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South Yorkshire Local Nature Recovery Strategy

Help us reverse nature's decline in South Yorkshire

Summary document for consultation

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Foreword – South Yorkshire's Mayor

In South Yorkshire, we're lucky to be surrounded by a rich and diverse natural landscape. From the wetlands and grasslands of the Dearne Valley, to the ancient woodlands reaching into the Peak District, and the parks and green spaces woven through our towns and cities. We're a region with a mosaic of former collieries and quarries that are home to flora and fauna, invertebrates, reptiles and birds.

These are the places where we walk at the weekend, where our children play, and where many of us find a moment of peace. Our connection to our environment is a big part of what makes us proud to call South Yorkshire home.

Nature isn't just central to our identity, it's fundamental to our future. It supports our economy, underpins our health, and plays a crucial role in how we live, travel and stay active. Yet, like much of the country, our natural environment faces increasing pressure. Biodiversity has declined significantly over recent decades, and more than half of South Yorkshire's habitats are now in poor condition – fragmented and facing growing challenges from climate change, modern industry, and the way land is managed.

The Local Nature Recovery Strategy is about recognising our potential – investing in nature not only to restore our environment, but to improve lives and build a stronger, fairer future.

We already have plenty to be hopeful about. In the Dearne Valley, once at the heart of our coal mining past, restored wetlands now support thriving wildlife, including bird species once under threat. Along the River Don, Atlantic salmon have returned to breed for the first time in 200 years – a powerful sign of what's possible when we work with nature.

I know how much safeguarding our environment matters to people across South Yorkshire. At our first Citizens' Assembly in 2023, the importance of protecting and enhancing nature was clear – not just for our environment, but for our health, wellbeing, and pride in place.

That shared commitment is reflected in our actions. One of my pledges has been to plant a tree for every person in South Yorkshire – 1.4 million trees. Since October 2022, we've already made significant progress, planting over 300,000.

Crucially, this Local Nature Recovery Strategy has been shaped by the people who know our region best. Working with farmers, community groups, partners and residents, we

have grounded our approach in lived experience – from veterans in Rotherham who rely on green spaces for their wellbeing, to farmers in Bradfield shaping practical approaches to land management.

Creating lasting change will require all of us to work together. We can make South Yorkshire a thriving, nature-rich place to live – now and for generations to come.

How to use this document

This document sets the strategic direction for nature recovery in South Yorkshire. Its aim is to introduce the Local Nature Recovery Strategy (LNRS) process, provide an understanding of South Yorkshire's landscape, its unique natural environments, why 'nature recovery' is needed, and what priorities have been established collaboratively for nature recovery action going forward.

This document is not intended to provide an exhaustive account of the LNRS development process, or the full detail of outputs that have fed into its development. It provides a core reference point and is supported by several other documents and resources, which are listed below:

- A detailed **Interactive Local Habitat Map** of existing areas of importance for biodiversity and mapped opportunities for areas that could become particularly important for biodiversity
- Annex A – Priority species list – see Section 4
- Annex B – Species prioritisation methodology – see Section 4
- Annex C – Mapping methodology – see Section 5
- Annex D – Strategic significance in mapped Measures – see Section 6
- Annex E – RSK stakeholder engagement report – see Section 2

Acknowledgements

We are grateful for the involvement and input from a wide range of organisations and individuals who have helped shape and prepare our Local Nature Recovery Strategy (LNRS), as listed below, as well as to all those members of the public and community groups who have engaged with us through our consultations and workshops. We would like to extend particular thanks to:

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Executive Summary

The South Yorkshire Local Nature Recovery Strategy (LNRS) is our plan to reverse nature's decline, restore habitats at scale, and strengthen climate resilience across the region.

The state of nature in South Yorkshire

South Yorkshire's landscapes are rich in ecological value, but nature is in significant decline. This challenge is not unique to our region. Key species including water vole and curlew are declining, habitats are fragmenting and degrading, and major pressures including development, climate change, water pollution and invasive species continue to grow. The most recent assessment found that 57% of habitats in South Yorkshire are in poor condition.

Despite this challenge, there are significant reasons for optimism: Thorne and Hatfield Moors form England's largest area of lowland raised bog; the Dearne Valley Wetlands have been designated as a Site of Special Scientific Interest (SSSI); and, Atlantic salmon are breeding in the River Don again after 200 years. These success stories show what is possible when we act together.

Priorities and measures

This LNRS identifies:

- 24 priorities and 130 measures covering water environments, grasslands and heathlands, woodlands and trees, urban nature, and crosscutting enabling actions
- 32 of these measures are mapped to identify where action can have the greatest impact
- More than 200 scarce or declining priority species, including 70 birds, 56 plants, 55 insects, 15 mammals and 4 reptiles
- 11 species identified as candidates for reintroduction, including Eurasian beaver, pine marten and hazel dormouse.

Delivering the Strategy

Delivering the LNRS will require action across the planning system, nature-based flood resilience, woodland expansion, wetland restoration, urban greening, regenerative farming and community stewardship. There are already strong foundations to build on, including the Dearne Valley Wetlands SSSI, Sheffield Lakeland Partnership, the Limestone Ridge Nature Recovery Group, the Source to Sea Nature-based Solutions Programme and Carr Lodge wet grasslands.

No single organisation is responsible for delivering this strategy - it will need all of us working together.

Contents

Mission, vision and principles

Mission

Our mission is to restore thriving, connected natural habitats across South Yorkshire to benefit people and nature.

Vision

Our Vision is to deliver nature recovery at scale and pace in South Yorkshire, maximising our region's contribution to the UK's commitment to positively manage 30% of land and sea for nature in England by 2030.

Our seven principles

Success in delivering the LNRS Mission and Vision will be reliant on embedding seven principles throughout both future delivery and review of this Strategy.

1. **Improve the quality and extent of habitats** – *more, bigger, better, more joined up*.

   Embed key concepts of nature recovery:
   - enhance existing important habitats (**better**) and extend their range (**bigger**)
   - reconnect fragmented habitats to strengthen ecological networks (**more joined up**), and establish new nature sites (**more**)

2. **Build climate resilience** – *using nature to help mitigate and adapt to heat, drought, flooding and wildfire risk*.

   This will be achieved by:
   - promoting the role that natural habitats play in managing regional climate risks such as heatwaves, wildfires, and flooding due to pressures from climate change

3. **Work in partnership** – *recognising that every landowner, community and organisation has a role*.

   We must deliver this through:
   - working in partnership, recognising that all public, private, and voluntary organisations, along with local communities have a part to play

- developing opportunities for collaboration across communities to recover nature in South Yorkshire as part of a joined-up, coherent plan of action
- working closely with landowners and land managers to unlock opportunities for nature recovery activity

4. **Value wildlife everywhere** – *not only in designated sites, but across urban, farmed and post-industrial landscapes.*

   Our approach is to:
   - value wildlife across our region
   - emphasise the importance of wildlife wherever it exists, including in roadside verges, pocket parks, back yards, and former industrial sites

5. **Connect people with nature** – *prioritising places with greatest need and supporting responsible access.*

   We will aim to:
   - connect people to nature by ensuring our residents can engage with nature to improve their health and wellbeing, from the youngest to the oldest, particularly in places that are deprived of accessible natural habitats
   - manage the risks that recreational pressure can bring and celebrate the cultural heritage of our natural habitats

6. **Learn, adapt and invest** – *using the best evidence and maintaining a long-term commitment to delivery.*

   We will:
   - keep learning, adapting and investing in delivery
   - continue developing our understanding, drawing upon the best available science and local knowledge, in responding to shifting challenges and opportunities for delivery

7. **Recover our lost and declining species** – *reversing the long-term decline in abundance and diversity of our key species.*

   We will target action that can:
   - support populations of at-risk species to thrive and re-introduce locally extinct species where suitable

1. Introduction

Why do we need a Local Nature Recovery Strategy?

What you told us:

'We are all part of nature whether we realise it or not. Disconnection from nature results in many problems for us and the world.'

The South Yorkshire LNRS is the first comprehensive, evidence-based framework for reversing the decline in habitats and species that has been happening in our region and across the UK for decades. It presents an opportunity to tackle this decline in a strategic manner through locally coordinated actions involving public bodies, the private sector, local residents and communities, all of whom will be essential to deliver successful change.

This is not just nature for nature's sake. Nature underpins our existence, providing food, water, medicine and raw materials, regulating our climate, purifying our water, and supporting our health and wellbeing. The Covid pandemic reinforced how much people depend on access to nature, with residents seeking green spaces in both urban and rural environments. Nature needs to be an inherent part of our built environments and future development, creating sustainable communities where people want to live, work and thrive.

Natural England's Strategy (2025)[1] emphasises the importance of nature for our economy and society:

'Nature plays a vital role as the foundation of economic growth. It is essential national infrastructure, alongside transport, energy and communication networks. Yet continued unsustainable use threatens the natural systems that underpin our economy, our health and our national security.'

'Ecosystem services' is the term used to describe the full range of benefits people obtain from nature. These include food, water and raw materials, climate regulation, flood control, pollination and water purification, and the cultural benefits of recreation, wellbeing and spiritual value. Supporting services such as soil formation and nutrient cycling underpin all of these, together sustaining human health, livelihoods and quality of life.

[1] https://www.gov.uk/government/publications/natural-englands-strategy-recovering-nature-for-growth-health-and-security/natural-englands-strategy-recovering-nature-for-growth-health-and-security

The benefits of nature for health and wellbeing are now widely recognised.[2] Accessible, wildlife-rich green spaces where people live, work and play improve physical and mental health and build community connections. Allotments and community gardens provide opportunities to engage local residents in hands-on conservation, fostering stewardship and awareness that strengthens long-term ecological resilience.

