Widnes show how restoration of post-industrial sites can benefit both people and nature.

"The wealth of rare species and important habitats in the LCR gives me pride."
Liverpool resident

Knowsley

The **Knowsley** area is a mix of urban, farmland and woodland areas and has the greatest area of woodland cover within the LCR. Knowsley is a stronghold for ancient and long-established woodlands, particularly areas like the Knowsley Estate comprising one of the best examples of wood pasture and parkland. In the north and south of the borough the non-urban areas are mostly productive farmland with Ditton Brook and other rivers and streams flowing through the area to the Mersey.

Acornfield Plantation Local Nature Reserve in the north of the borough is one of the only remaining functional bog habitats in the LCR. To the east, this is surrounded by productive farmland underlain by peat which supports many important overwintering birds and other farmland species

Several ex industrial sites (including Pex Hill Quarry and Stadt Moers Country Park) have seen establishment of high-quality habitats including heathland, grassland and woodlands, and now stand as important areas for wildlife.

Black Darter © Mike Roberts

Barn Owl © Mike Roberts

Liverpool

The **Liverpool** area is highly urbanised, with valuable access to green spaces provided by parks, gardens, allotments and other green spaces. However, the urban environments provide many opportunities for different species and habitats and travel routes such as canal towpaths, the Liverpool loop line and Otterspool promenade provide opportunities for development of linear wildlife corridors.

The city parks are highly valued by residents, supported by local 'Friends of' Groups, and provide important habitat. Some city parks including Sefton, Princes, Otterspool and Calderstones Park are part of the Fields in Trust legal scheme which protects them from development.

The urban environments provide opportunities for species such as hedgehogs, swifts, and peregrine falcons, and the port and docklands along the River Mersey are also important for breeding terns and other seabirds. The urban nature of the landscape means brownfield sites are widespread and support various rare and declining species of plants.

Sefton

The **Sefton** borough is most famous for its coastline. This dune system is the largest continuous sand dune system in England and is sculpted by three estuaries - the Mersey, Alt and Ribble. Habitats found along the Sefton coast include coastal grazing marsh, saltmarsh, sand dune and lowland heathland, notably at Freshfield, and pine woodlands at Formby. These habitats support a range of iconic species including natterjack toad, sand lizard, red squirrel and numerous coastal plants.

Away from the Coast, Rimrose Valley provides a valued green space for south Sefton and the Leeds to Liverpool Canal is an important blue corridor that extends through the borough from the Waterfront. Lunt Meadows is a successful example of how river and floodplain habitats can be restored and is one of the best locations in the LCR for water vole, bittern, owls and raptors.

The River Alt corridor and low-lying farmland is a key feature of the hinterlands flowing from Knowsley through to Hightown and Altmouth. Otter are known to be recolonising the river and other wetland watercourses across the Region.

"It is our duty to value and treasure the natural assets we have and make right on mistakes from our past."
St Helens resident

"We must reverse the downward trend in biodiversity as soon as we can."
Sefton resident

St Helens

The **St Helens** borough is a mosaic of farmland and scattered urban centres. This area is a historical hub of industrial works in the region, and many ex-mining sites have been positively restored to create spaces for people and nature. Bold Forest Park is a network of collieries that have been transformed into mosaics of wetlands, grasslands and woodlands by the Local Authority and partner nature conservation groups.

The north of area is characterised by wetlands, peat soils and farmland, supporting large populations of over-wintering pink-footed geese and many other migrating birds. Some fragments of lowland peat bog remain, including Holiday Moss that is currently being restored by Lancashire Wildlife Trust. These habitats provide homes to Willow Tit, a rare and declining bird.

Whilst many of the important nature sites have been reclaimed from industry, there are some long-standing habitats that have remained unchanged for potentially hundreds of years. St Helens contains one of only two non-coastal Sites of Special Scientific Interest (SSSI) grassland sites in the region, Stanley Bank Meadow (the other being Meols Meadows in Wirral). Much of the region's larger ancient woodlands are found in St Helens, including Goyt Hey Wood, Stanley Bank woodland and Rough Hey, which are strongholds for rare species of woodland plants.

Wirral

The **Wirral** Peninsula is formed between the Mersey and the Dee Estuaries. The landscape is characterised by the urban area on the east and more rural areas on the west comprising former large country estates, farmland, natural coastlines and wooded sandstone ridges cut by deep clough valleys supporting ancient woodland. Much of the habitats found on the Wirral are of national importance and have been designated as SSSI sites including Thurstaston Common, Heswall Dales, Dee Cliffs, and Dibbinsdale.

Wirral holds many important grassland sites, including Meols Meadows SSSI. Other important grasslands in the area include more recently created sites including New Ferry Butterfly Park, Wirral Country Park, and Port Sunlight River Park. All these sites are hugely important for a range of fungi, plants and invertebrates.

Coastal areas of the region hold several important habitats including salt marsh, mud flats and sand dunes. These habitats are nationally and internationally designated for their rare habitats and species. Sites such as Red Rocks SSSI holds a population of natterjack toads that successfully colonised the area after a re-introduction in 1996. To the south of Red Rocks, lies Hilbre Island, a small island that has been used for biological research for many decades and hosts the region's only population of grey seals.

4.1 Pressures on nature

The natural environment across the region has suffered from a history of habitat loss and pollution, with habitats and species following a broad 50-year decline. Since 1970, 36 priority species of plants and animals have not been seen in the LCR and could be considered locally extinct, with a further 34 species not seen since 1989[11].

Human activity such as land use changes, urbanisation, recreation and pollution have significantly impacted our natural environment. Land in the LCR is limited, and prioritisation of the natural environment has suffered beside competing requirements such as housing need, infrastructure, commercial expansion and agricultural demand. Air quality and water quality suffer in urban centres and rural areas alike, with transport emissions, litter and microplastics, run-off from roads and agricultural areas and utilities stretched beyond capacity causing pollution of the natural environment.

We have seen an approximate 5% loss of all terrestrial habitats across the LCR since the 1980s, including a 10% loss of our most wildlife-rich grasslands[11]. Heath and bog habitats are fragmented, wetlands in poor condition and our rivers are heavily modified, with less than 1% of river habitat in good ecological status. However, the Mersey Estuary has seen significant improvement through the Mersey Basin Campaign clean-up programme, highlighting our ability to reverse historic damage.

Lowland raised bog, an important carbon store, is critically rare in the region and heavily degraded, making up just 0.02% of all recorded habitat in the LCR[11]. Farmland species have declined by approximately 25% and local extinctions have occurred[11]. Gaps in the decades-old habitat maps mean these losses are often underestimates.

Historic felling of ancient and long-established woodland has been damaging, and although woodland cover in the LCR has increased by 12% since 2001[11], owed largely to the dedicated work of The Mersey Forest who have planted almost 5.5 million trees in region since 1990, newly planted woodland areas will take decades to mature into a thriving woodland ecosystem. Many existing woodlands remain degraded and unmanaged, with 58% of woodland in the LCR since 1990 not meeting the Forestry Commission criteria for sustainable woodland management[12].

Widespread habitat loss has left our wildlife-rich designated sites unevenly distributed across the region, meaning habitat connectivity and species networks are fragmented. Additionally, designated sites are increasingly in unfavourable condition, negatively affected by lack of management or inappropriate management, scrub encroachment, invasive species (particularly Himalayan balsam, Japanese knotweed and rhododendron) and recreational disturbance. Only 25% of our local wildlife sites and 37% of our SSSIs are in favourable condition[11].

Climate change is driving changes to habitats and species range, meaning some species may be forced out of the region, while new arrivals are moving in, along with new pests and diseases. As a coastal region predicted to face sea level rise of up to 1m[13], climate change coupled with habitat loss, increasingly threatens species survival and increases our vulnerability to extreme weather events.

Land management

Climate change

Recreational activity

Pollution

Urbanisation

Invasive species

11. State of Nature Report for the Liverpool City Region

12. Forestry-Commission-Key-Performance-Indicators-Report-2023-24

13. UKCP18 Factsheet:_Sea-level_rise and storm surge

4.2 Opportunities for nature recovery

Despite the challenges that our natural environment is facing, the LCR is fortunate to have commitment from many organisations, community groups and individuals who are already undertaking vital work to support nature recovery. Our long-standing partnerships, unrivalled local expertise and innovative ambition provide great potential to collaboratively deliver nature recovery across the region, working towards the shared goals of the LNRS.

As well as identifying opportunities for nature, the LNRS also targets wider environmental benefits, also known as ecosystem services, such as access to nature, flood management and air quality. Highlighting opportunities for nature recovery that also provide benefits for local communities offers an opportunity to engage local people, educate on the importance of the natural environment and harness support. It can help to attract funding from stakeholders who may not be primarily seeking to fund nature and can unlock local 'nature markets': the buying and selling of ecosystem services e.g. carbon credits and biodiversity units.

Our designated sites provide a great opportunity to enhance areas that are already protected for nature. These spaces can be better managed to provide a range of environmental benefits and encourage community engagement with nature through positive actions for wildlife. Buffer zones can be created around these sites to increase resilience and mitigate external pressures and corridors can be created between sites to increase connectivity. By reconnecting our natural assets, we can give wildlife the opportunity to recover and thrive.

Rising average global temperatures, due to climate change, are causing some species to move further north. Species that were previously rare occurrences, are arriving into the area and establishing populations here. This provides us an opportunity to provide alternative habitat locations for these new species in order to avoid extinctions.

Red Squirrel © Peter Muldoon

"A green region is a more biodiverse, healthier, economically more prosperous region."
Knowsley Resident

"Nature can help regenerate the area and improve people's physical and mental wellbeing."
Liverpool Resident

In our **urban** areas there is potential to create well-connected, species-rich grasslands, to maximise green and blue infrastructure and to integrate nature into urban design. Residents of the LCR have expressed a strong desire for more urban green spaces and to be involved in nature recovery at a local level. Community involvement should be encouraged, through action in private gardens, transformation and creation of community spaces and participation in nature projects.

Management of ancient and long-established **woodlands** must be improved to restore these sensitive habitats to good condition and to provide space for important species. This management should also extend to more recent woodland, including commercial plantations. Over half the woodland in the LCR is not under sustainable management, and a move towards this through application of the UK Forestry Standard will both increase the productivity of commercial woodlands and increase the biodiversity of these woodlands. New woodlands should be created with species that reflect locally native woodland habitat types and design should follow the "right tree, right place" approach.

Community engagement © Our Dee Estuary

Enhancement of our **farmland** landscape should promote both sustainable, productive farming, and an increase in farmland habitats for wildlife. We must work alongside farmers to encourage participation in environmental schemes, increase collaboration with environmental organisations and create networks of farmers interested in nature-friendly land management.

The **wetland** networks of the region provide many opportunities for habitat creation, enhancement and naturalisation. Our rivers, canals and ponds provide opportunities to create nature corridors through areas that would otherwise be barriers to species movement, and reconnection of our natural floodplains can improve water quality and reduce the risk of flooding. Our wetland habitat networks can create stepping stones stretching across the region, providing refuges for rare and endangered wildlife.

Along the **coast and estuaries**, we can work with nature to provide vital refuges for our rarest habitats and species whilst improving the resilience of our natural coastal defence to sea level rise. Education on the importance of our coastal habitats and their wider benefits will be crucial to encourage people to think about their impact when visiting these much-loved locations.

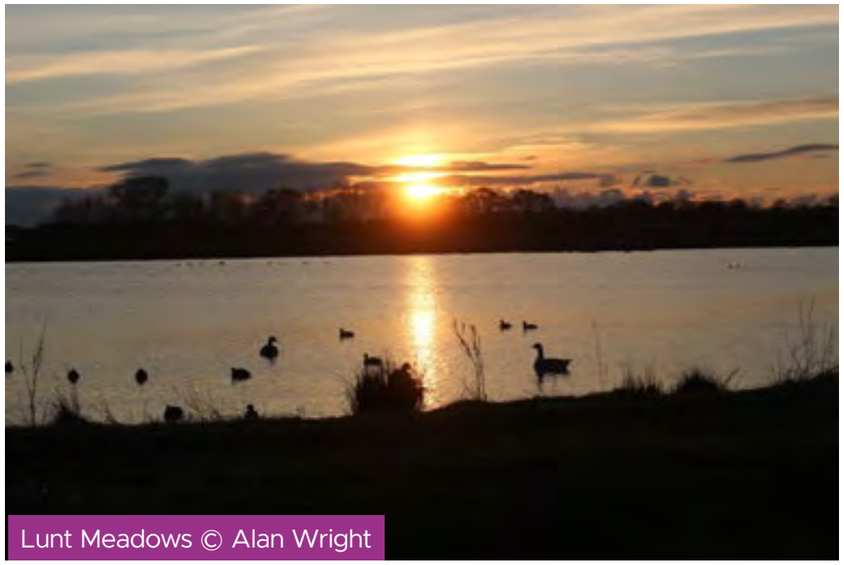
Enhancement and creation of habitats across the region provides an opportunity to contribute to the national environmental targets set out in the Environment Act (2021) and Environmental Improvement Plan, supporting nature recovery at both a regional and national scale.

We can work with nature to provide vital refuges for our rarest habitats and species

5. What's already being done?

For decades, conservation organisations and volunteer groups have been working to protect the natural environment across the LCR. In recent years, support has widened to include participation from the private and public sector, and collaboration is growing. Innovative, collaborative and award-winning projects within the region are at the forefront of nature recovery.

Lunt Meadows Nature Reserve and Flood Storage Reservoir



Lunt Meadows © Alan Wright

Owned by the Environment Agency and managed by Lancashire Wildlife Trust, Lunt Meadows is the largest wetland in Merseyside, home to several rare species such as water vole, bittern and marsh harrier, and yet only 12 years ago it was intensive arable farmland. Its 67 hectares of reedbed, open water and wet grassland are designed to double as a nature reserve and flood storage reservoir, providing refuge for wildlife, protecting communities along the river Alt from flooding and alleviating water pollution.