Sheffield and Rotherham's Wild at Heart project[3] is a social group for adults exploring local green spaces to boost wellbeing, learn new skills and make new friends. Analysis on behalf of The Wildlife Trusts indicates that for every £1 invested in this green social prescribing scheme, there is £1.19 of additional benefit in reduced costs to the NHS.[4]

However, vast inequalities still exist. In the UK, those living in the most deprived areas are ten times less likely to live close to natural spaces, and only 35% of households with annual incomes below £10,000 live within a ten-minute walk of a publicly accessible natural green space.[5]

Nature is under threat. Changes in land and sea use have been identified as a key driver of unprecedented biodiversity and ecosystem loss over the past 50 years, alongside direct exploitation for natural resources, the climate crisis, pollution and the spread of invasive species.[6]

In 2021 the UK Government commissioned an independent report into the Economics of Biodiversity, which highlighted that we have *'collectively failed to engage with Nature sustainably, to the extent that our demands far exceed its capacity to supply us with the goods and services we all rely on'.*[7]

Nature is declining across the UK, and South Yorkshire reflects this pattern. More than half of our mapped habitats are in poor condition, and many species have declined sharply. At the same time, the region faces increased flood risk, extreme heat and continued pressure from development and competing land uses.

Between 2019 and 2022, local authorities in South Yorkshire declared a climate or nature emergency, including a biodiversity emergency in Doncaster, a nature crisis in Rotherham, a nature emergency in Sheffield and an environmental emergency by SYMCA. All continue to play an active role in local and regional Climate and Biodiversity Commissions, with dedicated strategies including Doncaster's Climate Commission

[2] https://publications.naturalengland.org.uk/publication/5520022657826816
[3] https://www.wildsheffield.com/discover/your-community/wild-at-heart/
[4] https://www.wildlifetrusts.org/news/health-projects-save-nhs-time-and-money
[5] https://www.wildlifetrusts.org/nature-health-and-wild-wellbeing
[6] https://www.unep.org/news-and-stories/story/five-drivers-nature-crisis
[7] https://assets.publishing.service.gov.uk/media/602e92b2e90e0766f807b47/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf

Report, Sheffield's Decarbonisation Routemaps[8] and the Yorkshire and Humber Climate Commission.[9]

South Yorkshire's Local Nature Recovery Strategy is our opportunity to set out how we will work towards shared ambitions to address nature's decline, build on our success stories and ensure our communities can make the most of the benefits that nature brings.

What you told us:

'Nature on our doorstep is what we see and experience every day, so any improvement to it will directly impact the quality of our lives and our sense of place and connection to where we live and what surrounds us.'

Our LNRS provides:

- a **shared evidence base**
- a single, strategic view of **where and how nature recovery should happen**
- a framework for **targeting investment**, including Biodiversity Net Gain (a planning requirement for most new developments to deliver improvements in biodiversity) and Environmental Land Management schemes (ELMs)
- **clarity** for planning, developers, landowners and communities

This strategy is prepared in line with the **Environment Act (2021)** and will guide how South Yorkshire plays its part in delivering national targets for species recovery, habitat improvement and 30by30.

What you told us:

'Please do all you possibly can to address Nature Decline before it's too late. Humans need nature to survive. I want my grandchildren to experience nature at its finest and understand how to care for and protect it.'

The Global Biodiversity Framework,[10] adopted in 2022, commits nations to protect 30% of their land and seas for nature by 2030 ('30by30'). Local Nature Recovery Strategies are part of England's statutory response to this commitment. The South Yorkshire LNRS will play a crucial role in delivering wider environmental benefits such as cleaner air, flood mitigation and carbon storage, as well as extending to human health, recreation and economic gains.

[8] https://www.sheffield.gov.uk/sites/default/files/2024-04/decarbonisation-routemap.pdf
[9] https://yorksandhumberclimate.org.uk/
[10] https://www.cbd.int/gbf

Who is the LNRS for?

The Strategy is designed for:

- **public authorities (local, regional, and national)** – to integrate into strategic investment and planning including through Local Plan development, applying Biodiversity Net Gain (BNG), and to inform the forthcoming Spatial Development Strategy (SDS), and wider funding and regulatory support
- **environmental organisations, conservation bodies, partnerships and practitioners** – to support with local expertise, project development and delivery
- **farmers, landowners and land managers** – to guide environmental land management options and long-term land use decisions
- **developers and investors** – to identify 'strategic significance' and fund habitat creation
- **residents, communities, volunteers and environmental groups** – to support local action, benefit from improved access, health and resilience, and better understand what actions we can all take for nature
- **businesses and anchor institutions** – to invest in nature-based solutions and wellbeing
- **universities and educational institutions** – to develop skills for delivery

Strategic context

Our Strategy has been prepared within a complex context of global, national, regional and local strategies, policies and targets. A full overview is provided in **Appendix A**. Key frameworks and how the LNRS complements them are summarised below:

- **The Environment Act (2021)** establishes LNRSs as a statutory requirement and embeds duties on biodiversity, planning and habitat creation; the LNRS provides South Yorkshire's mechanism for delivering these duties in a coordinated, locally relevant way
- **The Environmental Improvement Plan (2025)** sets national targets for species recovery, habitat improvement, water quality and access to nature; the LNRS translates these into spatial priorities and practical measures for South Yorkshire
- **30by30 Commitment** is the UK's commitment to protect 30% of land for nature by 2030; the LNRS maps opportunities and provides a clear pathway for South Yorkshire's contribution
- **Protected Landscapes Duty (2023)** requires public bodies to seek to further the conservation and enhancement of National Parks and National Landscapes, most relevant in our region for the Peak District National Park

- **The Planning and Infrastructure Act (2025)** introduces the Spatial Development Strategy duty for South Yorkshire; the LNRS will form its environmental evidence base, ensuring future growth and infrastructure planning fully integrates nature recovery
- **National Planning Policy Framework (consultation draft, December 2025)** proposed changes would further embed LNRS delivery through the planning system, with development plans required to take account of nature recovery opportunities
- **The South Yorkshire Strategy**, which is still in development, aims to build stronger, healthier and more resilient communities; the LNRS directly supports these ambitions by guiding investment in nature-based solutions, improving access to green spaces and strengthening the environmental foundations of place-making
- **The South Yorkshire Local Growth Plan** identifies environmental resilience and enhanced natural assets as essential for long-term economic strength; the LNRS provides the framework for aligning nature recovery with economic regeneration, skills and investment priorities
- **Connected by Water** is the region's catchment-wide response to flooding and water management; the LNRS complements this by mapping where nature-based solutions such as wetland restoration and tree planting will deliver the greatest ecological and resilience benefits
- **Neighbouring LNRS areas** share many of South Yorkshire's key habitats and catchments cross county boundaries; aligning with neighbouring LNRSs ensures joined-up ecological networks, coordinated species recovery and coherent planning across wider landscapes

2. How the Strategy was developed

South Yorkshire Mayoral Combined Authority (SYMCA) was appointed as the Responsible Authority to develop a Local Nature Recovery Strategy for South Yorkshire, with a statutory duty to prepare, publish and review this strategy.

The legislation also defined the complementary role of Supporting Authority. For South Yorkshire, this includes the local authorities in Barnsley, Doncaster, Rotherham and Sheffield, alongside the Peak District National Park Authority and Natural England.

The Strategy was developed in accordance with The Environment (Local Nature Recovery Strategies) (Procedure) Regulations 2023, which set out the process that must be followed in preparing a LNRS, and the statutory guidance published by the Government providing further detail on what LNRSs must contain.[11] The Department for Environment, Food and Rural Affairs (Defra) set out a five-stage sequence of steps, from mapping areas of particular importance for biodiversity through to identifying priorities and measures for local habitat and species improvements and mapping these geographically across the region.

Governance model

In collaboration with key partner organisations, SYMCA established a governance model to formalise roles and responsibilities to support strategy development, which was approved at the Mayoral Combined Authority Board meeting on 12 September 2023. Over time, this model was revised to form three key groups, whose members provided essential input into the strategy content.

Working Group This group met regularly to provide subject matter expertise and guidance across all aspects of strategy development. **Steering Group** This group provided oversight of the Strategy direction, ensuring compliance with Defra's Statutory Guidance, and acted as its sponsor through sign-off processes. The Steering Group consisted of all six Supporting Authorities alongside SYMCA, indicated in the table above.

Advisory Panel Appointed through an application and interview process, the Advisory Panel met at key milestones to bring a range of perspectives, offer constructive challenge, generate new ideas and provide alternative viewpoints on key topics.

Table 1: Organisations represented in the Steering Group and Working Group

[11] Local nature recovery strategy Statutory Guidance

Organisation	Role
South Yorkshire Mayoral Combined Authority	**Responsible Authority**
Barnsley Metropolitan Borough Council	Supporting Authority
City of Doncaster Council	Supporting Authority
Rotherham Metropolitan Borough Council	Supporting Authority
Sheffield City Council	Supporting Authority
Natural England	Supporting Authority
Peak District National Park Authority	Supporting Authority
Sheffield and Rotherham Wildlife Trust	Working Group
Yorkshire Wildlife Trust	Working Group
Environment Agency	Working Group
Forestry Commission	Working Group
Don Catchment Rivers Trust	Working Group

Engagement

Between May and November 2024, SYMCA commissioned RSK Environment Ltd. to lead a programme of engagement events to inform the Local Nature Recovery Strategy, in accordance with both statutory and non-statutory guidance. This generated a total of 1,845 responses from across:

- 14 workshops for planners, environmental organisations, landscape-scale organisations, green space and partnership groups, parish councils and large landowners - 229 attendances
- 2 workshops for farmers - 21 attendances
- stands at 8 public events - 565 attendances
- an online survey on the Participatr platform - 963 responses, plus 78 map-based responses

SYMCA also led extensive stakeholder engagement including an event hosted by Bradfield Farmers attended by the Mayor, representation at the Great Yorkshire Show 2025, and further bespoke workshops. For a detailed overview of the engagement process and findings see the RSK Environment Ltd. report in **Annex E**.

What you told us

Key findings from the engagement include:

- strong support for **wilder, more natural green spaces** in both urban areas and the wider landscape, alongside landscapes that remain productive
- **accessibility is critical** including well-maintained paths, seating, safe routes, transport links and inclusive access for people with mobility needs
- broad agreement on the need to **balance nature recovery with food production and renewable energy**, rather than treating these as competing objectives
- **beavers** were the most frequently supported species for reintroduction, followed by water voles; views on larger predators were more mixed
- priority species groups include **invertebrates, plants, trees and birds**, with key habitats being **woodlands including wood pasture, wetlands, grasslands and meadows, and riparian corridors**
- **nature-friendly farming** is supported, but farmers need clear guidance on how to integrate nature while maintaining productivity, particularly in upland and tenanted contexts
- the **largest barrier to nature recovery is funding**; insufficient levels, short time horizons, competitive delivery models and lack of long-term certainty undermine confidence and uptake
- existing schemes such as Biodiversity Net Gain and Landscape Recovery are seen as **misaligned with farm business realities,** tenure arrangements, climate risk and extreme weather, raising concerns about deliverability
- developers and profit-driven decision-making were widely perceived as **not prioritising nature recovery**, alongside concerns about land use, ownership and political will
- many organisations already have aligned plans; the **LNRS should act as a unifying, practical framework**, dovetailing with existing schemes and consistent with neighbouring counties
- **collaboration, landowner cooperation and public education** are essential, including improving understanding of nature's importance and addressing behaviours such as the impact of dog walking on ground-nesting birds to achieve landscape-scale recovery

3. Area description

Purpose

In accordance with Defra's statutory guidance,[12] our LNRS provides an 'area description', which comprises the South Yorkshire metropolitan county. This informs the setting of priorities for recovering and enhancing biodiversity and environmental improvement within the Strategy area.

The purpose of this area description is to identify:

- the range of habitats in the Strategy area and their general distribution especially priority habitats; this should also include habitats of local importance, including those that support scarce or declining species
- how this distribution and extent of habitats has changed in recent decades, including habitats that may have been lost entirely from the Strategy area
- the species or groups of species for which the Strategy area is, or could feasibly be, of national importance
- anticipated future pressures likely to influence species or the extent, distribution or quality of different habitat types including recognising the impact of climate change scenarios and anticipated new developments such as house building and infrastructure
- wider environmental issues affecting part or all of the Strategy area, which changes in land use or management could help to address – for example improvements to the water environment, flood risk management, or climate mitigation and adaptation

This chapter is structured to provide information on:

- the state of nature in South Yorkshire
- the importance of biodiversity in South Yorkshire
- the diverse landscapes and habitats of South Yorkshire, based on National Character Areas (NCAs) and a focus on the urban and riverine environments which flow across the NCA boundaries, how these have changed over time, and identifying important habitats and sites
- the challenges and opportunities for nature recovery in our region

[12] Local nature recovery strategy statutory guidance

Introduction to the South Yorkshire Local Nature Recovery Area

South Yorkshire's LNRS area covers the four local authorities of Barnsley, Doncaster, Rotherham and Sheffield. The eastern part of the Peak District National Park covers much of the uplands within Barnsley and Sheffield, comprising 11% of South Yorkshire.

The land area covers 1,552 km² (599 sq. miles) of mixed geologies and topographies, including upland and lowland landscapes, with significant areas of farmland, major rivers, transport infrastructure, urban centres and industrial uses – old and new. The region's biodiversity has been shaped by long-standing land use pressures including agricultural intensification, pollution, upland management, waterway modification, industrialisation and urban expansion. Climate impacts, the spread of invasive species and changes in energy infrastructure pose further challenges to species and habitats across South Yorkshire.

The area has some remarkable biodiversity of national and international importance. Both the lowland raised bog of the Humberhead Levels to the east and the upland heathland and blanket bog to the west are rare habitats in Western Europe, supporting special bird assemblages including European nightjar and rare reptiles such as adders. A narrow band of magnesian limestone runs through the county supporting calcareous grassland that is nationally rare. The river valleys of the Dearne and the Don contain several wetland mosaics and support important migratory and breeding birds such as bittern. South Yorkshire – particularly around Sheffield – is one of the most wooded areas of the country, with many woodlands classified as 'ancient', or existing continuously since at least 1600 AD.

Most of South Yorkshire sits within the Don and Rother Catchment Management area, with the Idle and Torne Management Catchment covering part of Doncaster in the northeast. The Don and Torne flow into the River Ouse and River Trent respectively, giving South Yorkshire natural connectivity to the surrounding regions of Derbyshire, West Yorkshire, North Yorkshire and York, East Riding and Hull, Nottinghamshire and Lincolnshire.

The diverse landscapes across South Yorkshire support forestry, woodland, extractive industries such as quarrying, and a varied agricultural land use from intensive arable and livestock production to less intensive and extensive grazing of uplands. Agriculture and the management of farmland across the landscape have a significant role to play in nature recovery, comprising over 40% of land use.

Industrial legacy

Much of the landscape and habitats across South Yorkshire has been shaped by historic coal mining, other mineral extraction and peat extraction. Since the closure of the coal mining industry, most active from the post-war period until the late 1990s, the landscape has changed significantly. The removal of deep mine colliery infrastructure, railway sidings, opencast coaling activity and coking works has enabled landscape-scale restoration over several decades, resulting in a significantly enhanced natural environment.

Mineral extraction continues in South Yorkshire, mainly for limestone, sand and gravel. Some disused quarries are now important for wildlife; the peregrine falcon is known to nest on cliff and quarry faces, while mineral substrates can give rise to diverse plant communities.

This industrial legacy sits within and around the four major urban areas of Sheffield, Doncaster, Barnsley and Rotherham. The networks of rivers and streams enabled industrial development in Sheffield, leading to more intensive water management over time and the creation of features such as canals and reservoirs. Sheffield derives its name from the Old English meaning of 'open country near the River Sheaf', while Doncaster's name is more ancient, derived from the Roman fort at a crossing of the River Don. These valuable blue and green habitat networks support biodiversity and provide nature corridors and stepping stones, allowing wildlife to move through the landscape.

In the lowland areas, Thorne and Hatfield Moors contain the largest area of remaining lowland raised bog in England. These important sites are being restored following a history of industrial peat extraction but continue to face challenges including water level management and wildfire risk. Outside the Moors, land drainage and historical warping – the practice of covering peat with silt and clay for agriculture – meant that almost all of the lagg fen (transitional wetland zone found at the margins of a raised bog) surrounding the bogs has been lost. The bogs themselves were drained and then subjected to industrial-scale peat extraction for horticulture. By the turn of the century the habitats were in extremely poor condition, with good habitat restricted to very small areas.

Conservation efforts now focus on restoring the unique habitats of the Moors and the sustainable management of the surrounding farmland to help recover biodiversity and the function of the Moors for flood and carbon storage. This includes managing water levels, controlling invasive species such as rhododendron and reintroducing bog mosses – activity that is ongoing given the immense size of the areas involved. The lagg fen has yet to be recreated, with one small patch at Inkle Moor the only good example remaining in South Yorkshire. Recreating lagg fen would benefit nature in its own right and would also

help manage water levels and drainage on the lowland bog if achieved at a sufficient scale.

How is nature doing in South Yorkshire?

The UK is recognised as one of the most nature-depleted countries in the world. The UK State of Nature report (2023)[13] shows an average 19% decline in UK biodiversity since 1970, with around 1 in 6 species now threatened with extinction. The State of Yorkshire's Nature report (2024)[14] highlights that wildlife sites across Yorkshire are 'too few, too small, and too scattered' to form a healthy and resilient ecological network, with only 1 in 10 having any legal protection. Additionally, 1 in 5 species in Yorkshire has declined by more than 25% in as many years.

The South Yorkshire natural capital and biodiversity mapping report (2021)[15] provided a biodiversity baseline covering 91% of South Yorkshire. This highlighted that:

- a large proportion (57%) of South Yorkshire's habitats are in poor condition, mainly due to the dominance of agricultural habitats
- 16% of the region is in moderate condition, for example, the SSSI area of upland moorland in the west, Thorne and Hatfield Moors on the eastern edge of Doncaster, and much of the broadleaved woodland
- a very small proportion (0.7%) of habitats are in fairly good condition, such as Wharncliffe Woods in north-west Sheffield and Barnsley, and patches of heather on Bradfield Moor
- a few scattered areas across the region are estimated to be in good condition, including Rabbit Ings Country Park (Barnsley), sites in the Dark Peak and Eastern Peak District Moors SSSIs, Woodhouse Washlands on the border of eastern Sheffield and Rotherham, Roche Abbey woodland (Rotherham), and Sprotbrough Flash and Gorge and Cadeby Quarry (Doncaster)

The Sheffield State of Nature report (2018)[16] identified losses over time of priority species including white-clawed crayfish, turtle dove and water vole, brought on by habitat loss, fragmentation resulting from development, and invasive non-native species. Despite having statutory protection, moorland habitat and its associated species are particularly threatened by habitat loss and land management practices – notable examples include birds such as dunlin, redshank and lapwing.

[13] https://stateofnature.org.uk/wp-content/uploads/2023/09/TP25999-State-of-Nature-main-report_2023_FULL-DOC-v12.pdf
[14] https://www.ywt.org.uk/StateofNature
[15] https://www.southyorkshire-ca.gov.uk/getmedia/f1530d63-8657-4650-90a0-43c8c04ccfa5/South-Yorkshire-natural-capital-and-biodiversity-mapping.pdf
[16] https://www.wildsheffield.com/wp-content/uploads/2018/05/sheffield_state_of_nature_2018_summary_report.pdf

The regeneration of the Dearne Valley's industrial landscape created wetlands of sufficient quality to secure designation as a Site of Special Scientific Interest. The Valley was once home to one of the country's strongest populations of willow tit - a species that has declined by 94% nationally since the 1970s due to habitat loss, climate change and competition.

The state of the region's species

Yorkshire Wildlife Trust has identified species of key conservation concern in South Yorkshire,[17] based on data from a wider index of Yorkshire Species of Concern. This takes into account national threat status, rarity and distribution in the region, and the degree to which the region is a stronghold for each species.

Nine of Yorkshire's 263 plant species of concern were only recorded within South Yorkshire, including bearberry, true fox-sedge, fen pondweed and tower mustard.

A number of nature reserves in Doncaster are noted as being particularly rich in species of concern, including Potteric Carr, Shirley Pool and Sprotbrough Gorge SSSIs to the east of the region, as well as the Humberhead Levels.

Key areas of importance for macro-moth species of concern include an area in Doncaster with a wide variety of Local Wildlife Sites, alongside sites such as Potteric Carr SSSI, Betwixt Fen and a marginal area of the Hatfield Moors Special Area of Conservation. A further area of importance is in Sheffield, containing sites such as Ecclesall Wood Local Wildlife Site.