Dynamic Dunescapes

V-shaped notch, Ainsdale
© Natural England

Dune heath restoration
© Natural England

Dynamic Dunescapes was a partnership project restoring sand dunes across England and Wales for the benefit of wildlife, people and communities, funded by the National Lottery Heritage Fund and the EU LIFE Programme (2019-2024). Project partners were Natural England, Plantlife, National Trust, Natural Resources Wales, Cornwall Wildlife Trust, Lincolnshire Wildlife Trust and Cumbria Wildlife Trust. The project was based across nine key dune areas, including the Sefton Coast.

Healthy sand dunes need to be free to move and be dynamic. Over many decades, sand dunes, the most threatened habitat in Europe, have become overgrown with vegetation and stabilised, negatively affecting many of our protected dune wildlife that need areas of open sand to thrive.

The Dynamic Dunescapes project has brought life back to the dunes by creating areas of open sand, removing scrub and controlling invasive species to improve conditions for some of our rarest dune specialist species to flourish. On the Sefton coast, interventions such as the creation of v-shaped notches, restoration of dune slacks and dune heath and invasive species removal, supported by a community engagement programme, are helping to support sand lizard, natterjack toad, invertebrates and pioneer plants, and are restoring natural dynamic dune processes.

© Scouse Flowerhouse

© Mark Loudon for National Wildflower Centre

Leading the way for wildflowers

The UK has lost 97% of its wildflower habitats since WWII[14], but in Liverpool there are now more council wards with wildflower meadows than anywhere else in the UK[15] .

This is thanks to the work of Scouse Flowerhouse, a Community Benefit Society working to co-create an urban mosaic of wildflower habitat across the LCR in partnership with local communities and a wide range of social, environmental, local authority and education partners. Scouse Flowerhouse stems from a strong cultural history of ecological restoration, which started on Lark Lane in 1975 when Landlife was established, and then founded National Wildflower Centre in Knowsley, now homed with the Eden Project.

Contributing to circular economy, National Wildflower Centre harvests seed from sites in and around Liverpool and distributes to local community groups and schools via Scouse Flowerhouse.

Notable projects include: Everton Park which won Kew's Grow Wild England Flagship (2014); Calderstones Nature Reserve which transformed a derelict greenhouse compound into a depot for nature; Lunt Meadows where Landlife pioneered the first soil inversion in the UK; and Regenerus 'Head North For Beauty' which created a mosaic of meadows sown by local children and residents with support from the LCR Community Environment Fund.

Natterjack Fence © Our Dee Estuary

Our Dee Estuary

Our Dee Estuary is a cross-border partnership project led by Cheshire Wildlife Trust, on behalf of the Tidal Dee Catchment Partnership set up to tackle the intertwining and wide-ranging threats to the Dee Estuary. It aims to create a nature-based sense of place around the Estuary, inspiring coastal communities on the Wirral and in Flintshire and Denbighshire to take stewardship of, and effectively conserve and safeguard the important wildlife of the Dee Estuary. Work with local communities, estuary users, visitors and other partners ensures natural heritage is better managed, better recorded, better interpreted and in better condition.

© Philip Smith

Sea Buckthorn control Birkdale dunes

Each autumn/winter since 2012, a volunteer group known as the 'Buckthorn Bashers' has worked to control invasive and highly damaging Sea Buckthorn in the sand-dunes at Birkdale Dunes. 3,100 volunteer hours have been worked since 2014, in weekly 2-hour 'bashes' from October to March, protecting this rare habitat.

14. State of Nature Report 2019

15. Liverpool City Region Combined Authority: Community Environment project is blooming great!

© Mersey Forest

© STRI Group

URBAN GreenUP, Liverpool

An EU funded Horizon 2020 project managed by Liverpool City Council in partnership with The Mersey Forest and University of Liverpool, retrofitted nature-based solutions into urban areas and monitored them for environmental, social, and economic benefits. It has been internationally and nationally recognised with 12 awards for excellence in biodiversity, climate resilience, innovation, planning, place making, community engagement and social outcomes. Schemes include:

- Biodiverse, chemical-free and low maintenance pollinator planting on the Strand using sustainable techniques, reclaimed materials, and organically sourced plants, resulted in an 802% pollinator count increase and stored 4.6 tonnes of carbon. This project won the Landscape Institute Award 2023 for Excellence in Biodiversity, Conservation and Enhancement and the CIRIA Big Biodiversity Challenge 2024.
- A floating freshwater ecosystem island installed in Sefton Park Lake provides valuable habitat, improves water quality and reduces summer blue-green algae.
- A hydroponic-based living green wall on St John's Shopping Centre, irrigated by rainwater from the roof, resulted in an overall 15% positive improvement in air quality, a 21% pollinator increase and temperature reduction of up to 3°C in the vicinity of the wall.
- An urban raingarden comprising three linked planting beds which collectively decrease water flow and volume to drains reducing likelihood of surface water flooding, whilst improving water quality, air quality, biodiversity, street appearance and community engagement.

© Dr Juliet Staples, Liverpool City Council

Roby Field, Knowsley

In 2022 Knowsley Council organised for members of the community and local councillors to plant 6,500 native trees as part of a new native woodland at Roby Fields. The trees were jointly funded by The Mersey Forest Foundation and Veolia, and form part of the wider Mersey Forest. The creation of the woodland is the latest development at Roby Field which has seen a range of improvements in recent years, including new paths, the creation of a wetland area and wildflower meadow.

© Acornfield Plantation, Knowsley Council

Acornfield Plantation, Knowsley

In 2023 a habitat restoration project was undertaken by Lancashire Wildlife Trust in partnership with Knowsley Council to restore the mire on site. The project pushed invasive Rhododendron back, creating suitable growing conditions for the established carpets of Sphagnum Moss species and introduced of Common and Hare's-tail cotton grass species. Establishing a more stable water table will encourage the growth of the bog plants and slow the succession of unwanted tree regeneration/scrub.

Mersey Rivers Trust

Alt catchment NFM © Mersey Rivers Trust

Natural Flood Management, Alt Catchment

With Environment Agency funding, the Alt Catchment natural flood management (NFM) project, which runs until 2027, will implement a variety of NFM measures throughout the whole of the catchment, from leaky dams in Huyton to sand dune management at Hightown. The project, made possible through the Alt Crossens Catchment Partnership, brings together a wide range of partners including local authorities, NGOs, universities and the local record centre to work together to achieve multiple benefits at a catchment-scale. In 2023, Mersey Rivers Trust led Liverpool University Hospitals NHS Foundation Trust and Friends of Bluebell Woods on a leaky dam installation project within the Bluebell Woods of Fazakerley Brook. This NFM technique slows the flow of water into the River Alt, alleviating flooding, improving water quality and providing new habitat.

Saxon Green © Knowsley Borough Council

Headbolt Lane Biodiversity Net Gain

In 2023, before BNG became mandatory, project partners involved in the delivery of Headbolt Lane Rail Station worked with Mersey Rivers Trust and Knowsley Council to ensure that the new station provides a “net positive” biodiversity gain. It is benefiting 6 public parks in Kirkby (including Saxon Green, pictured) with biodiversity improvements including the creation of wildflower meadows, wetland and pond habitats. The project is the first of its kind in the area to trial the BNG metric.

© Wirral Council

Wirral Council Tree, Hedgerow and Woodland Strategy

In August 2020, Wirral Council adopted their new Tree, Hedgerow and Woodland Strategy, with an ambitious target to double the tree canopy cover on the Wirral by 2030. The strategy has a strong focus on community engagement to achieve the tree planting targets. Since 2020, a net total of 80,594 trees have been planted. In the 2023-24 planting season alone, 8 orchards, 5 micro-woodlands, 460m of hedgerows, and two Trees for Climate woodlands were planted across 13 community planting sessions and 5 school planting sessions, with the help of 190 volunteers.

Additionally, 70 council staff got involved in tree planting sessions as part of the Council’s volunteering opportunities. A further success of the Council’s Tree Strategy is the establishment of the Wirral Tree Warden Network, which has seen more than 100 people sign up to volunteer.


© Halton Borough Council

Woodland Planting in Halton

In 2024 Halton Borough Council updated the Halton Strategy for Halton's Trees and Woodlands which highlights how the council will enhance the tree network within Halton. With the objective of improving canopy cover in the borough, the project aims to deliver a greener Halton by planting at least one tree per person in the borough by 2030, circa 130,000 trees. At the time of writing Halton has achieved 50% of this goal.

In 2023 5000m^2 of new woodland was created at Factory Lane, a reclaimed landfill site, designed to accommodate existing walking routes and retain views from the site across the Mersey Estuary. The project, funded by the LCR Combined Authority Community Environment Fund, included a community tree planting event and is part of the council's "Big Halton Forest" initiative. Four further sites were planted in 2024, creating an additional 0.97ha of woodland and approximately 50 potential tree planting sites have been identified. Long term maintenance strategies to manage trees and woodlands are also under consideration.


© Halton Borough Council

St Michaels Eco Park, Halton

Over the past 5 years Halton Borough Council have developed a solar farm on a former golf course in Widnes to provide a renewable energy source for the borough. The project also aims to provide biodiversity benefits on the site by increasing the amount of native hedgerow, diversifying the scrub areas and extending the existing mosaic grassland. Over an acre of traditional native orchard has been planted and wildflower rich grassland has been created within the solar development and in the surrounding area, creating habitat linkages to the existing mosaic.


© St Helens Council

© Sefton Council

Green Sefton "Give Birds A Break" Campaign

Initiated by Green Sefton, the GBAB Campaign was launched in 2022 to speak to visitors to the Sefton coast, urging them not to disturb roosting or feeding wild birds. Supported by RSPB, Natural England, National Trust and Dynamic Dunescapes, in its first 2 years, 33 volunteers led 42 events and engaged with over 1500 visitors.

The "Shorebirds of the Sefton Coast" booklet was published to support the campaign, backed up by a social media campaign over high tide periods. The approach has since been adopted in Cheshire and at sites around the country.


© Sefton Council

Volunteering on the Sefton Coast

The Sefton Coast has a long tradition of volunteering. Over 2,800 hours of volunteer work were carried out on the Sefton Coast in 2023 alone, working alongside Green Sefton core staff. Regular activity includes beach cleans, litter picks, scrub removal, survey work of rare species including Natterjack Toad and Sand Lizard and monitoring of winter livestock.

New Tree Planting in St Helens

The grow back greener programme is being led by the Woodland Trust in partnership with regional trusts, including the Mersey Forest. In St Helens Borough funding was granted to plant 246 heavy standard trees and a further 8,325 smaller trees in a variety of sites across the borough. The council worked with local horticultural and community groups such as Rainford in Bloom to deliver new trees in their areas, guided by their local knowledge and goals. As part the project St Helens Council planted specific disease resistant Elm species in the Sankey Catchment as the master trees were dying off from Dutch Elm disease. This aimed to help the population of White Letter Hairstreak butterfly colonies which are under threat.

© Mersey Forest

Mersey Forest

For over 30 years, a diverse partnership of local authorities, organisations, land managers and communities, guided by The Mersey Forest Plan and a landscape-scale approach, has been working to establish, look after, and grow a culture of trees, woods, and other habitats. The Mersey Forest Plan contains the vision: “More with trees – Acting together to grow tree cover to 30% of Cheshire and Merseyside; intertwining cherished trees with enriched people, flourishing nature, climate resilience, and rekindled hope.”

The Mersey Forest spans nearly 3000 km^2 across Cheshire and Merseyside and has transformed the landscape into a vibrant mosaic of woodlands, wetlands, grasslands, and hedgerows, with interconnected habitats providing a vital refuge for diverse species.

The location and design of new trees and woodlands is guided by the “right tree, right place” principles, and considers areas of greatest need for people, nature, and climate.

A notable example of The Mersey Forest’s work is in south St Helens, where the long-term restoration of Bold Moss, formerly dominated by colliery spoil heaps, has transformed the site, significantly improving its biodiversity. This is part of the wider Bold Forest Park programme, with significant funding from Defra, Royal Mail and section 106 agreements as part of the planning system.

© LCRCA

Liverpool City Region Community Environment Fund

At the time of writing and since its launch in 2020, the Community Environment Fund has made £1.35m available to community-based projects across the LCR, with the aim of supporting communities to engage in a range of environmental activities, encourage long-term behaviour change and improve the environment in the LCR. So far, 92 projects have already been supported by the fund with grants of up to £30,000.

These projects have ranged from creation of green space, and biodiversity initiatives such as the Mulgrave Street Community Garden, to food growing initiatives, and educational experiences for young people in nature, including on beekeeping. In the 2022/2023 round of the Community Environment Fund alone, 9,492 m2 of new habitat was created, with 17,659 new plants and 4,269 trees planted. Additionally, 8,838 kg of sustainable food was produced, and 102 tonnes of food was diverted from landfill.

Common spotted orchid © Dave McAleavy

6. What do we need to do now?

The LNRS aims to join-up efforts for nature on a regional scale, ensuring that we all work to the same goals, in the best interest for nature recovery. Though a set of priorities have been established for each habitat, there are several guiding principles that we should apply across all habitat restoration, enhancement and creation:

- Apply Lawton approach of 'Bigger, Better, More and Joined-up' spaces for nature*
- Follow national regulations and best practice guidance and standards
- Align with national and local plans and policies
- Strive for habitats in good ecological condition
- Follow 'right action, right place' approach
- Optimise wider benefits and ecosystem services
- Plan for long term maintenance
- Build resilience to climate change
- Engage with stakeholders and local communities
- Support collaboration
- Apply existing knowledge and share lessons learnt

*It is important to focus on creating habitat networks that are connected at landscape scale and allow species to move freely.

6.1 Priorities and measures for nature recovery in the LCR

The LNRS establishes a set of evidence-based and locally-led priorities and measures that would best support nature recovery across the region.

Priorities are the long-term goals that the strategy is seeking to achieve. Each priority is accompanied by a set of measures. Measures are the practical actions that need to be taken to achieve the goals set out in the priorities. Some of the measures are mapped, in the accompanying local habitat map, to specific locations where they could have a particularly positive impact on local biodiversity, while some measures are unmapped as they could be carried out across large swathes of the region and their benefits felt more widely.

The priorities and measures were developed with extensive stakeholder input and the expertise of technical specialists. The approach focussed on the species that the LNRS could best support. Local species data was used to first create a longlist of species for consideration, based on conservation status and local significance. Species were then shortlisted based on the LNRS's ability to support them through targeted habitat interventions. Shortlisted species were grouped by the collective habitat interventions they require, which form the basis of the habitat priorities and measures. Each priority is intended to benefit a wide range of species and has also been considered for its ability to provide wider environmental benefits and contribution to national environmental targets.

The marine environment is beyond the scope of the LNRS and could not be included as a habitat type, however, some marine species are included where they will benefit from coastal and intertidal interventions.

Species that require additional, bespoke interventions beyond those in the habitat priorities were separated out into the species priorities found in Section 6.8.

The species longlist can be found in the supporting documents on the LNRS webpage.

Priorities

These are the end results that the strategy is seeking to achieve.

Priorities are centred around the habitats and species that the strategy will support.

Measures

These are the practical actions that we could take to achieve the priorities.

Measures are focussed on habitat creation, enhancement and restoration but can also contribute to wider environmental benefits.

Clockface Country Park, St Helens

6.2 Wetlands and Watercourses

We are a region shaped by water, with the River Dee to the south of The Wirral, the River Mersey flowing through the centre, and the River Alt in the north flowing from Huyton to Hightown, at one point forming the border between Sefton and Lancashire. All our rivers are now heavily modified in some way, with less that 1% of our river habitats in good ecological condition (compared to 14% nationally)[16].

Across the region there are many different types of wetland habitat including lakes, ponds, reedbeds, grazing marshes, wet woodland and lowland bogs. The network extends from Lunt Meadows, Rimrose Valley and Marshside in Sefton, Colliers Moss in St Helens, the more recent reed bed creation in Fazakerley, and the huge network of farmland ponds in Knowsley and Halton, to Port Sunlight River Park and coastal wetlands along Heswall on the Wirral.

Our wetland and watercourse habitats are under constant pressure from pollution, invasive species and climate change. However, with careful management, habitats can be restored and recovered for the benefit of both wildlife and people. Along with providing important homes for our wildlife, these wetland networks help prevent flooding, absorb urban, industrial and farmland run-off, and absorb carbon, playing a vital role in climate change mitigation.

Much of the region sits on top of peat soils. These soils are formed when plant material breaks down in wet environments and in the right conditions, forms a habitat know as lowland raised bog. This habitat is one the of the most effective habitats for storing carbon, but this once widespread habitat is now critically rare and heavily degraded, forming only 0.02% of habitat cover in the LCR[16]. Restoration of this habitat in partnership with farmers and landowners presents a huge opportunity for carbon storage and habitat creation.


Grey Herons © Mike Roberts


Greater diving beetle © Mike Roberts


Saxon Green © Knowsley Council

Wider environmental benefits

- Beauty and heritage
- Clean air
- Clean water
- Climate change mitigation
- Flood regulation
- Access for people
- Carbon sequestration

16. State of Nature Report for the Liverpool City Region

Port Sunlight River Park © Emma Galbraith

Our wetland networks are home to a variety of rare and declining species. Water voles, a legally protected species, have disappeared from 94%of their former sites throughout Britain[17], but are still found across LCR wetlands, rivers and farm ditch networks. Their decline is owed largely to predation by the non-native, invasive American mink that was introduced to Britain in the early 20th century.

However, work is being done across the LCR to help save this iconic species and with careful habitat creation and management, we can help recover this species in the region and across the UK. Otter populations are also recovering with otters spotted in the River Dibbin in the Wirral and Ditton Brooke in Halton and Knowsley.

Our wetland and watercourse priorities focus on what these environments need to best support a wide variety of species and habitats. Poor water quality in all these habitats can dramatically reduce invertebrate populations. Not only are some of these species rare in their own right, but they are also often the main food source for much of the wildlife found in these habitats. Restoring the natural functioning of wetlands and watercourses along with better managing our rarest wetland habitats will create more and varied spaces for threatened species, whilst simultaneously helping to reduce flood risk and store carbon.

Otter © Mike Roberts

Bittern © Mike Roberts

Wetlands are particularly important for:

- Water vole
- Otter
- Bittern
- Marsh Harrier
- Amphibians and reptiles

17. Water vole — Mammal Society

Wetlands and Watercourses

Priorities 1 – 4

1. Improved water quality and water management in our wetlands and water bodies.

Why?

To increase biodiversity, resilience to climate change and the natural beauty of our blue spaces.

How (Measures)?

1a. Creation of reedbeds, wet and riparian woodland, coastal and floodplain grazing marsh, and other wetlands to promote natural processes.

Delivered by: Removal of artificial river structures and forms, use of natural flood management methods to create habitats, and targeted habitat creation for priority species.

1b. Creation of settlement ponds, reedbeds and tree or shrub barriers in areas with high pollutants and run-off to improve water quality.

1c. Restoration of natural floodplains, reedbeds, wet and riparian woodland, coastal and floodplain grazing marsh, other wetland habitats and river morphology to promote natural processes.

Delivered by: Removal of artificial river structures and barriers, use of natural flood management methods to manage habitats, and targeted habitat creation for priority species

2. Well-connected, naturally functioning networks of wetland, pond and river habitats in good ecological condition.

Why?

To increase biodiversity and mitigate the impacts of climate change, such as flood risk, for species and communities.

How (Measures)?

1a. Creation of reedbeds, wet and riparian woodland, coastal and floodplain grazing marsh, and other wetlands to promote natural processes.

Delivered by: Removal of artificial river structures and forms, use of natural flood management methods to create habitats, and targeted habitat creation for priority species.

2a. Tree establishment along riparian corridors to provide shading, pollutant removal and to promote habitat diversity.

2b. Creation of new pond networks and associated habitats.

Delivered by: Restoration of ghost ponds and floodplain connections, creating ponds to reinforce existing networks, and creation of new pond networks with different sizes and structures

2c. Management of existing ponds as a mosaic of habitats from new ponds to late succession ponds that are transitioning to other habitats.

1c. Restoration of natural floodplains, reedbeds, wet and riparian woodland, coastal and floodplain grazing marsh, other wetland habitats and river morphology to promote natural processes.

Delivered by: Removal of artificial river structures and forms, use of natural flood management methods to manage habitats, and targeted habitat creation for priority species.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Wetlands and Watercourses
Priorities 1 – 4

3. Where appropriate, barrier-free watercourses for the benefit of riparian mammals, migratory fish and other wildlife.

Why?

To improve ecosystem quality and function, promote natural ecological and hydrological processes and reconnect aquatic habitats.

How (Measures)?

3a. Increased river and estuarine access for wildlife.

Delivered by: Weir removal where possible, improvement of existing riverine species movement infrastructure such as fish passes and ladders and creation of bypass channels.

Lunt Meadows © Mike Roberts

4. Restored lowland raised bogs, wet woodlands and fens under good management.

Why?

To mitigate climate change, store carbon, reduce flooding risk, improve water quality, and support specialist species.

How (Measures)?

In line with the Defra 'decision support framework for peatland protection and re-establishment of existing woodland on peatland'.

4a. Create hydrological and ecological buffers around core lowland raised bog and fen habitats, stabilising peatland hydrology and mitigating external pressures.

Delivered by: Creation of appropriate habitat surrounding core peatland habitats. These can include lagg fens and wet woodlands in line with the Defra Decision Support Framework for trees and peat. Appropriate interventions will be context specific, seek input from specialist experts when designing interventions.

4b. Restoration of peatland habitats.

Delivered by: Removal (with licence) of birch, appropriate drainage management, introduction and establishment of peat-forming species such as Sphagnum mosses, buffering of habitats.

4c. Management of existing woodland on peat towards a more wet woodland structure.

6.3 Coastal and Estuarine

North Wirral Coastal Country Park© Emma Galbraith

As a coastal region, much of our wildlife and history centres around these dramatic environments. Our coasts and estuaries are recognised as both nationally and internationally important for wildlife and form 66% of our designated sites network[18]. These designations protect networks of sand dunes, saltmarsh, mudflats, clay cliffs, dune grassland and other habitats which provide homes for specialist plant and animal species as well as providing important refuges for migrating and wintering birds.

Wider environmental benefits

- Flood regulation
- Clean water
- Climate change mitigation
- Access for people
- Beauty and heritage

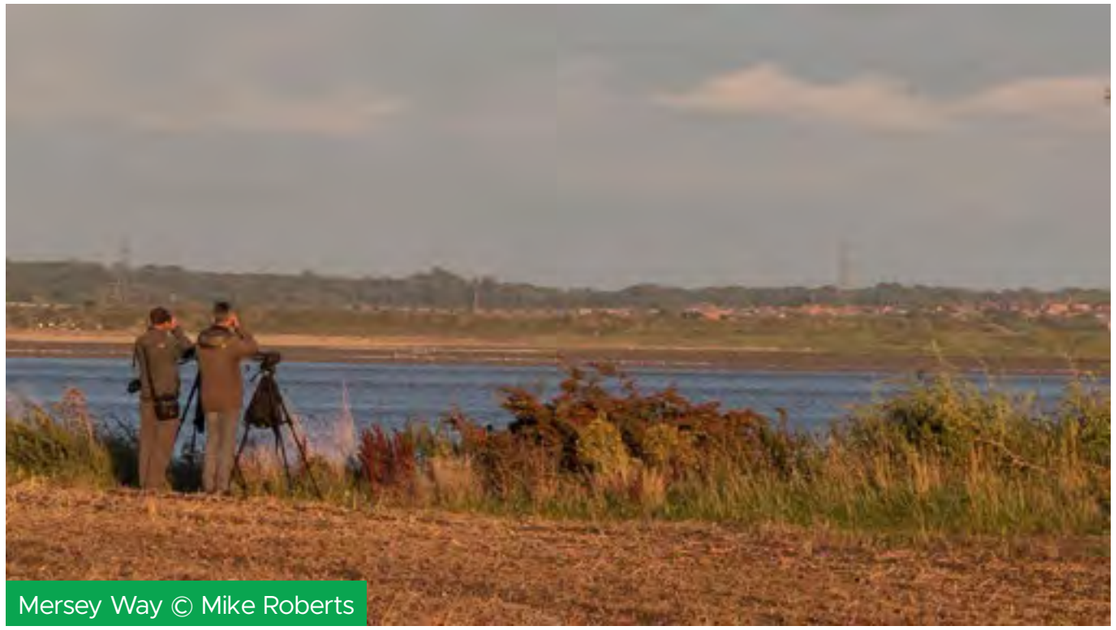
Stonechat © Ayla Thompson

The Sefton and Wirral Coastlines are internationally recognised mosaics of different habitats, with the Sefton Dune system forming the largest dune system in England. However, these sensitive habitats are at risk of being lost to overgrowth of coarse vegetation and shrub, invasive species, climate change, pollution and recreational pressure. Some species found here are only found at a few locations in the UK, such as Baltic rush and the Northern Dune Tiger Beetle, and without careful management, many of these habitats and the species they support could disappear from our coastlines.

Natterjack toad © Philip Smith

The Mersey, Alt, Ribble and Dee estuaries provide year-round habitats for many different species and are internationally recognised for their importance to global bird populations. Over winter, the estuaries support internationally important numbers of wintering birds, including shelduck, teal, northern pintail, redshank and dunlin that feed on the mudflats along the estuary. These populations need high invertebrate numbers to feed off, so good water quality is extremely important in these habitats. The estuaries also support a variety of fish species including sea lamprey and the critically endangered common eel, and marine mammals such as grey seal and harbour porpoise are regular visitors.

18. State of Nature Report for the Liverpool City Region



Mersey Way © Mike Roberts

The beauty of our coastlines attracts visitors from across the north-west and beyond, and the open spaces along our estuaries are heavily used by local people for recreation and the health and wellbeing benefits that these spaces provide. However, these environments are also vitally important for wildlife. Pressure from ever-increasing visitor numbers means some species are suffering from regular disturbance.

Migrating birds visit our coastlines in autumn and winter to feed and rest on long journeys across the world, but regular disturbance of flocks can impact their chances of survival. Many forms of disturbance affect our local wildlife, and it is everyone's collective responsibility to try and enjoy these valuable habitats in ways that benefit both people and the species we share them with.

As the LNRS is limited to the low water mark, our coastal priorities don't extend into Liverpool Bay. However, many of the priorities within this section will have positive effects on the marine environments around the LCR. This strategy recognises the need for a mosaic of habitats across these environments to maximise biodiversity, along with improvements in water quality across all habitats. The effects of recreation are felt across all coastal and estuarine habitats, and the priorities reflect a need to strike a balance between promoting sustainable visitor access and protecting the sensitive habitats and species they support.

Dunlin, Hilbre Island © Mike Roberts

Marsh Helleborine © Mike Roberts

Coasts and estuaries are particularly important for:

- Migrating birds
- Dune plants
- Natterjack toad
- Northern dune tiger beetle

Coastal and Estuarine
Priorities 5 – 9

5. Sensitively managed, interconnected and dynamic coastal habitats: promoting natural processes, varied and biodiverse habitats, and a resilient coastal landscape.