The Scarce Vapourer – one of England's rarest moths – survives in Yorkshire almost exclusively on Thorne and Hatfield Moors and at Potteric Carr Nature Reserve. Other species with a high proportion of their distribution within South Yorkshire include Great Oak Beauty, which appears to be thriving on both Thorne and Hatfield Moors.

Thirty-nine of Yorkshire's 53 bird species of concern were recorded as wintering within or overlapping with the South Yorkshire boundary. Key areas include wetland sites such as the Dearne Valley Wetlands, Denaby Ings and Potteric Carr SSSIs. Species with the highest proportions of their distributions in our region include those for which the Dearne Valley Wetlands are nationally important, such as the non-breeding shoveler. A further area of importance is the corridor around the River Rother, bordering Rotherham and south-east Sheffield, including Local Wildlife Sites such as Rother Valley Country Park, Woodhouse Washlands, Waverley Lakes, Catcliffe Flash and Pithouse West.

[17] South Yorkshire Species of Concern. Yorkshire Wildlife Trust. May 2025.

Areas supporting high numbers of rare breeding birds tend to align with the Pennine Ridge, including the Peak District and South Pennine Moors, along with nearby wetland habitats. Many ground-nesting wading birds found in South Yorkshire – including curlew – continue to face extensive decline, now occurring in only a limited number of locations, increasingly threatened by development and reliant on expansive habitats that are very difficult to restore.

Whilst development pressures can lead to detrimental impacts on habitats and species, they also present opportunities to secure gains in biodiversity and nature recovery. However, recent research[18] indicates that across England only 53% of the ecological mitigations and enhancements that developers have committed to are in place on the ground, with 39% of trees detailed on planting plans missing or dead, and nearly half of the native hedges that were supposed to be laid not existing. Although the research has been anonymised, the report notes confidence that the same patterns would likely be found anywhere in England, suggesting this could also be an issue within South Yorkshire.

Success stories

Across South Yorkshire, however, there have been encouraging examples demonstrating how nature can bounce back when the right actions are taken:

- three of the original 12 national Nature Improvement Areas were in, or partly in, South Yorkshire – Humberhead Levels, Dearne Valley and Dark Peak; these initiatives helped provide a foundation for nature recovery, accelerating and broadening the scope of biodiversity activities
- candidate status for the Doncaster and Humberhead Levels UNESCO Biosphere proposal has been secured, laying the groundwork to establish the North of England's first global reserve for sustainable development and nature recovery (see case study on page 104)
- the designation of the Dearne Valley Wetlands SSSI marks the transformation of one of Europe's most degraded post-industrial landscapes into a nationally significant haven for rare wetland species (see case study on page 31)
- at 15%, South Yorkshire has the highest tree and woodland coverage in Yorkshire, providing a strong platform to build on; the South Yorkshire Woodland Partnership plays a key role in working to increase tree and woodland canopy cover and address biodiversity decline (see case study on page 42)
- the Sheffield Lakeland Landscape Partnership is working to preserve and improve the natural and built heritage of this unique area, delivering a wide range of benefits including natural flood prevention and habitat creation for bats, owls and other small woodland birds (see case study on page 38)

[18] https://wildjustice.org.uk/general/lost-nature-report/

- through improved water quality and the installation of fish passes, otter and several fish species have recolonised the River Don, whose catchment covers a substantial area of South Yorkshire; Atlantic salmon bred in the River Don in 2025 for the first time in 200 years

Through the development and delivery of this Strategy, we have an opportunity to build on these successes and create new opportunities across the landscape. This includes developing resilient, connected habitats, enhancing biodiversity and strengthening overall ecosystem resilience, while providing wider benefits such as flood risk reduction, cleaner air, and improved water quality for communities across South Yorkshire and beyond.

The importance of biodiversity and landscape in South Yorkshire

To better understand the value of nature and the opportunities to enhance it, SYMCA, together with all four local authorities and wider partners, commissioned an assessment[19] of South Yorkshire's natural capital. Natural capital is defined as 'the natural resources and environmental features in a given area, regarded as having economic value or providing a service to humankind'.

The assessment estimated that natural capital in South Yorkshire delivers approximately £550 million in goods and services each year, with an asset value of £18 billion over 50 years (present value). The largest contributions came from air quality regulation (£237 million annually), recreation (£188 million annually) and physical health (£68 million annually).

Practices such as green social prescribing help people to engage in nature-based interventions and activities to improve their mental and physical health, particularly in communities affected by health inequalities. Social prescribing has been shown to reduce demand on the health and social care system, reduce health inequalities and improve mental health outcomes.[20] A recent pilot programme led by the South Yorkshire Integrated Care Board has described tangible benefits to people's lives through engaging with nature locally. [21]

Important habitats and sites

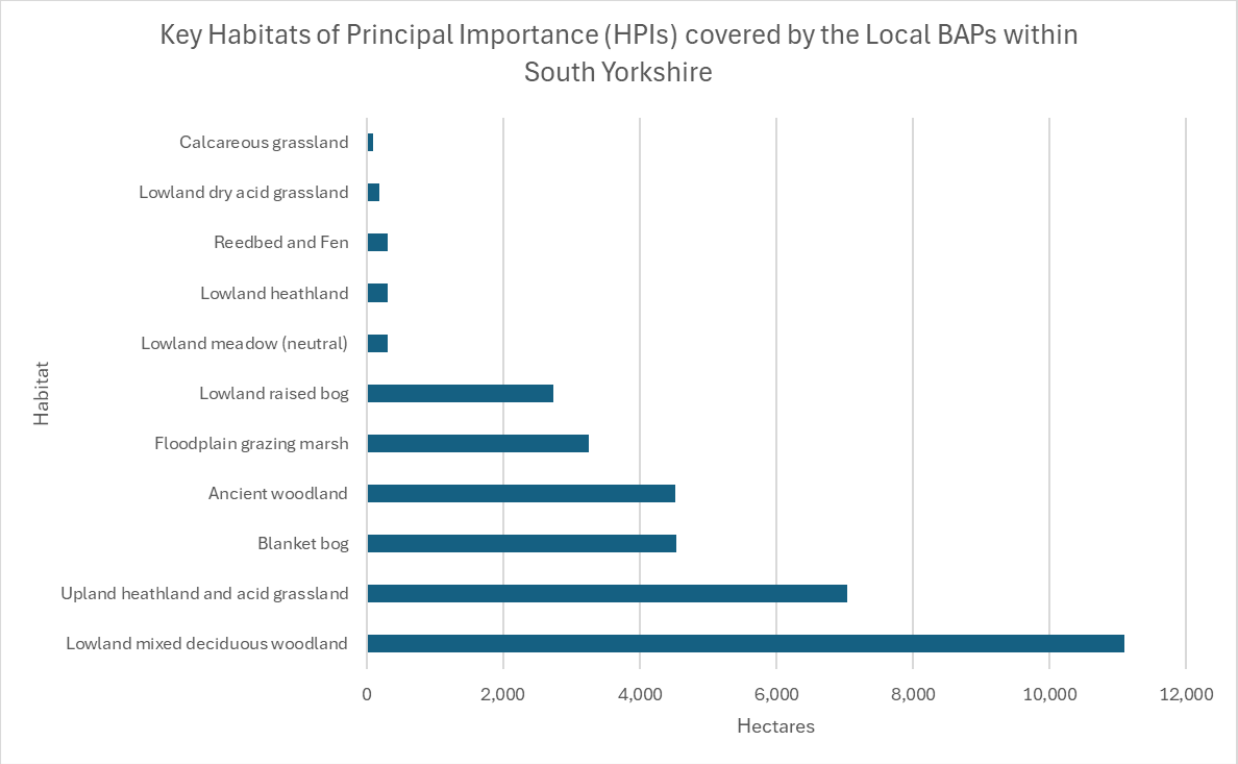
Land cover in South Yorkshire comprises a mosaic of broad habitats including grassland, woodland, heathland, wetland and bog (see Appendix B for more detail). Where referred to, the term moorland encompasses a range of upland habitats including upland

[19] https://www.southyorkshire-ca.gov.uk/getmedia/f1530d63-8657-4650-90a0-43c8c04ccfa5/South-Yorkshire-natural-capital-and-biodiversity-mapping.pdf
[20] The impact of social prescribing on health service use and costs
[21] New funding boost for green social prescribing in South Yorkshire : South Yorkshire I.C.B

heathland, acid grassland, blanket bogs, upland flushes, fens and swamps. Habitats of particular importance within the region are highlighted by partnership documents and strategies, including the four local Biodiversity Action Plans across Sheffield, Barnsley, Rotherham and Doncaster.

Figure 1 and the list below describe Habitats of Principal Importance in terms of: (a) having characteristics that support a wide variety of flora and fauna; (b) their scarcity; or (c) being under pressure from factors that may cause degradation or loss. Further detail is provided in Appendix C (ii).