Why?

To increase biodiversity, mitigate climate change, maintain protected sites and increase habitat availability and diversity.

How (Measures)?

5a. Further creation of notches along suitable dune habitats.

5b. Safeguarding and conservation of important breeding and roosting bird populations.

Delivered by: Seasonal fencing of areas, public education campaigns.

5c. Maintenance and improvement of the mosaic of coastal habitats along the coastlines in-line with any existing SSSI management plans. Promote dynamic natural processes and opportunities for species dispersal under climate change.

5d. Co-ordinated grazing across the coast to ensure habitats are correctly managed and stocked with the appropriate levels of livestock.

6. Appropriate management of coastal and estuarine recreation.

Why?

To relieve pressure on nature and prevent erosion, while providing opportunities to connect people with nature.

How (Measures)?

In alignment with any future mitigation strategies.

5b. Safeguarding and conservation of important breeding, feeding and roosting bird populations.

Delivered by: Seasonal fencing of areas, public education campaigns.

6a. Creation and improvement of suitable alternative natural greenspaces to the coast.

6b. Implementation of disturbance mitigation measures including any set out in future local mitigation strategies.

Delivered by: installation of fencing, barriers and board walks to direct traffic away from high sensitivity areas, fencing and barriers to protect areas sensitive to disturbance including ponds, dune slacks and intertidal habitats using a zoned and seasonal approach.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Coastal and Estuarine
Priorities 5 – 9

7. Improved water quality within the marine, estuarine and intertidal areas.

Why?

To increase biodiversity and provide more accessible natural spaces for responsible recreation.

How (Measures)?

1a. Creation of reedbeds, wet woodland, coastal and floodplain grazing marsh, and other wetlands to promote natural processes.

Delivered by: Removal of artificial river structures and forms, use of natural flood management methods to create habitats, and targeted habitat creation for priority species.

1b*. Creation of settlement ponds, reedbeds and tree or shrub barriers in areas with high pollutants and run-off to improve water quality.

1c. Restoration of natural floodplains, reedbeds, wet woodland, coastal and floodplain grazing marsh, other wetland habitats and river morphology to promote natural processes.

Delivered by: Removal of artificial river structures and forms, use of natural flood management methods to manage habitats, and targeted habitat creation for priority species

8. High quality estuarine and intertidal habitats, with functionally linked land in good condition.

Why?

To improve access for migratory species incl. fish and birds, and increase protection of high tide roosting, feeding and breeding locations for estuarine birds.

How (Measures)?

8a. Expansion and creation of saltmarsh and other intertidal habitats.

Delivered by: Use of “fringe” salt marshes along edges of the estuary to allow for shelter and passage for fish, focusing on areas where “managed realignment” or “let nature take its course” is identified in the shoreline management plan.

8b. Management of salt marsh and other intertidal habitats to better reflect the natural processes and morphology.

Delivered by: Creek and other drainage management on drying salt marshes or other appropriate management.

8c. Creation of artificial habitats on hard engineering and infrastructure to create more habitat for estuarine and coastal species.

Delivered by: Vertical rock pools, textured tiles

8d. Removal of abandoned boats along coastal areas of the region.

8e. Sensitive long-term management of functionally linked land - maintaining open grassland and farmland with areas of standing water, with minimal disturbance in the winter.

8f. Allow natural regeneration of salt marsh and other important intertidal habitats where they start to develop and mitigate external pressures where they occur.

8g. Seagrass habitat restoration and reintroduction where appropriate.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Crosby beach © Emma Galbraith

Coastal and Estuarine

Priorities 5 – 9

9. Clay cliffs in good habitat condition that are allowed to follow their natural processes.

Why?

To increase biodiversity, promote natural processes and safeguard sensitive species

How (Measures)?

Ensuring compatibility with the shoreline management plan.

9a. Improved management of clay cliffs.

Delivered by: Scrub and fly-tipping removal, better control of surface water run-off at clay cliffs and allowing natural erosion where compatible with shoreline management plans

6.4 Grasslands and Heathland

Pickerings Pasture © Halton Borough Council

The LCR contains many different types of grassland, and whilst they can sometimes look similar, they form a hugely diverse network of habitats that provide a home for many rare and important species such as orchids, fungi and nesting birds. Wildflower-rich grasslands are critically important for pollinators such as bees, butterflies and hoverflies, and these vibrant meadows can transform the appearance of local areas.

Wider environmental benefits

- Climate change mitigation
- Pollination
- Soil health
- Access for people
- Beauty and heritage
- Carbon sequestration

Hornet mimic hoverfly © Mike Roberts

Large white butterfly © Mike Roberts

Since the 1980s these valuable habitats have declined by at least 10% across the LCR, and as much as 14% in Wirral[19], largely due to development pressure causing fragmentation and lack of management resulting in scrub encroachment: species-rich grasslands need to be mown one to three times a year to maintain their diversity.

There are several large, well-connected areas of species-rich grasslands within the LCR, including The Sefton Coast, Sankey Valley and Bold Forest Park. These grasslands provide strongholds for rare and endangered plants, animals and fungi. Other smaller, but equally important grasslands such as Pickering's Pasture in Halton and Childwall Fields in Liverpool are more fragmented within urban and farmland environments. However, these smaller, isolated sites could be linked by planting wildflowers in gardens, public spaces, roadside verges and along active travel routes, where appropriate.

Amenity grassland (open grassland used by the public for recreation) in parks and other open spaces, often people's only access to nature, is typically not very biodiverse. However, along with serving as important spaces for recreation and relaxation, these spaces can also be used to support biodiversity and to connect fragmented habitats. Community involvement in wildflower planting can help local people to understand the importance of making spaces for wildlife while also adding natural beauty to the local area.

Grasslands are particularly important for:

- Waxcap fungi
- Pollinators
- Orchids
- Ground nesting birds

19. State of Nature Report for the Liverpool City Region

Thurstaston Common © Ayla Thompson

The UK holds around 20% of Europe's heathland[20]. Heathlands are home to many specialist insects and ground-nesting birds and also provide resilience to climate change. They absorb and store large amounts of carbon and their dense plant growth can regulate water flow, helping to reduce flooding during heavy rainfall.

The LCR has a small but important number of Heathland sites including Bidston Hill and Thurstaston Common on The Wirral, Cressington Heath in Liverpool, Freshfield Dune Heath in Sefton, and Runcorn Hill Heath. Whilst recent local heathland loss has been limited, the heathland we do have is highly fragmented and by far the rarest broad habitat type in the LCR[21]. All of our heathland is degraded to some extent by scrub encroachment and at risk of further damage if not properly managed.

Species such as poppies and cornflowers are found in disturbed ground such as farmland, and don't naturally occur in grasslands, but are often included in "wildflower" seed mixes because of their attractive coloured flowers. Whilst these commercial mixes can make attractive displays in public parks and gardens, they do not reflect the native grasslands found in our area. To create and restore important grassland and heathland habitats, native, locally sourced plant seeds that are reflective of the mix of grassland species found in natural forms of the habitat should be used.

The LCR priorities for grassland recognise the need for both more appropriate, and increased management of species-rich grasslands and heathlands to maintain their diversity. Across the region it is also important to create new grasslands to buffer and connect existing habitats and improve our grassland network. Within urban environments species-rich grasslands could be managed and created along travel routes such as cycle paths and towpaths, as well as in parks and gardens. To support these aims, more sources of locally native grassland seed should be found and created.

Heathlands are particularly important for:

- Heather
- Reptiles
- Cuckoo
- Nightjar

20. Lowland Heathland habitat descriptions: UK Terrestrial & Freshwater Habitat Types

21. State of Nature Report for the Liverpool City Region

Grasslands and Heathland
Priorities 10 – 13

10. Existing species-rich grasslands in good habitat condition.

Why?

To benefit biodiversity, especially grassland invertebrates, and to promote pollination and seed dispersal.

How (Measures)?

10a. Species-rich grasslands managed to increase species diversity.

Delivered by: Cutting grass 1-3 times per year and ensuring grass cuttings are removed from site, reintroduction of low-level grazing on grassland sites, management of neglected grasslands to restore them to good condition including turf stripping and scrub removal.

10b. Areas with high numbers of waxcap fungi targeted for grassland management including cut and collect.

10c. Reduction in grazing intensity on grasslands and hay meadows where possible.

11. Creation of new, well-connected grassland networks.

Why?

To support pollinators and grassland invertebrates, provide people with access to nature, provide natural beauty and to buffer species-rich sites.

How (Measures)?

11a. Creation of new grasslands across the region.

Delivered by: Targeting infertile soils and substrates for grassland and heath creation with a recognition of importance of soil type and structure within grasslands, creation of permanent grasslands for carbon capture using biochar and other novel systems, targeting creation to connect existing grassland, creating wet grassland on seasonally inundated & wet impermeable soils.

11b. Use of roadside verges, railways and other linear infrastructure to connect areas of biodiversity, and aid movement of key species.

Delivered by: Reduction in mowing to once or twice a year and collecting cuttings, and re-seeding areas with local, native species to increase grassland diversity

11c. Creation and management of grassland in urban areas in partnership with local communities and schools.

Delivered by: Pocket parks, parklets, local group creation and participation, promotion of wildlife friendly gardens and no mow May.

Indicates that this measure is not mapped.

Grasslands and Heathland
Priorities 10 – 13

12. Greater use of native and local wildflowers in habitat restoration and urban regeneration projects, using local provenance seeds and plants.

Why?

To increase native biodiversity, support pollinating insects, enhance aesthetic value and connect people to nature in urban environments.

How (Measures)?

12a. Increased use of local, native seed sources in new grassland creation.

Delivered by:
Increased cut and collect management of well-established local meadows to provide local sources of green hay. Increased availability of cut and collect and seed drying facilities to provide local, native seed

13. Restored, buffered, and interconnected heathland sites under good management.

Why?

To increase biodiversity, increase resilience to climate change and other external pressures and provide access to nature for people.

How (Measures)?

13a. Buffering and expansion of existing heathland and targeting of infertile soils and substrates for new grassland and heath creation to connect sites.

13b. Improved heathland management.

Delivered by: Restoring low-level grazing, scrub and leaf litter removal, targeted tree management (with license), climate resilience management such as the use of fire breaks, removal and mitigation of nutrient pollution, drainage management as appropriate, buffer zone creation.

Indicates that this measure is not mapped.

6.5 Woodlands and Trees

The LCR is home to a range of different woodlands that support many different threatened and declining species, such as lesser spotted woodpecker, red squirrel and many different bat species such as soprano pipistrelle, noctule and brown long-eared. While all other terrestrial habitat types have suffered declines across the region, woodland cover has increased by 12% since 2000[22]. However, long term management remains a challenge. Only 41% of all woodland in the LCR is being sustainably managed to a standard for biodiversity which complies with or exceeds the UK Forestry Standard[23]. This means that 59% of woodland could benefit from implementing sustainable management practices, including biodiversity positive action.

Our ancient woodlands and parkland have existed since at least 1600, with many likely much older than this. Whilst wholesale losses since 1900 have been low due to the protection this habitat is already given, the ancient woodlands within our region are highly fragmented. The most significant remnant areas are found in Dibbinsdale, the Sankey Valley, and pockets in south Liverpool and Runcorn. These woodlands support many important species such as bluebell, wild garlic and wood anemone. Ancient woodlands require careful management to maintain the mix of micro habitats found within them: many ancient woodland plants are slow spreading and sensitive to disturbance. Management of these sites often presents logistical challenge, due to location and this can diminish the desire of owners to actively manage these sites for economic reasons.

Ancient and veteran trees across the region provide homes for many different birds, insects and mammals. These trees and their successors need careful conservation to keep them healthy and thriving for many more hundreds of years. Calderstones Park in Liverpool is home to “The Allerton Oak”, an oak tree with a circumference of 7.5 meters, thought to be 550-700 years old.

Wider environmental benefits

- Flood regulation
- Climate change mitigation
- Clean air
- Clean water
- Access for people
- Beauty and heritage
- Soil Health
- Carbon sequestration

22. State of Nature Report for the Liverpool City Region

23. Forestry-Commission-Key-Performance-Indicators-Report-2023-24

© Dave McAleavy

Long-eared owl © Mike Roberts

Fly agaric, St Helens © Dave McAleavy

Most woodland in the LCR has been established more recently and is mainly broadleaved. If more of these woodlands can be brought into sustainable management, more wildlife and a range of environmental benefits could be delivered. Woodlands should be thinned regularly to create structural diversity and so that the remaining trees can spread their canopies; this applies to all woodlands, whether planted for wildlife, recreation or timber. Management methods may vary but selective systems, such as continuous cover forestry, will usually create the greatest diversity for wildlife. Continuous cover forestry encourages structural and species diversity by promoting natural regeneration and can improve resilience to the impacts of climate change, pests and diseases. Woodlands are highly valued by residents of the LCR, and access to public woodlands should be facilitated where appropriate.

Along with our older trees, we have many tree-lined avenues and individual street trees in our urban areas. These street trees can help keep our cities and parks cooler in increasing global temperatures and provide valuable habitat corridors for many different species. Trees absorb carbon dioxide and pollutants from the air, improving air quality, mitigating climate change and creating healthier places for people to live and work. Street trees can also help to reduce the likelihood of flooding by soaking up rainwater and slowing the flow.