Figure 1: Key Habitats of Principal Importance covered by the Local Biodiversity Action Plans (BAPs) within South Yorkshire



Habitats of Principal Importance and their characteristics:

- **lowland mixed deciduous woodland** covers over 7% of the region. Irreplaceable ancient woodland (areas continuously wooded since at least 1600 AD) – split almost equally between Planted Ancient Woodland Sites and Ancient Semi-Natural Woodland – covers 2.9% of South Yorkshire
- **upland heathland and acid grassland** covers extensive areas (4.53% of the region). Along with blanket bog (2.92%) and lowland raised bog (1.77%), the vast majority of these habitats are in unfavourable recovering condition – failing to meet required standards but with appropriate management in place
- **floodplain grazing marsh** is important for wetland birds

- **lowland meadow** (neutral pH) contains a high proportion and species richness of broadleaved herbaceous flowers
- **lowland heathland** is scarce and fragmented across South Yorkshire, with the largest area in Doncaster, primarily in the east of the district
- **reedbed and fen** (0.20%) located within the Dearne Valley is an important site for bittern
- **lowland dry acid grassland** (0.12%) and calcareous grassland (0.06%) cover very small areas of the region

Other important habitats include:

- purple moor-grass and rush pasture found in pockets on poorly drained acidic soils
- upland oakwood - an ancient woodland type found in uplands
- wet woodland such as willow carr, and woodland with alder and ash dominant
- wood-pasture and parkland providing a mosaic of species-rich grassland with veteran trees
- arable field margins around field boundaries, generally managed for wildlife
- scrub – containing short woody species such as hawthorn, blackthorn and bramble
- rivers and streams providing habitat corridors for both aquatic and terrestrial species
- standing water such as ponds and reservoirs providing habitats and connectivity
- open mosaic habitat – brownfield or post-industrial land that often has little organic matter
- traditional orchards planted at low densities and managed in a low-intensity way
- inland rock habitats – mainly on gritstone in the Dark Peak and limestone in the Magnesian Limestone area

Some of these habitats are of such importance they are protected by law through site designation. South Yorkshire supports 40 Sites of Special Scientific Interest, three Special Areas of Conservation, two Special Protection Areas and one National Nature Reserve (see Appendix C). These national and international designations recognise habitats and species of national or international importance owing to their rarity, species assemblages or breadth of diversity. Collectively, they protect 15,264 hectares, or 9.8% of South Yorkshire. Local Nature Reserves cover a further 1,127 hectares and are places with wildlife or geological features of special local interest (see Appendix C).

Sites of local importance

Local Wildlife Sites do not carry additional legal protection but are recognised in local planning policy and land management decisions. They play an important role in supporting important species and habitats – including those of principal importance – and provide connectivity across the landscape. Across South Yorkshire, there are 718

Local Wildlife Sites, covering 15,726 hectares – almost equivalent to the combined total area of statutory sites, emphasising their collective importance. Since Local Wildlife Sites are non-statutory, have no legal protection and lack specific funding for their management, they rely on good local planning policies and land management decisions.[22] Changes in agricultural practices and increased urban pressures are contributing to deterioration in habitat quality. For example, as of March 2025, only 15% of Local Wildlife Sites in Sheffield were being managed to conserve their nature conservation interest (see Appendix C for details of Local Wildlife Sites in positive management across South Yorkshire).

Table 2 shows that almost 19% of the 15,264 hectares of statutory designated SSSI land within South Yorkshire has been assessed as being in favourable condition – where habitats and features are in a healthy state and being conserved by appropriate management. Sites such as the Dearne Valley Wetlands score highly. A further 63% of SSSIs have been identified as unfavourable recovering, meaning that actions to achieve favourable status have been identified but not yet achieved. Notably, 10% of the total SSSI area is assessed as unfavourable no change - meaning the designated feature will not reach favourable condition unless changes are made to management or external pressures are addressed.

Table 2: The condition status of SSSIs in South Yorkshire, as reported in the most recent assessment for each site

SSSI type and condition	Area (hectares)	Percentage of SSSI total area (%)
Favourable condition	2,860.68	18.8
Unfavourable recovering condition	9,537.73	62.7
Unfavourable condition no change	1,573.76	10.3
Unfavourable declining	1,228.01	8.1
Not Assessed	6.61	>0.0

Note:

- Favourable – the designated feature is being adequately conserved
- Unfavourable recovering – The feature is not yet fully conserved but the necessary actions to achieve favourable condition have been identified and recorded, at least one action underway and no actions behind schedule
- Unfavourable condition no change – the feature is not being conserved, necessary actions have not been identified and recorded, none of the actions underway and at least one action behind schedule
- Unfavourable declining – the feature is not being conserved and is becoming progressively worse

[22] https://www.wildlifetrusts.org/sites/default/files/2025-10/25AUG_LWS_FINAL-DIGITAL.pdf

Landscapes of South Yorkshire

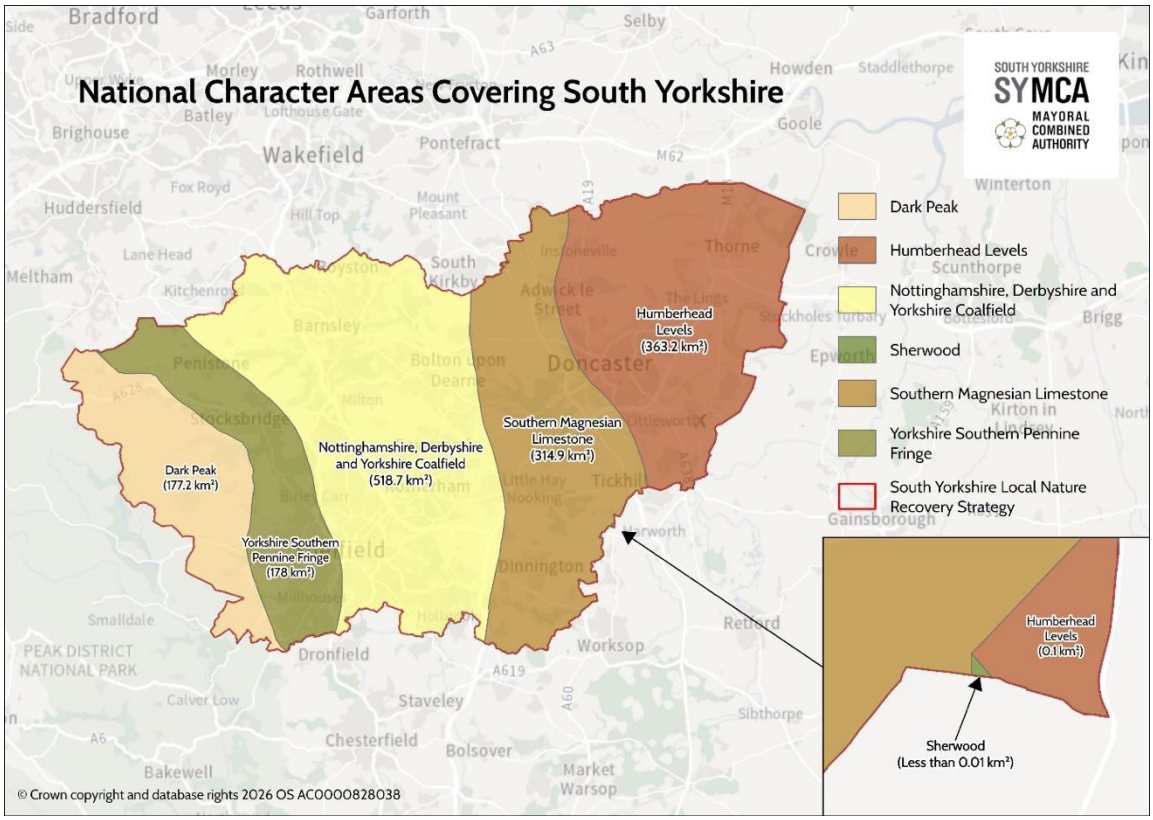
This section describes the diverse landscapes and habitats of South Yorkshire. We use National Character Areas (NCAs) in order to identify distinctive features in terms of landscape, biodiversity, geodiversity, history, and cultural and economic activity.

England is divided into 159 distinct natural areas or NCAs. Crucially for biodiversity recovery, boundaries of NCAs follow natural lines in the landscape not administrative boundaries. The South Yorkshire region comprises six NCAs, as set out below in table 3 and shown in figure 2:

Table 3: National Character Areas – proportion within South Yorkshire

National Character Area	**Area within South Yorkshire (km^2)**	**Percentage of South Yorkshire (%)**
Dark Peak (NCA 51)	177	11.42
Yorkshire Southern Pennine Fringe (NCA 37)	178	11.47
Nottinghamshire, Derbyshire and Yorkshire Coalfield (NCA 38)	519	33.42
Southern Magnesian Limestone (NCA 30)	315	20.29
Humberhead Levels (NCA 39)	363	23.41
Sherwood (NCA 49)	Less than 0.01	Less than 1

Figure 2: National Character Areas in South Yorkshire



The following sections describe the NCAs covering South Yorkshire and identify key habitats and species/species groups for our region. Appendix D provides more detail for each area on the broad habitats present, the proportion of the NCA they cover, and the proportion of the NCA within South Yorkshire that they cover (recognising that all NCAs extend beyond South Yorkshire).[23]

However, this section begins with a focus on the urban and riverine environments that flow across the NCA boundaries.

Urban environment

South Yorkshire is home to around 1.4 million people across two cities, Sheffield and Doncaster, two large towns, Rotherham and Barnsley, and a number of smaller towns and villages. Urban environments make up roughly 20% of the region's land area.

South Yorkshire's main settlements were established around the industries of mining and steel manufacturing, and this industrial legacy continues to shape the landscape today,

[23] This information is gathered from the Living England Habitat Map (Phase 4) – an open dataset published by Natural England and derived using satellite-based image classification. Whilst it is understood that there will be some inaccuracy with the data, it provides an estimated overview of the habitats present, with consistent data and methodology used for each NCA section.

from modified rivers and mill races to roads, rail, canals and former spoil heaps. Many of these features remain – though often repurposed or regenerated – providing new opportunities for businesses, homes, recreation and nature.

The spread of urban and suburban areas and associated infrastructure, including roads, railways and utilities, has resulted in habitat loss and fragmentation, with impacts on water quality, water quantity and biodiversity. Where industry and settlements have concentrated in river corridors, heavy modification of rivers has increased flood risk in urban areas. Future growth and development will continue to present both opportunities and threats for nature across the region.

A 2021 report exploring the value of South Yorkshire's natural habitats highlighted the importance of ecosystem service delivery (benefits people obtain from nature) to South Yorkshire's urban centres, particularly air quality regulation, noise reduction, local climate regulation and access to nature. Demand is highest in Sheffield, the region's Core City, with urban areas adjacent to the road network also identified as hotspots.[24]

Green infrastructure and urban nature environment

Well-planned urban areas with street trees, parks and gardens can play a key role in nature's recovery. They can support healthy ecosystems, allowing wildlife to move between habitats, regulating water flow, recycling nutrients and enabling pollination and seed dispersal, while helping nature adapt to climate change and resist pests and diseases.[25] Doncaster's Tree Policy and Tree Risk Management Plan[26] and the Sheffield Street Tree Partnership Strategy[27] are examples of how local authorities are delivering biodiversity and wider environmental benefits in urban areas.

Well-managed urban waterways, including canals and rivers, offer significant opportunities for biodiversity, creating linear corridors for species dispersal and movement. They also increase public access to nature and enhance community health and wellbeing. Smaller features such as roadside verges and hedgerows, of which over 8,000 kilometres are estimated in South Yorkshire,[28] provide similar benefits on a smaller scale, offering green corridors and food sources for pollinators. The fenced nature of railway corridors means that extensive buffers of scrub, woodland and grassland habitat are largely free from human disturbance, supporting a wealth of wildlife, notably

[24] https://www.southyorkshire-ca.gov.uk/getmedia/f1530d63-8657-4650-90a0-43c8c04ccfa5/South-Yorkshire-natural-capital-and-biodiversity-mapping.pdf
[25] https://portals.iucn.org/library/node/49061
[26] https://www.doncaster.gov.uk/services/environmental/trees-for-doncaster
[27] https://www.sheffield.gov.uk/sites/default/files/docs/roads-and-pavements/managing-trees/sheffield-street-tree-strategy-2021.pdf
[28] https://www.southyorkshire-ca.gov.uk/getmedia/f1530d63-8657-4650-90a0-43c8c04ccfa5/South-Yorkshire-natural-capital-and-biodiversity-mapping.pdf

reptiles, which benefit from sloped banks and ballast for basking. The Sheffield Wetland Corridor project[29] (Froglife and Sheffield City Council) worked with Network Rail and National Grid to improve habitats for reptiles and amphibians along infrastructure corridors, including creating ponds to complement those on Council-owned land.

Urban green spaces, including parks, churchyards, residential gardens, green walls and green roofs, provide stepping stones for mobile wildlife moving through the urban environment and are highlighted as important within Local Biodiversity Action Plans for Barnsley and Doncaster. Some urban parks in South Yorkshire are already managed as nature reserves, including Waterloo Kiln and Pottery Ponds in Rotherham.[30]

Although an increasing number of residential gardens across the UK are being paved or covered with impermeable surfaces, often to provide parking,[31] when managed sympathetically for wildlife they can support high levels of biodiversity. Residential gardens in Sheffield have been shown to support a high diversity of wildlife as part of the University of Sheffield Bugs project (2001).[32] All Saints Ecclesall is a notable example of a churchyard that has seen biodiversity improvements through changes in management, including the presence of orchids and a 70% uptake of newly installed bird boxes.[33]

Brownfield and post-industrial land

Brownfield sites, previously developed land that is no longer in use, and former industrial sites such as colliery pit stacks and quarries typically comprise a mixture of bare ground, lower plants, standing water and scrub habitats. They can support species that tolerate extremes in environmental conditions such as moisture or pH, resulting in locally unique species assemblages. Where these habitats develop into open mosaic habitats (OMH) on previously developed land, the site will achieve high nature value and be regarded as a priority habitat.

These sites are capable of supporting a wide range of plant species, often resembling those found in naturally low-nutrient habitats, where mixed materials, low nutrient levels and little organic matter create a more open, less fertile environment in which a variety of wild plants can thrive. The mosaic of vegetation types and bare open ground also makes these sites hotspots for notable invertebrates, which often require a mix of habitats for basking, burrowing and larval food plants. Reptiles also thrive here, utilising bare ground for basking and benefiting from the abundance of invertebrates.

[29] https://www.froglife.org/2020/04/30/river-of-life-spring-has-sprung-as-new-sheffield-wetland-corridor-already-sees-results/
[30] https://www.rotherhamparks.co.uk/directory-record/75/waterlook-kiln-and-pottery-ponds
[31] https://www.sciencedirect.com/science/article/abs/pii/S0048969714003659
[32] https://wlgf.org/bugs_project.html
[33] https://www.wildsheffield.com/wp-content/uploads/2022/08/220715-All-Saints-Ecclesall.pdf

Prioritising development on brownfield sites may not always benefit biodiversity. A biodiversity-first approach, where sites of low wildlife value, whether brownfield or greenfield, are prioritised for development, should be taken.[34]

When managed well, brownfield and post-industrial sites can be transformed into wildlife havens. The Dearne Valley Wetlands SSSI is a prime example. Following the closure of industrial and mineral extraction activities, the area has been transformed into nationally important wetland habitat for species including bittern, lapwing and redshank (see case study below).

CASE STUDY: Dearne Valley Wetlands

The designation of the Dearne Valley Wetlands as a Site of Special Scientific Interest (SSSI) represents one of South Yorkshire's most significant nature recovery achievements. Once one of the most environmentally degraded landscapes in Europe, the valley has been transformed over two decades into a nationally important haven for wetland species through long-term collaboration and community action.

Former industrial land has been re-engineered into rich wetland habitats supporting thousands of wading birds, waterfowl and priority species. Bitterns now breed in reedbeds created on former railway yards, and avocets, lapwings and oystercatchers feed and nest on newly formed wetlands. These ecological gains demonstrate how nature can recover even in heavily altered post-industrial landscapes.

This transformation was the result of the long-standing Dearne Valley Green Heart Partnership, formed in 2006. Partners include Barnsley, Rotherham and Doncaster Councils, Natural England, the Environment Agency, Yorkshire Wildlife Trust, RSPB, the Garganey Trust, Barnsley Biodiversity Trust, Yorkshire Water, local farmers and numerous community groups. The area also benefited from national investment as one of Defra's first Nature Improvement Areas (2012) and through a major National Lottery Heritage Fund Landscape Partnership.

Old Moor is a site within this network, taken over by the RSPB in 2003 and designated as a SSSI in 2022. It is recognised not only as important habitat for priority species but also for providing access to nature in a socially and economically deprived area. Active management is crucial, and an ongoing challenge is ensuring sites are maintained as open mosaic habitat rather than being left to colonise with dense scrub.

The restored wetlands provide substantial benefits for climate resilience, including natural flood management, as well as for public wellbeing, tourism and local pride. With nature recovery networks expanding and community involvement growing, the Dearne Valley Wetlands SSSI stands as a national exemplar of how restored landscapes can support wildlife, people and place-based regeneration.

[34] https://www.buglife.org.uk/resources/habitat-hub/brownfield-hub/

While urban development has fragmented habitats over time, numerous important sites for nature remain, either already protected and managed or with the potential to be. Potteric Carr, one of Yorkshire Wildlife Trust's flagship sites, is a wetland reserve on the southern edge of Doncaster. Bisected by railway lines and bounded by the M18 motorway, it nonetheless comprises a vast network of wetland and woodland habitat supporting important assemblages of birds.

Many species of conservation concern are associated with buildings, including peregrine falcon (recorded at St George's in Sheffield[35] and the Town Hall in Barnsley), swift, swallow, house martin, sand martin, house sparrow and a range of bat species including pipistrelles, Daubenton's bat and Leisler's bat. Gardens and parks support hedgehog and a diversity of bird species, small woodlands in Sheffield support badger, and urban waterways support species such as otter and Atlantic salmon. Atlantic salmon bred in the River Don in urban Sheffield and Rotherham in 2025, the first time in 200 years.[36,37]

Designing buildings to include nature-friendly features such as bat and bird boxes, green roofs, native and pollinator-friendly landscaping and ponds helps support nature's recovery in urban environments. Sustainable Drainage Systems (SuDS) can be incorporated into new developments and infrastructure projects and, if designed and managed sensitively, can help address issues from flooding to biodiversity loss.

Sheffield's Grey to Green is an innovative environmental and economic development strategy developed by Sheffield City Council and The University of Sheffield, managed by Green Estate Community Interest Company. The scheme helps protect against heavy rain and flooding by slowing down and absorbing surface water, using a mix of native and non-native plants to create colourful, long-lasting meadows that support wildlife in a variety of ways.[38]

Urban environment: key habitats and species for South Yorkshire
Key habitats: open mosaic habitats on previously developed land, canals and rivers, wetlands, grass verges, street trees and woodlands.
Key species: bats, otter, swift, house martin, common toad, great crested newt, grass snake, pollinators, brown trout, Atlantic salmon.

[35] https://peregrine.sites.sheffield.ac.uk/
[36] https://www.wildsheffield.com/wp-content/uploads/2018/05/sheffield_state_of_nature_2018_summary_report.pdf
[37] https://www.bbc.co.uk/news/articles/cly7gqx2zw0o
[38] https://greenestate.org.uk/pictorial-meadows-and-the-greening-of-sheffield-a-grey-to-green-suds-success-story/