Whilst we must conserve the woodland we already have, much of our historic woodland has been lost to changes in land use. Restoring historic woodland sites, where possible, along with planting new areas in suitable locations can help connect fragmented existing woodland, provide new habitat for woodland species and contribute to the national target to increase woodland cover from 14.5% to 16.5% by 2050. The woodland priorities show the importance of both preserving and creating habitat. Whilst it's easy to think that simply planting more trees is the answer, the need for long-term consistent management across all types of woodland is vital for woodland survival function.

Woodlands are particularly important for:

- Bluebells
- Wild garlic
- Bats
- Lesser spotted woodpecker
- Red squirrel

Woodlands and Trees
Priorities 14 – 16

14. Tree and woodland management to promote age, species and structural diversity.

Why?

To increase resilience, capture carbon, increase biodiversity, improve air and water quality and provide people with access to nature.

How (Measures)?

14a. Management of planted and younger woodland for wildlife.

Delivered by: adopting sustainable woodland management in line with the UK Forestry Standard, leaving and creating standing dead wood and scrub, pest control, appropriate installation of bird and bat boxes and artificial veteranisation of younger trees.

15. Creation of climate, pest and disease resilient scrub and mixed woodland following the "right tree, right place" approach.

Why?

To restore lost woodlands, connect habitats, increase resilience and provide benefits for people, nature and the climate.

How (Measures)?

2a. Tree establishment along riparian corridors to provide shading, pollutant removal and to promote habitat diversity, following the 'right tree right place' approach.

15a. Creation of new woodlands and scrub through planting and natural regeneration.

Delivered by: Planting climate resilient, ideally native tree species, planting of scrub blocks for willow tit around new woodlands, invasive species control to improve woodland establishment, targeting historically wooded areas for new woodland creation with reference to the Mersey Forest Plan.

15b. Planting of woodland mosaics incorporating other habitats into woodland design including wetlands, grasslands and wood pasture/parkland.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Woodlands and Trees
Priorities 14 – 16

16. A network of well-connected and protected ancient, long-established woodlands and veteran trees under favourable management, buffered through natural regeneration and appropriate planting.

Why?

To increase resilience, capture carbon, increase biodiversity, improve air and water quality and provide people with access to nature.

How (Measures)?

16a. Buffered and connected ancient woodland and veteran trees.

Delivered by: Natural regeneration and planting around existing woodlands, connecting of woodlands through hedgerows, hedgerow trees and other suitable corridors.

16b. Maintaining the natural structure and function of woodlands through suitable management practices.

Delivered by: Thinning, coppicing, restocking, creation of rides, retention of deadwood, invasive species control and management of recreational pressure.

16c. Conservation of wood-pasture and parkland.

Delivered by: Grazing, conservation of veteran trees, identification and conservation of "successor" native trees, or planting of such trees and other management where necessary and appropriate

16d. Restoration of Planted Ancient Woodlands.

Delivered by: Gradual restoring of remaining native woodland through native regeneration or replacement of non-natives with a woodland mix representative of local native woodlands. Other suitable management with reference to the "Managing Ancient and Native Woodland in England" guidance set out by Forestry Commission.

16e. Management of recreational pressure.

Delivered by: Creation of specific footpaths, fenced off areas, interpretation and signage.

Indicates that this measure is not mapped.


© Sustrans


Lesser spotted woodpecker © Mike Roberts

6.6 Urban

Everton Park © Scouse Flowerhouse

The LCR's industrial history has both intentionally and inadvertently created spaces for nature amongst the urban landscape. Whilst you may not traditionally think of urban areas as hotspots for wildlife, nature is highly adaptable, and many species are thriving in these environments. Our tall high-rise buildings have become home to peregrine falcons and swifts, swallows and house martins are today almost entirely reliant on houses, barns and other buildings to build their distinctive cup-shaped nest sites. Historic industrial works such as coal and sand mining sites have been colonised by a huge variety of plant and animal species, resulting from the low nutrient soils and sediments brought to the surface which provide important habitats.

Wider environmental benefits

- Climate change mitigation
- Clean air
- Clean water
- Access for people
- Beauty and heritage
- Flood regulation
- Carbon sequestration

Peregrine falcon © Mike Roberts

Swallow © Mike Roberts

Our public parks and greenspaces were created for people, but also provide vital habitat for local wildlife. Parks, allotments, other urban green spaces and linear corridors (cycle paths, roads, canals) can function as both refuges for wildlife in urban areas and serve to connect more isolated sites to allow wildlife to move more freely throughout the region. Work is being done already to create pollinator corridors across the region and community-based urban-greening projects are working to connect people with nature.

Whilst brownfield sites are prioritised for development by the National Planning Policy Framework, some built sites that have fallen into disuse are becoming reclaimed by nature. These sites provide a mosaic of different micro habitats that are important homes to a variety of insects and plants: some of which, for example slender thistle, are very rare within the region and almost entirely restricted to brownfield sites. Where it is possible to do so, retention of these sites would maintain valuable habitat, and with careful design and appropriate management, they can also function as open spaces for people.

The urban environment is particularly important for:

- Bats
- Hedgehog
- Swifts, Swallows, House martin
- Peregrine falcon

URBAN GreenUP © Nick Harrison

Walled garden Croxteth Park © Samantha Cooper

Starling © Mike Roberts

Hedgehog © Jyan Dutton

Nature-based solutions can be used in urban areas to address some of the challenges we face, such as flooding and air pollution, while simultaneously providing health and wellbeing and biodiversity benefits. Liverpool City Council's award-winning URBAN GreenUP project has shown the vast environmental, social and economic benefits that nature-based solutions can provide in the urban environment.

Community engagement and individual action is also vital to urban nature recovery. Lots of small actions in gardens, balconies, windowsills and community spaces can collectively have a big impact, providing refuge for wildlife and increasing connectivity across the region. Everyone can do something to support nature.

The priorities set out in this section focus both on the need for landscape-scale networks and changes to modern urban design as well as the importance of local community action. Many of the priorities and measures are applicable across the entirety of our urban areas, rather than targeted to specific locations, and as such were not able to be mapped. However, this should not discourage local communities from creating spaces for nature: the unmapped measures provide overarching aspiration and guidance for the urban environment.

Many of our urban areas already provide important opportunities for wildlife to co-exist with humans and with careful planning, design and appropriate management, future urban spaces can function as important habitats.

?

Find out how you can help nature to recover in section 8.

Urban
Priorities 17 – 21

17. More high quality and interconnected green and blue infrastructure in urban areas designed in collaboration with communities.

Why?

To improve aesthetic value, reduce the impacts of climate change and maximise access to nature and the wealth of health and wellbeing benefits it provides.

How (Measures)?

11b. Use of roadside verges, railways and other linear infrastructure to connect areas of biodiversity, and aid movement of key species.

Delivered by: Reduction in mowing to once or twice a year and collecting cuttings, and re-seeding areas with local, native species to increase grassland diversity

17a. Wildlife-friendly management of existing blue infrastructure such as SUDS and canals.

Delivered by: Removal of invasive species, planting native plants, ensuring water supply is correctly managed.

17b. Creation of blue infrastructure such as SUDS, ponds, canals and urban river restoration to mitigate pollution.

17c. Planting of climate resilient urban woodland and street trees that provide shade and sources of food for wildlife (ideally locally sourced, native trees such as rowan, hawthorn, crab apple).

17d. Creation of wildlife rich-spaces in towns, cities and villages.

Delivered by: Native wildflower meadows, making space for water, orchards and mini woodlands in community spaces and gardens, allotment creation and installation of wildlife boxes.)

18. Nature at the heart of urban design and planning, delivering Net Gain for biodiversity on or close to development sites.

Why?

To promote nature recovery locally and maximise the wider benefits that it provides for our health, wellbeing and prosperity.

How (Measures)?

17a. Wildlife-friendly management of existing blue infrastructure such as SUDS and canals.

Delivered by: Removal of invasive species, planting native plants.

18a. Installation of biodiversity enhancements in new developments.

Delivered by: Installation of bat and nest boxes for swifts, martins and swallows into new buildings, creation of 'hedgehog highways' through gardens and parks, dark corridors for bats using sensitive lighting methods, bug hotels, use of green and brown roofs and walls. Wildlife-friendly planting of trees, shrubs and herbaceous material.

17b. Creation of blue infrastructure such as SUDS, ponds, canals and urban river restoration to mitigate pollution.

Sankey Canal, St Helens © Archie McCluskey

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Urban
Priorities 17 – 21

19. A network of well-managed, valued and interconnected open mosaic habitats on brownfield land, where appropriate.

Why?

To support for the rare species found in these habitats and provide open spaces for people to enjoy.

How (Measures)?

In alignment with agreed urban regeneration priorities in local plans.

19a. Creation of new open mosaic habitat sites on brownfield to connect existing habitats.

Delivered by: landscaping and using novel techniques to create 'aesthetic' brownfield, scheme of public education to increase awareness of the importance of brownfield sites.

19b. Management and retention of brownfield and open mosaic sites in line with local plan policy.

Delivered by: Scrub removal, turf stripping and other appropriate management, landscaping to create 'aesthetic' brownfield, scheme of public education to increase awareness of the importance of brownfield sites, maintaining important habitats on mature brownfield sites.

20. A region-wide co-ordinated network of functional nature corridors and greenways for urban wildlife.

Why?

To support urban biodiversity, enhance public spaces and encourage community action.

How (Measures)?

17c. Planting of climate resilient urban woodland and street trees that provide shade and sources of food for wildlife (ideally locally sourced, native trees such as rowan, hawthorn, crab apple).

17d. Creation of wildlife-rich spaces in towns, cities and villages.

Delivered by: Native wildflower meadows, making space for water, orchards and mini woodlands in community spaces and gardens, allotment creation and installation of wildlife boxes.

20a. Greening of active travel routes such as cycle paths, canal footpaths etc.

Delivered by: Re-seeding and over-seeding of grasslands, cut and collect and reduced mowing, invasive species control, tree and scrub planting, wetland and pond creation

20b. Joined-up, co-ordinated community engagement projects within streets and neighbourhoods to create corridors and spaces for nature.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Urban
Priorities 17 – 21

21. Increased use of ex-industrial sites such as collieries, where appropriate, as areas for habitat creation and nature conservation.

Why?

To improve public access to nature and support unique biodiversity.

How (Measures)?

In alignment with local plans.

21a. Increase diversity of mosaic habitats on ex-industrial sites for wildlife.

Delivered by: By turf stripping, removing scrub, exposing substrate, scrape creation

21b. Management of nutrient poor grassland areas within ex-industrial sites to increase diversity

Delivered by: Cut and collect mowing, scrub removal

Hare's foot inkcap mushroom © Mike Roberts

Painted lady © Mike Roberts

6.7 Farmland

Farmland, Hale © Mike Roberts

Whilst often thought of as an urban region, approximately 26% of the strategy area is composed of farmland. Much of the LCR's arable land is of extremely high quality, and therefore vital for food production. However, the intensification in agriculture in the last 100 years has contributed to steep declines in farmland species such as corn spurrey (plant) and skylark (bird). A balanced approach to land-use is needed to both maintain food production and safeguard important farmland species.

Wider environmental benefits

- Beauty and heritage
- Food provision
- Soil health
- Clean water
- Pollination
- Climate change mitigation
- Carbon sequestration

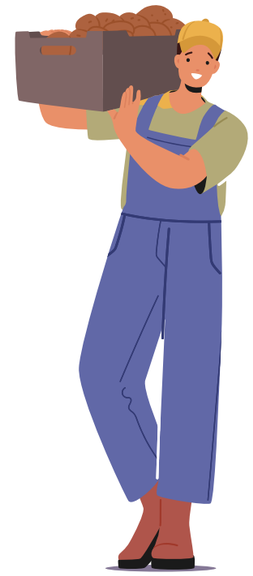
Pink footed geese © Mike Roberts

Meadow brown butterfly © Andrew Clark

The mix of farmland types across the region support a variety of rare animal and plant species that are often only found in farmland habitats. These habitats also play an internationally important role in providing roosts and food for many migrating birds whose populations are in decline.

In the northern areas of the region, the land is primarily used for growing crops such as wheat, barley and vegetables. All year round these fields are home to declining species such as yellowhammer, grey partridge and lapwings. Towards the south of the region, the land is more suited to cattle grazing and grassland. These open fields provide year-round shelter and food for the rare wading birds living on the estuaries surrounding the Wirral such as curlew, shelduck and redshank.

Over late autumn and winter, farmland across the region provides shelter and food for hundreds of thousands of pink-footed geese that migrate here from Iceland and Greenland, along with many other birds that spend the winter months on our fields.




Farmland, Tarbock © Joanne Doolin

Much of the farmland in the region sits on clay, alluvium and peat soils, which due to their high organic matter, produce high-quality farming soils. However, these peat soils represent historic wetland areas that would have previously been lowland raised bogs: a habitat known for its carbon storage and water retention function, which is in sharp decline across the region. Whilst reverting all these soils back to their original habitats would have a significant impact on local farming communities and is an unrealistic aim, the LNRS encourages a movement towards wetter methods of farming and exploring paludiculture options in areas with peat soils.

The farmland priorities and measures set out in this section seek to work with farmers to create a balance between maintaining agricultural productivity and supporting rare farmland species. Agroforestry, the integration of trees into agriculture, provides a good opportunity to deliver this balance with benefits for farming, nature and climate: the planting of trees, shrubs and hedges on farmland can create healthier soil and produce higher yields for farmers as well as providing vital habitat for farmland wildlife.

Through the use of regenerative farming methods, reductions in fertiliser and pesticide inputs and highlighting the importance of soil quality, the priorities aim to help preserve our farmland habitats and soils for many generations. Farming in partnership with nature by creating buffer strips, hedgerows and ditches and managing areas for farmland birds will allow wildlife to recover and create a stronghold of farmland species in the region, while maintaining productivity of the land.


Lapwing © Mike Roberts


Cattle egret © Mike Roberts

Farmland is particularly important for:

- Pink footed geese
- Corn spurrey
- Corn bunting
- Brown hare

Farmland
Priorities 22 – 25

22. Sustainable farming in partnership with nature to improve biodiversity while maintaining agricultural productivity.

Why?

To improve soil quality, contribute to sustainable water management, support pollinators and other important farmland species.

How (Measures)?

22a. Land management for farmland birds.

Delivered by: Providing undisturbed areas for ground nesting birds, use of overwinter stubble, creating and restoring ponds, planting winter bird seed mixes, leaving arable margins, changing crop timings, adopting conservation headlands, installing nest boxes.

22b. Creation, management and buffering of farmland habitats important to biodiversity.

Delivered by: Hedgerows, field margins, ditch, pond and river networks, woodland, veteran trees, in-field trees and other habitats.

22c. More orchards including agroforestry, local community orchards and more local farming with a focus on traditional management and creation.

22d. Wider use of regenerative farming across all types of farmlands.

Delivered by: Reductions in inputs and pesticides, using low input crop management, reducing grazing pressure, creating and extending field margins and use of nature friendly farming methods to increase invertebrate numbers as appropriate for the farmland

22e. Reduction in nutrient and chemical inputs to improve soil condition and reduce runoff.

Delivered by: Using direct drill, minimum tillage, soil testing, cover crops, crop rotation and other methods

23. Reduced soil and nutrient run-off from our farmlands.

Why?

To improve water quality and habitat condition of rivers, estuaries and intertidal habitats for the species and people that use them.

How (Measures)?

22d. Wider use of regenerative farming across all types of farmlands.

23a. Improved soil condition of agricultural land.

Delivered by: Using direct drill, minimum tillage, soil testing, cover crops, crop rotation and other methods.

23b. Creation and widening of buffers around fields and sensitive habitats to reduce run off into habitats.

Delivered by: Planting of shelter belts and hedgerows with trees around fields watercourses and wetlands to reduce run-off into sensitive habitats and reduce soil erosion, Use of hedgerows such as banked and contour hedgerows to intercept runoff and erosion

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Farmland
Priorities 22 – 25

24. More sustainable farming methods and water management on agricultural peat soils.


Harvest mouse © Mike Roberts

Why?

To restore and improve peatland condition, promote farmland wildlife, climate-proof farming livelihoods and protect this valuable carbon store.

How (Measures)?

24a. Promotion of wetter farming methods through reduced drainage on agricultural peatlands and other wet soils.

Delivered by: Using crops more tolerant of higher water tables, investigating the use of paludiculture (including productive wet woodland forestry where appropriate) and other methods.

4c. Management of existing woodland on peat towards a more wet woodland structure.

25. Reconnected, new and better managed tree, ditch and hedgerow networks.

Why?

To improve habitat connectivity and biodiversity benefits, reduce soil erosion and mitigate run-off.

How (Measures)?

25a. Creation of new hedgerow and ditch networks to connect habitats across landscapes.

25b. Hedgerows managed to improve structure and opportunities for wildlife.

Delivered by: Laying, reduction in cutting frequency, planting of hedgerow trees, increased diversity of woody species, and increased buffer zones between hedges and agricultural land.

25c. Management of ditches for wildlife.

Delivered by: Rotational vegetation management and de-silting, widening corners, water level management, berm creation and other suitable measures

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

6.8 Invasive Species

Invasive species are those that have been introduced into areas where they are not naturally found, either intentionally or accidentally. Many of these are not native to the UK, but even some native species can be invasive when introduced to the wrong habitat. Invasive species compete for resources, damage habitats, bring in diseases and cause extinctions of native species. They can disrupt whole ecosystems and the services which they provide and cost the UK economy approximately £1.8 billion per year[24].

Both plant and animal species can be invasive. Himalayan balsam, a quick growing plant, has rapidly invaded the waterways and wetlands across the region. Its exploding seed pods can cast seeds into nearby watercourses which then transport the seeds to new locations. Grey squirrels threaten one of our rarest native mammals, the red squirrel, by transporting diseases and out competing for resources. They also cause an estimated £37m of damage to UK woodlands each year[25].

Within the LCR, numerous invasive species threaten our native species and habitats across the region. Invasive species were present at 79% of Local Wildlife Sites surveyed in 2023-24. Our measures highlight specific species that cause problems for sensitive habitats and species but recognise the need for general control of invasive species across the region. Targeted and landscape-scale management is essential.

Both plant and animal species can be invasive

24. Invasive species (parliament.uk)
25. Grey squirrel impact report overview

Invasive Species
Priorities 26

26. Landscape wide strategies combating current invasive species and responding rapidly to new threats.

Why?

To protect habitats and species from invasive species encroachment.

How (Measures)?

26a. Appropriate invasive species management prioritised in sensitive habitats and important corridors along with other Schedule 9 and invasive species such as Japanese knotweed, parakeet, wireweed, Chinese mitten crab, etc control where needed.

26b. Grey squirrel management across the LCR.

26c. Mink management in areas with water vole populations.

26d. Canada geese management in sensitive or overgrazed habitats.

26e. Rhododendron ponticum removal in woodland.

26f. Himalayan Balsam removal in key waterways, along transport networks and in other sensitive habitats (working strategically with neighbouring LAs to reduce/prevent INNS seeds being washed downstream from untreated areas upstream).

26g. Japanese rose and sea buckthorn removal along the coast.

26h. Floating pennywort removal along canals.

Indicates that this measure is not mapped.

6.9 Species

The species highlighted as priorities within the LNRS are those that require bespoke action and cannot rely on the habitat priorities alone to support their survival. Their associated measures are supplementary to the habitat measures. They were shortlisted by a Species Technical Group consisting of local experts, following Natural England guidance which considered factors such as conservation status, national and local significance, urgency of action needed and deliverability of this.

- Our main red squirrel population is restricted to the pine woods along the Sefton Coast, with some small populations also remaining in Fazakerley and Knowsley. This species needs specific woodland planting and management to both discourage grey squirrel and maintain food availability.
- The LCR's coasts are a stronghold of the rare natterjack toad which breeds in shallow open pools called scrapes or slacks. Without regular grazing or appropriate management these pools become covered in vegetation. Whilst this can benefit other species, a proportion of overgrown slacks should be cleared to maintain habitat for natterjack toads.
- The LCR is home to many different reptiles and amphibians that are in decline or regionally rare. Pond, wetland and rough grassland creation and appropriate management can help expand and increase their populations.
- The willow tit is a declining bird that lives in wet woodland and scrub, with populations around St Helens and the upper Mersey Estuary around Wigg Island. This species will benefit from the creation of low wet scrub and woodland, focused around areas of existing habitat. The cause of decline is unknown, but precautionary measures aim to support the species.
- Harbour porpoise are regular visitors along the Mersey Estuary as far up as Speke. This species uses the deep shipping canal through the middle of the estuary as a "hunting highway". This highway needs to be maintained, and awareness raised of the species presence in the Mersey.
- Black poplar is a species of native tree that is declining in the UK. Local populations, an important genetic bank for the species, are found mainly on the Wirral, with one population planted in Sefton around 150 years ago. Many of the Wirral trees have been genetically tested to confirm their native status: planting projects will increase the genetic diversity of the species.
- A population of grey seals currently live on a sand bank near Hilbre Island outside of their breeding season. This population is at risk of disturbance by boats and other recreational activities which could be better managed.
- Ten species of bat are regularly found in the LCR, across all habitats. Bats are extremely sensitive to light and avoid areas that are any brighter than a full moon. Lighting in urban and industrial environments can prevent bats from foraging and roosting. Sensitive lighting design can reduce this impact, helping bats to travel from roosts to feeding areas.
- The forester moth is restricted to the Sefton coast and found in only a few grassland areas. This species requires open grassland and safeguarding from public disturbance.
- Ground nesting birds across the LCR are in decline and at risk of disturbance from many different sources. These species need undisturbed areas of ground to breed on and public awareness campaigns are needed to help reduce the impact of recreational activity.

You can find a full list of species the LNRS aims to support in the supporting documents on the LNRS webpage.

Species
Priorities 27 – 36

27. Expand the range and increase the population of red squirrels

Red Squirrel © Peter Muldoon

How (Measures)?

27a. Woodland creation and management designed to favour red squirrels.

Delivered by: Increased planting of woodland using appropriate tree species and active management of existing and planned woodland to favour red squirrels including invasive species management.

28. Increased populations of natterjack toad

Natterjack toad, Ainsdale © Philip Smith

How (Measures)?

28a. Scrape creation and management around existing natterjacks populations.

Delivered by: Scrub removal, selective use of fencing to reduce recreational disturbance, public awareness campaigns, buffering of habitats, seasonal zoning.

28b. Additional natterjack habitat creation to increase connectivity between existing populations, and to allow colonisation of new areas.

Delivered by: Scrape creation near existing populations, extending and connecting suitable terrestrial habitats of short grassland and open sand

29. Increase the distribution and population of reptiles and amphibians

How (Measures)?

29a. Management of habitats for reptiles and amphibians.

Delivered by: Management of rough grassland, field margins and wetlands, leaving areas of rough grass mown only every two or three years.

29b. Creating habitats corridors to allow reptiles to move and disperse through the region.

Delivered by: Grassland and scrub corridors along hedgerows, margins and other habitats.

2b*. Creation of new pond networks and associated habitats.

Delivered by: Restoration of ghost ponds and floodplain connections, creating ponds to reinforce existing networks, and creation of new pond networks with different sizes and structures

2c. Management of existing ponds as a mosaic of habitats from new ponds to late succession ponds that are transitioning to other habitats.

30. Increased populations of willow tit

How (Measures)?

30a. Reduction in competition from other bird species such as blue tit and great spotted woodpecker.

Delivered by: Not installing feeders or bird boxes in and around willow tit populations, increased public awareness.

30b. Maintenance of low canopy, early succession wet and damp woodlands with dense scrub layers and available dead wood for nesting.

Delivered by: Removal/laying/coppicing of mature trees in wet woodland and raising water table using natural flood management.

15a. Creation of new woodlands and scrub through planting and natural regeneration.

Delivered by: Planting climate resilient, ideally native tree species, planting of scrub blocks around new woodlands,, grey squirrel management to improve woodland establishment, targeting historically wooded areas for new woodland creation aligned with the Mersey Forest Plan.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Species
Priorities 27 – 36

31. Support the population of harbour porpoise using the estuary

How (Measures)?

31a. Maintenance of a tidally dynamic "hunting highway" for this species currently using the deep shipping lanes in the Mersey Estuary.

Delivered by: Raised awareness of species using the estuaries, public campaign to inform river users of this species and its habits.)

32. Increased number of black poplar trees

Black poplar © Philip Smith

How (Measures)?

32a. Increased planting of female trees using genetically confirmed black poplar trees.

32b. Planting males and females in proximity of each other to allow nurseries of native saplings to form.

33. Grey seals: Protection of grey seal from recreational disturbance

Grey seal © Mike Roberts

How (Measures)?

33a. Safeguarding of locations regularly used by seal populations.

Delivered by: Public education of recreational impact on seals including information boards on and around the island and its access

34. Bats: A network of dark corridors to allow bats to move across the landscape

Noctule bat © Steve Parker

How (Measures)?

34a. Create and maintain dark corridors for bats providing year-round feeding and roosting opportunities.

Delivered by: Safeguarding important roosting sites and habitat management to promote diverse insect communities. Reducing light spill into sensitive habitats and corridors through retrofitting mitigation onto pre-existing lights, creating warmer light, and planting of screening vegetation.

18a. Installation of biodiversity enhancements in new developments.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

Skylark © Mike Roberts

*indicates that this measure is a repeat from a previous priority that also relates to this one.

Species
Priorities 27 – 36

35. Forester moth: Improved habitat and increased range of forester moth.

Forester moth © Philip Smith

How (Measures)?

35a. Management of grassland and heathland to increase the population.

Delivered by: Areas fenced off from recreational disturbance, scrub and rush removal coupled with mowing to maintain open grassland habitats.

13b. Improved heathland management.

Delivered by: Restoring low-level grazing, scrub and leaf litter removal, targeted tree management, climate resilience management such as the use of fire breaks, removal and mitigation of nutrient pollution, drainage management as appropriate, buffer zone creation.

36. Ground nesting birds: Increased population and wider availability of nesting opportunities.

Grey Partridge © Mike Roberts

How (Measures)?

36a. Provision of undisturbed areas for ground nesting birds.

Delivered by: increased public awareness campaigns such as “Give Birds a Break” to cover both farmland and estuarine birds and fencing of sensitive areas to reduce recreational disturbance. Areas of short grass maintained for skylark, breeding rafts and shingle islands for common tern, sand and shingle beaches for ringed plover, and other species-specific habitat management.

22a. Land management for farmland birds.

Delivered by: Providing undisturbed areas for ground nesting birds, use of overwinter stubble, creating and restoring farmland ponds, planting winter birds seed mixes, leaving arable margins, changing crop timings, adopting conservation headlands, installing nest boxes.

Indicates that this measure is a repeat from a previous priority that also relates to this one.

Indicates that this measure is not mapped.

7. The local habitat map

© Rob Jones

Hen harrier © Mike Roberts

To help us achieve the priorities set out in this strategy, we need to target action in the places that would provide the biggest benefit for nature, the wider environment and for people. To enable this, a local habitat map for the LCR has been developed.

The map acts as a blueprint for nature recovery, coordinating our approach across the region, based on the guiding principles set out in Section 6. It can be used by anyone interested in decision-making for nature, whether that be large or small scale. However, the locations identified are not the only places where you can take action for nature. It is also important to create and expand habitats in areas that are not yet identified on the map as every action counts.