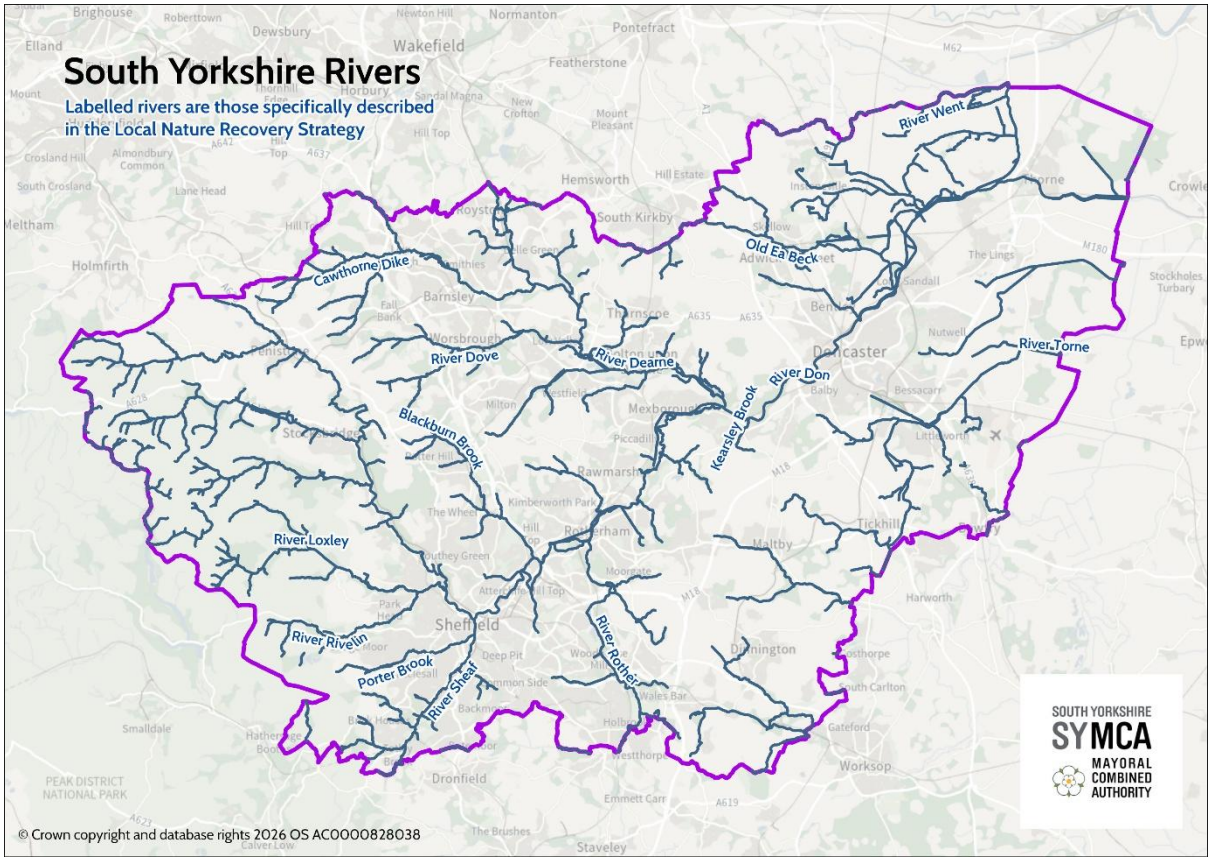
Rivers and catchments

South Yorkshire's extensive networks of rivers, streams and canals are vital to nature recovery and to the Lawton Report's[39] ambition for nature to be 'more, bigger, better and joined' across the region. Critical to early industrialisation, these waterways continue to shape both the landscape and its wildlife, supporting biodiversity and providing nature corridors and stepping stones across the strategy area. South Yorkshire covers largely the same geographical area as the catchment of the River Don and sits within the Humber river basin. The Idle and Torne catchment also covers a significant part of south-east Doncaster and a small part of Rotherham.

'The uplands of the rivers Porter, Rivelin and Loxley in Sheffield, and the River Dearne in Barnsley, give us beautiful moorland landscapes. These uplands lead into wetland nature reserves along the Dearne and Rother in Barnsley and Rotherham, and on to nationally significant lowland peat bogs around the lower Don in Doncaster.'
Connected by Water Action Plan, 2023

The main rivers in South Yorkshire are described below and shown in figure 3:

Figure 3: South Yorkshire's Rivers



[39] https://webarchive.nationalarchives.gov.uk/ukgwa/20130402170324/http:/archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

(i) **River Don**: The Don is a large river flowing for approximately 70 miles from its headwaters west of Dunford Bridge in the Peak District to Goole where it joins the River Ouse. In the upper catchment, the River Don rises in the Peak District and is joined by Little Don, Loxley, Rivelin, Porter Brook, and Sheaf rivers on its journey down to Sheffield city. This part of the catchment has large areas of moorland, upland farms and rural estates.

In its middle section, the Don is joined by the Rother and Dearne rivers. It supports farmland, as well as nature reserves and urban areas.

Along its lower section, the Don travels to Doncaster, giving its name to the city, and is eventually met by the River Went. This is an area of predominantly low-lying land with a complex and interconnected system of engineered flood defences such as embankments, walls and storage reservoirs that manage flood risk from the Don, its tributaries and the tidal influence of the Humber estuary.

The lower catchment contains nationally significant lowland peat bogs as well as drained farmland.

(ii) **River Rother**: This river, which gives its name to the town of Rotherham, rises in Pilsley in Northeast Derbyshire. It flows northwards to feed the Chesterfield Canal, and on through several districts of Sheffield before joining the River Don near Templeborough in Rotherham.

(iii) **River Dearne**: The Dearne flows eastwards from its source in Denby Dale for over 30 miles through Darton and Barnsley until it meets the River Don at Denaby Main, a village between Mexborough and Conisbrough near Doncaster.

(iv) **River Sheaf**: This finds its source amongst the Pennines and flows northwards past Dore, eventually flowing under the centre of Sheffield before joining the River Don. Sheffield takes its name from the River Sheaf.

(v) **Porter Brook**: The Porter Brook also flows through Sheffield, descending 300 metres from its source in Burbage Moor to its mouth where it meets the River Sheaf.

(vi) **Loxley**: The river's source starts 16 km northwest of Sheffield on Bradfield moors, flowing through Bradfield Dale and join Storrs Brook and the River Rivelin before meeting the River Don at Owlerton.

(vii) **River Rivelin**: Sourced in the Hallam moors, the river is fast flowing and runs through the Rivelin valley, characterised by wooded steep slopes. The river joins the River Loxley at Malin Bridge.

(viii) **River Dove**: Flows through the Low Valley in Barnsley, from Worsbrough Reservoir to eventually join the River Dearne.

(ix) **Torne**: Rises in Maltby, Rotherham, before flowing through Doncaster and eventually empties into the River Trent at Keadby pumping station in Lincolnshire. Much of the river channel is engineered.

(x) **Went**: Rises near Featherstone in West Yorkshire and joins the River Don in the north of Doncaster.

(xi) **Blackburn Brook**: Rises in High Green, Sheffield and flows through the Blackburn valley before joining the River Don, close to Meadowhall Shopping Centre.

(xii) **Cawthorne Dyke**: Flows from northwest of the village of Cawthorne to join the River Dearne.

(xiii) **Kearsley Brook**: Rises to the south of Conisbrough, Doncaster, flowing through rural and urban locations, including culvert structures, before discharging into the River Don.

(xiv) **Ea Beck**: From its source in South Emsall, West Yorkshire, the Ea Beck flows eastward, before joining the River Don at Thorpe in Balne, Doncaster.

(xv) **Maltby Dike:** To the south of Maltby, flowing from Roche Abbey until it joins Hellaby Brook and Newhall Dike.

(xvi) **Hellaby Brook:** To the west of Maltby, running north-west to Ravenfield.

Several canals are also found within South Yorkshire, including:

- Sheffield and South Yorkshire Navigation Canal – comprising the Sheffield and Tinsley, and the Stainforth and Keadby Canals – connects Sheffield, Rotherham, and Doncaster with the River Trent at Keadby (Lincolnshire) and the Aire and Calder Navigation
- Barnsley Canal – the historic route of this canal runs from the boundary with Wakefield District north of Royston via Barnsley to Barnby Basin
- Dearne and Dove Canal – the historic route of this canal runs from the junction with the Barnsley canal near Hoyle Mill to the boundary with Rotherham Borough west of Wombwell, with two spurs running to Worsbrough and Elsecar
- Chesterfield Canal, which links Nottinghamshire, South Yorkshire and Derbyshire

River catchment plans

River catchments – areas of land where rain falls and is collected – are complex and can be vast. Impacts in one part of a river catchment can have wide-reaching impacts across the remainder and the habitats and species it supports. This moves beyond South Yorkshire, and these arteries are vital cross-boundary points for working with neighbouring regions. For example, the River Idle is on the Doncaster Boundary with Nottinghamshire, where there is a significant network of wetland SSSIs.

Regional partnerships are taking action through a catchment-based approach, with key plans including the Don, Dearne and Rother Catchment Plan[40] and the River Torne Catchment Plan.[41] The River Don catchment covers 13 Local Authorities, of which those in South Yorkshire along with Chesterfield and North East Derbyshire cover the greatest area.

Connected by Water[42] is a South Yorkshire alliance working to build flood resilience and respond to the climate emergency (see case study below).

CASE STUDY: Connected by Water

Connected by Water is a major South Yorkshire partnership created to help communities, landscapes and nature become more resilient to flooding and climate change. The initiative brings together seven key organisations: SYMCA, Barnsley, Doncaster, Rotherham and Sheffield Councils, Yorkshire Water and the Environment Agency.

The partnership formed in response to severe flooding in 2019, which caused serious damage to homes, businesses and infrastructure across the region. South Yorkshire's mix of uplands, lowlands and major river systems means many communities are at high risk of flooding, and Connected by Water recognises that tackling this risk requires joined-up action across whole river catchments rather than isolated projects.

Alongside major engineering schemes, the partnership delivers a wide range of nature-based solutions that support both flood resilience and nature recovery – including creating wetlands, reconnecting rivers with their natural floodplains, restoring peatlands, planting trees and hedgerows, and creating ponds and scrapes to slow and store water. These measures reduce flood risk while improving habitats for wildlife, enhancing carbon storage and creating more green spaces for people to enjoy.

The partnership works closely with communities, landowners, farmers, businesses and schools to build awareness of flood risk and support practical action before, during and after flood events. Engagement activities include community workshops, flood warden training, school sessions and tools to help residents check their local flood risk and prepare for future events.

Connected by Water aims to better protect 25,000 homes, businesses and key infrastructure across South Yorkshire. By combining engineering, nature-based solutions and strong community involvement, the partnership is creating a more resilient, nature-rich region and demonstrating how climate adaptation and nature recovery can go hand in hand.

The Humber River Management Plan, as required by the Water Framework Directive, describes the framework used to protect and improve the quality of waters in each river basin district. The Plan aims to enhance nature and the natural water assets that form the

[40] https://dondearnerother.org/wp-content/uploads/2020/12/Catchment-Plan-2020-FINAL.pdf
[41] https://catchmentbasedapproach.org/get-involved/torne/
[42] https://connectedbywater.co.uk/

foundation of everyone's wealth, health and wellbeing, including the cultural and wildlife values that matter to people and communities.[43]

The quality and status of rivers and watercourses are assessed differently to their terrestrial counterparts. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 provide the critical mechanism for assessing and managing the water environment in England and Wales, with the aim of preventing deterioration and improving water quality.

The overall ecological status of waterbodies is assessed and reported by the Environment Agency. River and watercourse management is organised by catchment, with the main networks in South Yorkshire being the Don and Rother, and the Idle and Torne.