The map shows existing core local nature sites and identifies opportunity areas where there is potential to enhance, restore and create habitats in a joined-up, spatial approach to nature recovery. Each location identified in the map is assigned measures from Section 6 that would help to achieve one of the priorities, based on their suitability and deliverability. Further information on the mapping methodology can be found in the supporting documents on the LNRS webpage.

However, the **mapping of measures does not confer permission to carry out proposals**. While the opportunities identified in the map are based on best available data and local knowledge, there are limitations to the accuracy of the data and in the resulting modelled outputs. All necessary consents and permissions, in line with relevant policy, guidance and decision-making frameworks must be obtained. Simultaneously, **identification of an opportunity for nature does not prevent any other form of land use**. Where a mapped opportunity site is already intended for a different form of land use, such as development, the LNRS can be used to identify where opportunities for nature could be incorporated alongside other land uses and where biodiversity net gain could be implemented on-site.

The marine environment is beyond the scope of the LNRS and is not mapped.

Find out how you can help nature recover in Section 8.

7.1 Core local nature sites

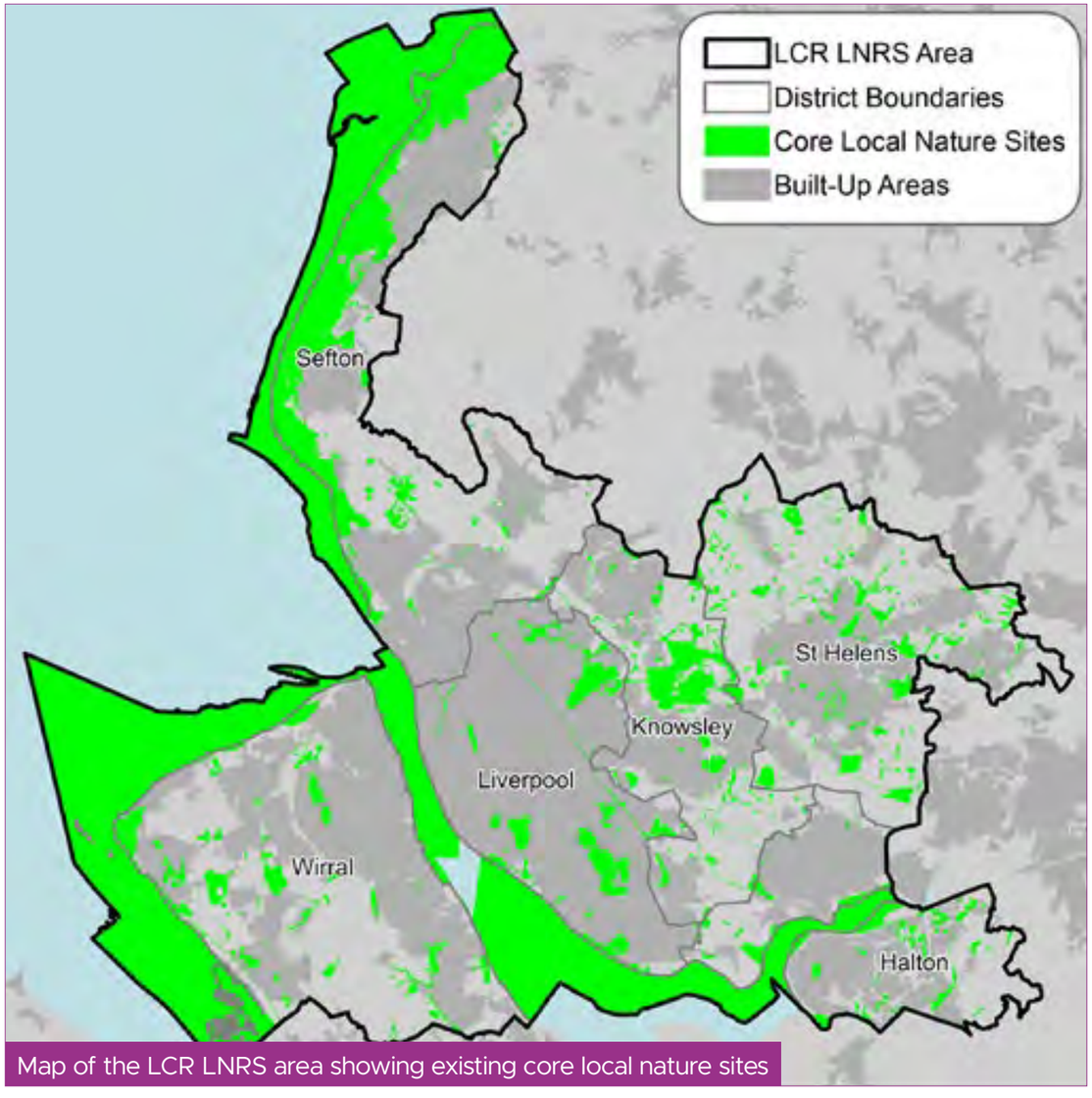
The local habitat map is made up of two components: core local nature sites and opportunity areas.

Core local nature sites make up 40% of the strategy area, owed largely to the importance of our coasts and estuaries. They are existing, protected wildlife sites, also known as “areas of particular importance for biodiversity (APIB)”. These include internationally, nationally and locally designated sites and irreplaceable habitats (those which are very difficult to restore once lost). Designated sites include:

- Special Protection Areas (SPAs)
- Sites of Special Scientific Interest (SSSIs)
- Special Areas of Conservation (SACs)
- Ramsar wetland sites
- National Nature Reserves (NNRs)
- Local Nature Reserves (LNRs)
- Local Wildlife Sites (LWSs)

LNRS guidance mandates that measures mapped to designated sites must be additional to any existing management plans. As much of our designated site network already has comprehensive management plans in place, these areas, including much of the Sefton coast, could not be mapped but their importance for biodiversity should not be overlooked.

There are also many core local nature sites across the region that are unmanaged or managed for purposes that do not benefit biodiversity, and many that are not in good ecological condition. Core local nature sites are unevenly distributed across the region and poorly connected.



Map of the LCR LNRS area showing existing core local nature sites

The aim: wherever possible, core local nature sites should be enhanced and expanded, managed for biodiversity and connected by the opportunities identified in the LNRS.

7.2 Opportunity areas

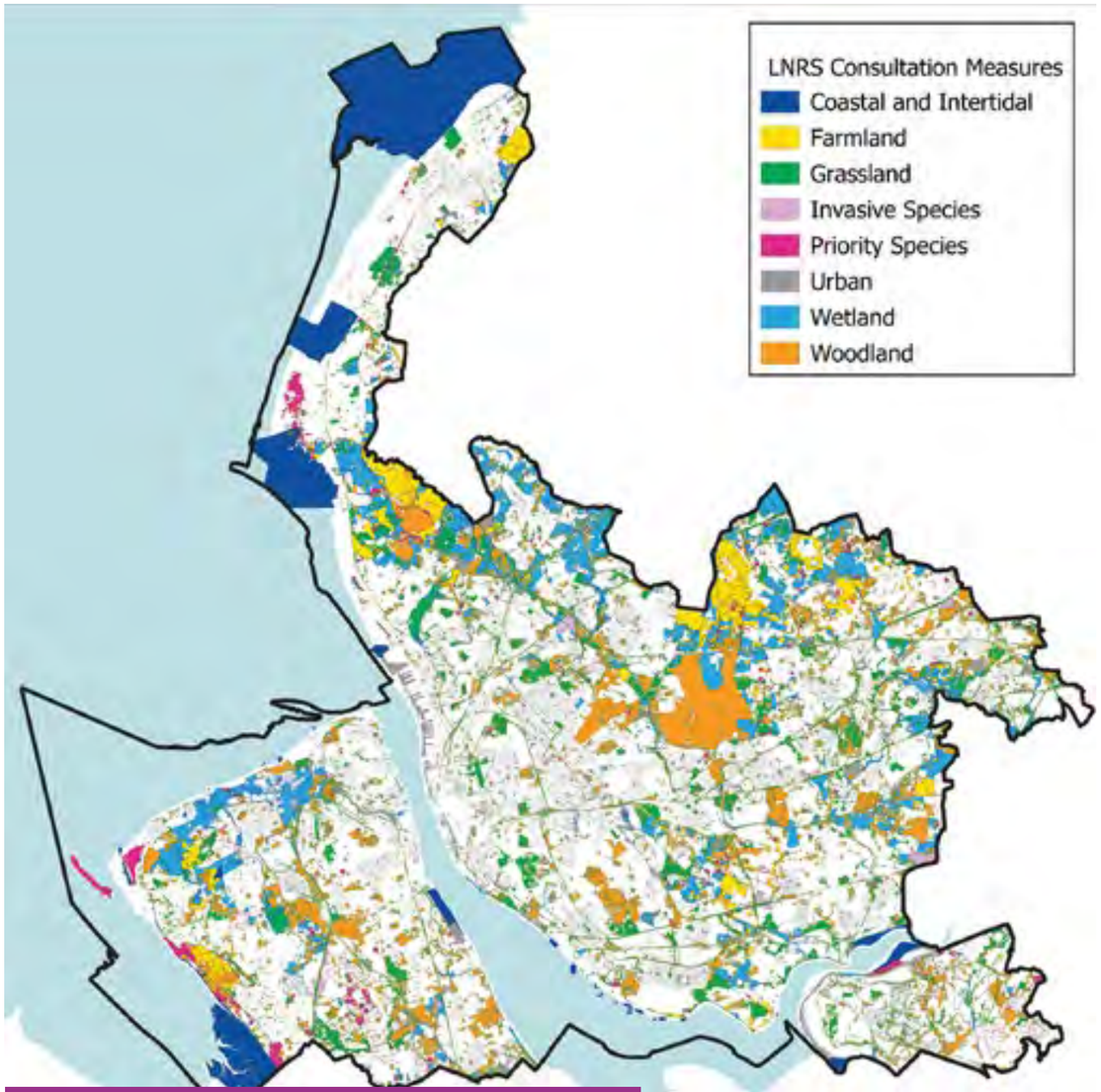
Opportunity areas, also known as “areas that could become of particular importance for biodiversity” (ACBs), are places where an opportunity to enhance, restore or create habitat has been identified.

The opportunity mapping is a modelled output based on best available data. As with any map that has relied on modelling, it can never be 100% accurate. Any suggested opportunities should be ground-truthed by appropriate professionals before being delivered.

The opportunity mapping methodology (found in the supporting documents on the LNRS webpage.) is founded on The Chartered Institute of Ecology and Environmental Management’s Good Practice Guidance for Ecological Restoration and the Lawton Principles of ‘Bigger, Better, More and Joined-Up’. While opportunities were selected primarily for their biodiversity benefit, ecosystem service mapping identified where additional wider environmental benefits (e.g. flood reduction, air quality) could be gained and focussed on where they are most needed. Opportunity areas and their associated measures (actions) have been mapped based on where action would have the greatest impact for nature recovery and for people, but do not rule out action in unmapped areas. Several factors were considered when identifying opportunities:

- the needs of nature
- the needs of people
- ability to provide wider environmental benefits
- impacts of future climate change
- competing land uses

Opportunity areas are mapped on land that is currently used for a variety of different purposes. The opportunity areas identified in the LNRS have potential to provide a benefit for biodiversity and the wider environment, however, they are not protected sites and do no prevent other forms of land use.



Map of the LCR LNRS area showing opportunity sites

The aim: to join-up and expand upon existing core local nature sites, creating better-connected, resilient and high-quality habitat networks and green spaces for people across the region.

Marmalade hoverfly © Dave McAleavy

8. Delivery: using the map

The local habitat map highlights were there are opportunities to enhance and connect existing habitats and support species movement. When creating new spaces for nature it also outlines what the best action to take would be in each location. It can be used to guide action for community groups and for landscape scale interventions alike.

Each location identified as an opportunity on the map is assigned a primary and, in most cases, secondary measure (action), giving flexibility to anyone wishing to create or enhance habitat in this area.

While the LNRS is not a delivery plan, the local habitat map identifies strategic areas where action for nature recovery would have the greatest impact. However, these are not the only actions that can be taken. Any action in support of nature recovery outside of these areas is also very much encouraged and unmapped measures from Section 6, though unable to be targeted to specific locations in the map, are equally as important to deliver.

Everyone has a role to play in helping nature to recover across the LCR and no action is too small. Lots of small actions together have a big impact in supporting nature.

This section sets out how different groups can best contribute to delivery of the goals and opportunities identified within the strategy.

8.1 Landowners and land managers

Landowners and land managers have the potential to make a big contribution to nature recovery across the region. Managing land with consideration of the local ecology and ecosystem services not only better supports nature, but people too.

Where land is used primarily for purposes other than space for nature, this does not necessarily have to change, as there may be potential to incorporate opportunities for nature in conjunction with other activities.

The local habitat map shows landowners and land managers where opportunities to do something significant for nature recovery are located and what the best action to take would be. The opportunities identified are those that will best deliver a functional and resilient nature network across the region, but do not rule out action in other areas. Unmapped measures that are not targeted to specific locations should also be considered.

The opportunity areas identified in the local habitat map give landowners an opportunity to receive biodiversity net gain funding for delivery of habitat enhancement or creation on their land and may support funding applications for agri-environment schemes.

It also highlights where there are nearby opportunities and where potential landowner clusters could be formed to collaborate on nature recovery initiatives.

8.2 Developers and planners

Under the Environment Act 2021, Local Planning Authorities must take account of the LNRS in their policies and local plans. Developers would therefore likely benefit from aligning with the LNRS.

Though a balanced approach to growth and development is needed to fulfil the competing needs within the region, developers and planners have the potential to put nature at the heart of urban design and planning. Incorporating nature into development plans and wider infrastructure provides an opportunity to create greener, healthier and more resilient spaces for people to live and work.

The local habitat map shows developers and planners where opportunities to do something significant for nature recovery are located and what the best action to take would be. The opportunities identified are those that will best deliver a functional and resilient nature network across the region, but do not rule out action in other areas. Unmapped measures that are not targeted to specific locations should also be considered.

The map also identifies opportunities for developers to deliver mandatory biodiversity net gain. Developers are incentivised through a 15% uplift in the BNG metric tool to create and enhance habitats in areas of ‘strategic significance’: including those identified with mapped measures within the LNRS.

It shows at a regional scale how habitats can be enhanced and better connected, where creation of habitat could contribute to the government’s goal of ensuring that everyone in England lives within 15 minutes’ walk of a green or blue space and shows where there is potential to implement nature-based solutions to address some of the challenges we face such as air quality and flood risk.

8.3 Environmental organisations

While environmental organisations have been leading the way on nature recovery for a long time, the LNRS provides a regional-scale opportunity to align approaches and work towards an agreed set of shared goals. Many environmental organisations contributed to the creation of the map, and they will be pivotal in shaping future iterations.

The LNRS should raise awareness of the importance of the natural environment and encourage landowners, businesses, developers and community groups to collaborate with environmental organisations on nature recovery initiatives.

The local habitat map shows environmental organisations where opportunities to do something significant for nature recovery are located and what the best action to take would be. The opportunities identified are those that will best deliver a functional and resilient nature network across the region, but do not rule out action in other areas. Unmapped measures that are not targeted to specific locations should also be considered.

The map will help to identify where efforts and funding should be targeted, where collaboration could take place and where there is potential to join-up and better-connect sites for nature. It can also act as an educational tool when engaging with the local community and potential delivery partners.

8.4 Businesses and other organisations

The LNRS encourages all sectors to support nature recovery. We need all businesses and organisations to embed nature-friendly practices into their operations and corporate plans, reduce their impact on the natural environment and invest in nature's recovery. Simultaneously, a thriving natural environment provides essential resources that businesses depend on, and resilience to the socio-economic effects of climate change.

The local habitat map shows businesses and other organisations where opportunities to do something significant for nature recovery are located and what the best action to take would be. The opportunities identified are those that will best deliver a functional and resilient nature network across the region, but do not rule out action in other areas. Unmapped measures that are not targeted to specific locations should also be considered.

The map will help businesses to understand how their activities fit within the local environment and highlight what the priorities for nature are in the local area. It allows nearby opportunities to be identified which could provide potential for collaboration and staff volunteering schemes or opportunities to support a local nature recovery initiative. It also highlights where investment in green and blue infrastructure would be best placed. Many businesses rely on the natural environment directly or indirectly and need to identify where restoring nature can help safeguard their future.

8.5 Community groups

Community groups across the region form some of our most dedicated supporters of the natural environment, bringing people together to care for nature and taking ownership of their local green and blue spaces. community groups not only benefit biodiversity and add value to local spaces, but they also provide a strengthened sense of community, development of green skills and connection of people to the natural environment, which brings both mental and physical health benefits.

Community groups contain a wealth of local knowledge, experience and understanding of the needs of the local community and their perspectives should be considered when new initiatives are being formed.

The LCR is fortunate to have many highly expert naturalist groups, and many active community groups tending local sites. When new initiatives are being considered these groups should be closely involved; they can supply considerable expertise and inspiration.

The LNRS should raise awareness of the importance of nature and the impact that every individual can have, encouraging more people to join their local nature group.

The local habitat map shows community groups where opportunities to do something significant for nature recovery are located and what the best action to take would be. The opportunities identified are those that will best deliver a functional and resilient nature network across the region, but do not rule out action in other areas. No action is too small! Unmapped measures that are not targeted to specific locations should also be considered. Community groups are particularly well placed to deliver many of the urban unmapped measures and contribute towards the enabling factors in section 8.7.

The map will help community groups to identify how their local area links into the wider nature recovery approach and how their efforts could best support their local environment.

It shows where there are nearby opportunities that could lead to potential collaboration on nature recovery initiatives and could be used to support funding applications for nature projects.

Get involved with your local community group!

If you can't find a local nature group, why not set one up?

8.6 Residents

You don't need to be a landowner or part of an organisation to take action for nature. Beyond the opportunity areas identified in the local habitat map, there are plenty of other ways to help nature. As a largely urbanised region, personal spaces like gardens, yards and balconies and communal spaces such as alleyways and other outdoor communal areas are particularly important for habitat connectivity, helping species to move through the region.

The local habitat map can help residents to understand how their local green space can best support the surrounding natural environment and what actions would have the greatest impact for nature recovery in the area. Unmapped measures and unmapped locations are just as important as those identified in the map. Residents are well placed to deliver many of the urban unmapped measures and can contribute towards the enabling factors in Section 8.7.

No action is too small. There's a role for everyone!

If you have a garden or other green space, here are some things you can do to support nature:

- **Allow nature to expand**
  e.g. let your lawn grow
- **Plant pollinator-friendly plants**
- **Keep it chemical free**
- **Create a hedgehog hole** to help hedgehogs pass through your garden
- **Build a log pile** to provide homes for insects
- **Create a pond** of any size
- **Grow a hedge** to provide berries and nesting sites for birds
- **Garden vertically** e.g. green walls and hanging pots

If you don't have access to an outdoor space, there are many other ways you can get involved:

- **Join a local nature group**
  A great way to meet like-minded people while helping nature.
- **Litter-pick in your local area**
  Go it alone or join a community clean-up event
- **Plant in a window box**
  Every pot counts!
- **Record the wildlife near you:**
  Local environmental record centres Merseyside BioBank and Cheshire RECORD need volunteers to help monitor species populations.
- **Spread the word**
  Tell others why it's important to look after the natural environment and the benefit it brings.

8.7 Enabling Factors for Delivery

In addition to the mapped and unmapped measures identified, there are several other interdependent factors that are needed to enable widespread delivery of nature recovery across the LCR.

Recording & Monitoring

A robust system of sharing data with local environmental record centres and getting more people involved in recording species and habitat data will improve our local records and allow us to monitor progress.

Behaviour Change

Encouraging positive interactions with nature and reducing our impact. Small scale decisions that collectively have a big impact: reducing litter, keeping gardens natural, reducing recreational disturbance.

Leadership

National and local leaders prioritising and facilitating nature recovery, influencing future investment decisions, embedding nature into cross-discipline policy and plans, coordinating efforts and driving progress forward.

Community Care & Custodianship

Encouraging residents and community groups to support and maintain their local nature sites and instilling a sense of pride in the natural environment.

Funding

Attracting innovative funding mechanisms for the long-term conservation of the natural environment. Increasing investment from the public and private sector.

Management Plans

Long-term, sustainable, biodiversity-focussed and resourced management plans in line with regulations to preserve habitats and their wider benefits.

Skills & Capacity

Increasing practical and strategic green skills extent, availability and capacity across private, public and voluntary sectors and better integrating nature recovery into other disciplines.

Education

Helping people to understand why the natural environment is important to encourage support and action, through information sharing, events, campaigns, programs in schools and online resources.

Collaboration

Strengthening partnerships across all sectors to capitalise on existing knowledge, experience and resources. Expanding delivery potential by working towards the same goals.

Brimstone © Mike Roberts

9.0 What's next?

Time to deliver.

The delivery of nature recovery interventions informed by the LNRS will be a collaborative exercise involving a wide range of stakeholders. This collective approach is essential as the scale of nature recovery needed and the speed at which it must take place cannot be achieved solely by the existing organisations and partnerships working in this space. Working together in this way towards a common goal, aligned to the LNRS, will ensure that efforts are coordinated and that the strengths and resources of multiple organisations are leveraged.

The strategy aims to lay a foundation to empower us all to take action, whether this be through use of the local habitat map to join-up areas of need with areas of opportunity, by informing and influencing future investment decisions, acting as a data-informed evidence base to drive local and national policy change, or by reinforcing the need for future devolved funds and powers.

The LNRS must not be seen only as a distinct policy and delivery area. Nature recovery must be a key integrated consideration in decision-making and programme design across disciplines to not only make nature recovery more feasible, but to add value to investment decisions and programmes and bring about the co-benefits to further the agenda of multiple policy areas.

By calling for collective action, we recognise that nature recovery is a shared responsibility that requires coordinated efforts from a wide variety of stakeholders, which this strategy is in-place to support.

The strategy aims to lay a foundation to empower us all to take action

Glossary: What do we mean by the terms used?

ACBs (areas that could become of particular importance for biodiversity)	Places where an opportunity to enhance, restore or create habitat has been identified in the local habitat map.
Active travel	Modes of travel that involve physical activity such as walking or cycling.
Agroforestry	A land management approach that incorporates trees and shrubs into crop and livestock farming.
APIBs (areas of particular importance for biodiversity)	Existing, protected wildlife sites, referred to as “core local nature sites”. These include internationally, nationally and locally designated sites and irreplaceable habitats.
Biodiversity	The variety of plant and animal life on earth.
Blue spaces	Areas with waterbodies such as rivers, lakes, canals and the coast.
Brownfield	Land that is or was previously built upon.
Buffering (ecological)	Protective zones around sensitive habitats.
Carbon sequestration	The removal and storage of carbon dioxide from the atmosphere.
Climate change mitigation	Reducing the impacts of climate change.
Core local nature sites	Existing, protected wildlife sites, also known as “areas of particular importance for biodiversity or APIBs” in the LNRS regulations. These include internationally, nationally and locally designated sites and irreplaceable habitats.
Corridor (wildlife, habitat, nature)	Strips of habitat that can be used by species to move from one area to another, connecting wildlife populations.
Dynamic natural processes	The natural changes that habitats undergo.

Ecological network	A system of habitats that are connected, allowing species interactions within and across them.
Ecosystem	A natural system of animals, plants, microorganisms, non-living things and all their interrelationships in their shared physical environment.
Ecosystem services	The direct and indirect benefits that nature provides to human wellbeing such as air and water quality, food provision and flood regulation.
Fens	A low and marshy wetland area.
Floodplain	Low-lying land beside a river that is prone to flooding.
Fragmentation	When habitats are split up and disconnected from each other leaving species unable to move between them.
Functionally linked land	Land outside of a designated site that is of critical importance to the species who use the designated site.
Grasslands	Open areas of land covered with grasses.
Green and blue infrastructure	Natural and semi-natural green (land) and blue (water) spaces that are designed and managed to provide benefits to society such as improved air and water quality and flood regulation.
Green spaces	Open spaces of land covered by vegetation such as parks, landscaped areas, gardens and other natural spaces. Often referred to in the context of urban planning.
Heathland	A shrubland habitat consisting of heather, gorse, broom and grasses.
Hydrological	Water environments and processes.
Intertidal	The area of a seashore between high tide and low tide.

Invasive species	A species that is introduced in a new environment and causes damage to the new environment.
Irreplaceable habitats	Habitats which are very difficult to restore once lost, as listed in the BNG regulations.
Lawton Principles	Professor Sir John Lawton led a review of England's wildlife sites and their connections, concluding that we need bigger, better, more and joined-up ecological networks for wildlife to thrive. Read the report here.
Local environmental record centre (LERC)	Organisations that collect and collate local information on wildlife.
Local habitat map	An interactive map which accompanies this strategy, showing existing core local nature sites and identified opportunity areas where there is potential to enhance, restore and create habitats.
Lowland raised bog	Peatland habitats that develop in lowland areas.
Measures	The practical actions that could be taken to achieve the goals set out in the priorities.
Native species	A species that occurs naturally in an area.
Natural assets	The features and resources of the natural environment that provide ecosystem services to society such as soil, water, air, living things.
Natural capital	The value/stock of ecosystem services that natural assets provide to society.
Nature-based solutions	Actions/interventions which support and draw on nature to provide wider environmental, social and economic benefits while simultaneously benefiting biodiversity.
Notches	A narrow passage created through a sand dune to allow sand to move through the dune system.
NPPF (National Planning Policy Framework)	The government's planning policies for England.
Opportunity areas	Places where an opportunity to enhance, restore or create habitat has been identified. Also known as "areas that could become of particular importance for biodiversity" (ACBs).

Priorities	The end results or goals that the strategy is seeking to achieve.
Priority habitat	Those that are the most threatened in England and require urgent conservation action, as listed here
Priority species	Those that are the most threatened in England and require urgent conservation action, as listed here
Recreational activity	Leisure activities that people undertake such as walking, cycling, playing sports an visiting nature sites.
Regenerative farming	A conservation approach to farming which balances food production and supporting nature. It allows soil, water and nutrients to regenerate themselves, rather than depleting them, increasing biodiversity, enhancing ecosystem services and building resilience to climate change.
Riparian	A riparian area is the space between a river and the land i.e. the riverbanks. Riparian species exist in alongside a river, or the riparian zone.
Paludiculture	Wet farming and forestry on wet or rewetted peatlands.
Soilscape	Classifications of different types of soils across a landscape.
Stakeholders	A person or organisation with an interest in the LNRS who we have attempted to frequently engage with.
SUDS	Sustainable drainage systems are alternative drainage solutions designed to mimic natural drainage, using the natural environment to reduce surface water flooding and improve water quality whilst also providing nature spaces for people and improving biodiversity.
Weir	A low dam built across a river which alters the flow of water.
Wetlands	A semi-aquatic habitat with land saturated in water.
Wider environmental benefits	The direct and indirect benefits that nature provides in addition to benefiting wildlife, such as air and water quality, food provision and flood regulation. Also known as ecosystem services.

Local Nature Recovery *Strategy*

Learn more about the Liverpool City Region Combined Authority at:
www.liverpoolcityregion-ca.gov.uk

© Dave McAleavy