As table 4 shows, the majority of waterbodies in these catchments are in moderate condition. Of the 52 waterbodies assessed across the Don system, 44 are in moderate condition and only 3 are of good or high quality. In the Idle and Torne area, 3 of the 4 waterbodies assessed are in moderate condition.

Due to changes to methods and evidence base in 2019, the Environment Agency indicates that all water bodies now fail chemical status. This reflects a revised approach to assessment rather than a sudden deterioration in water quality but underlines the scale of the challenge facing the region's water environment.

Table 4: Waterbody ecological status summary

Waterbody condition	**Ecological status (number of surface waterbodies)**	
	River Don Catchment	**Idle and Torne Catchment**
Bad/Poor	5	1
Moderate	44	3
Good/High	3	0
Total	52	4
(Environment Agency, 2019 Cycle 3 data)		

Rivers and catchments: key habitats and species for South Yorkshire
Key habitats: rivers, becks, oxbows, brooks, canals, associated wetlands and headwaters.
Key species: otter, water vole, white-clawed crayfish, brown trout, Atlantic salmon, European eel, bullhead, river lamprey, dipper, mayflies and frogbit.

[43] https://www.gov.uk/government/publications/river-basin-management-plans-updated-2022-introduction/river-basin-management-plans-updated-2022-introduction

National Character Areas

Sherwood (NCA 49)

The Sherwood NCA is a long band of gently rolling hills located to the north of Nottingham. Only 0.13 hectares of South Yorkshire extends into the Sherwood NCA. This small area comprises land under agricultural and horticultural use. Due to the small area of this NCA in South Yorkshire, a full description of the character area and its environmental opportunities and challenges will not be covered in this section.

Dark Peak (NCA 51)

The Dark Peak is renowned for its dramatic moorland landscapes, rugged terrain and rich biodiversity. Its geology is millstone grit, a coarse sandstone that contributes to acidic soils and peat formation. Peaty soils dominate the upland areas while the valleys comprise fertile alluvial soils.

Extensive heather moorland is characteristic of the area, with blanket bog and acid grasslands comprising heather, bilberry and cotton-grass. Some 84% of this area lies within the Peak District National Park and approximately 57% has been designated as a Special Protection Area and Special Area of Conservation. A further 46% of the NCA has been designated as the South Pennines Moors SSSI, recognised for its range of important habitats, including European dry heaths, blanket bogs and ancient sessile oak woods with holly and hard ferns.

Other important habitats include Northern Atlantic wet heaths with cross-leaved heath, transition mires and quaking bogs. This impressive mosaic of habitats supports internationally important numbers of breeding merlin, golden plover and short-eared owl.

The majority of agricultural land use is livestock grazing, where natural conditions make farming difficult. Most farmland in the area consists of holdings larger than 100 hectares, which together make up 78% of the total farmed land. In contrast, the most common farm size is between 5 and 20 hectares, though these smaller farms account for only 4% of the NCA. Sheffield and Rotherham Wildlife Trust recently purchased Ughill Farm, a 132-hectare farm in the Peak District National Park at the heart of the Sheffield Lakeland Partnership area, to explore nature-friendly farming practices (see case study).

CASE STUDY: Sheffield Lakeland Partnership
Sheffield Lakeland Partnership was funded by the Heritage Lottery Fund as part of its national Landscape Partnerships programme and is now in its next ten years' delivery phase. The partnership is managed by Sheffield and Rotherham Wildlife Trust, working with Sheffield City

Council, Sheffield Hallam University, Yorkshire Water, Natural England and the Environment Agency, with support from landowners and local access groups.

The area is a story of water – from the carving of the valleys, through early settlement and industry to the reservoirs that have led to the term 'Sheffield Lakeland'. The Partnership offers a unique opportunity to manage the area's heritage with a common vision, on a landscape scale, for people and wildlife to enjoy. The Partnership's natural flood management project aims to bring together flood protection and nature recovery alongside enhancing landscape character.

The Partnership aims to achieve three broad outcomes: a more resilient landscape; nature recovery; and a diverse community that enjoys and looks after the area. The landscape is rich in history, with diverse habitats abundant in wildlife, vibrant communities and strong traditions. Wildlife must be given room to move through the countryside and the Partnership is working to restore, recreate and reconnect habitats on a landscape scale.

Over half of the area falls within the Peak District National Park, and the western margin includes areas designated as SSSI, Special Protection Area and Special Area of Conservation – acting as a valuable buffer between protected habitats and Sheffield's urban fringe.

The Partnership has entered an exciting new phase with nature-friendly farming now a key strand, centred around Sheffield and Rotherham Wildlife Trust's farm at Ughill. The aim is to test and develop nature-friendly farming practices on low-grade, marginal farmland – conserving wildlife including curlew and other nationally threatened farmland birds, and sharing sustainable farming techniques with the wider community. The site will be used as an exemplar to encourage others to farm in a similar way.

Image credit: Trevor Bagshaw

Changes in recent decades include localised large-scale tree planting on moorland, extensive restoration of eroded peat, and reduced management of land adjacent to the moorland, which has led to the spread of moorland vegetation and rough grassland into previously enclosed agricultural land.[44]

The Burbage Valley lies within the Dark Peak Nature Improvement Area (NIA). The Dark Peak NIA project (2012–2015) aimed to improve and create areas of high-quality wildlife habitat, including blanket bog, upland heathland, native broadleaf woodland and scrub, and hay meadows, while ensuring good public access through bridleways, byways and disabled access on the eastern moors, and supporting visitor engagement.

Burbage Moor is managed as a partnership between the RSPB and the National Trust, on behalf of the National Park Authority and Sheffield City Council.[45] Across 3,200 hectares, natural regeneration is being encouraged by reducing the intensity of livestock grazing, with low numbers of sheep, cattle and red deer grazing the moors to create a mosaic of habitats. Native tree planting and peat bog restoration, including rewetting and grip blocking, are helping to restore this habitat and the natural hydrology of the area.

Dark Peak: key habitats and species for South Yorkshire
Key habitats: European dry heaths, blanket bogs, old sessile oak woods with holly and hard fern, Northern Atlantic wet heaths with cross-leaved heath, and transition mires and quaking bogs.
Key species/species groups:
Adder, common lizard, water vole, curlew, lapwing, round-leaved sundew, woodland bird assemblage (including lesser spotted woodpecker, pied flycatcher and wood warbler), upland bird assemblage (including ring ouzel, common sandpiper, dunlin, golden plover and hen harrier).

Yorkshire Southern Pennine Fringe (NCA 37)

The Yorkshire Southern Pennine Fringe NCA is a transitional landscape from the upland areas of the Southern Pennines NCA in the west to the low-lying land of the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA in the east.

The area is characterised by rolling hills, steep valleys and moorland fringes, with rivers including the Don, Sheaf, Rivelin and Loxley winding through the valleys. The geology is a mixture of millstone grit and coal measures, which influence both the natural vegetation and human land use of the area, having historically supported quarrying and coal mining. Small areas of priority habitats are found across the NCA, supporting a wide range of

[44] https://nationalcharacterareas.co.uk/Dark-Peak/
[45] https://www.visit-eastern-moors.org.uk/

wildlife including Red-Listed birds of conservation concern, including unimproved neutral grasslands and good quality semi-improved grasslands.

Several SSSIs are found in this area, including Little Don Stream Section SSSI, designated for its geological interest, and Spring Meadows, Alderman's Head and Cow Croft Meadow SSSI, designated for its species-rich unimproved neutral grassland habitats.

The legacy of the area's industrial past is seen in the abundance of industrial buildings and structures such as factories, chimneys, railways and canals. Many of the rivers have been heavily modified for industry, with a large number of weirs limiting fish movement. Parts of Sheffield and Barnsley lie within this NCA, with built-up areas and gardens forming the third largest land use type.

Farming and agricultural landscapes

The area around Bradfield and Penistone is characterised by small family farms dominated by livestock farming, including dairy farming. Grasslands are often managed more intensively to increase the amount of grass grown for farming and silage. The most prevalent field boundaries are dry stone walls, with hedgerows featuring on lower ground. The steepest slopes support acid grasslands with scattered dwarf shrubs and areas of heathland on the highest ground, wet grasslands and marshes where springs emerge between the gritstone and shales, and rare areas of species-rich or semi-improved hay meadows.

Woodland and trees

The area supports 2,547 hectares of ancient woodland (areas continuously wooded since at least 1600 AD), comprising Ancient Semi-Natural Woodlands and Plantations on Ancient Woodland Sites, sheltering species such as wood sorrel, sweet woodruff and yellow pimpernel. Notable ancient woodlands include Wharncliffe, Greno and Ecclesall Woods. These woodlands also support wider environmental benefits including sustainable timber production, carbon sequestration and recreational opportunities.

Habitats across the NCA are under continued pressure from housing development in areas outside the urban centres.[46] Despite this, recent decades have seen improvements in the quality and extent of green corridors, restoration of wetland habitats along river corridors and a significant increase in woodland cover.

Historically, the South Yorkshire Forest, one of twelve Community Forests in the UK, was established to demonstrate the contribution of environmental improvement to

[46] https://nationalcharacterareas.co.uk/Yorkshire-Southern-Pennine-Fringe/

economic and social regeneration, covering around 9% of the NCA. Although the South Yorkshire Forest Partnership no longer exists, its legacy helped shape woodland management, creation and community engagement, work now continued by the South Yorkshire Woodland Partnership (see case study below). Substantive tree planting programmes continue across South Yorkshire, including within this NCA. Netherwood Country Park in Barnsley is one of several areas targeted for tree planting.

Yorkshire Southern Pennine Fringe: key habitats and species for South Yorkshire
Key habitats: ancient and semi-natural woodland, Plantations on Ancient Woodland Sites (PAWS), good quality semi-improved grassland, purple moor-grass and rush pasture, and lowland meadow.
Key species and species groups: lapwing, curlew, otter, brown hare, water vole, farmland bird assemblages (including skylark, grey partridge and barn owl), grassland fungi (including pink waxcap, nitrous waxcap and deceptive earthtongue), and freshwater fish (including European eel, Atlantic salmon and bullhead).

CASE STUDY: South Yorkshire Woodland Partnership
The South Yorkshire Woodland Partnership brings together Sheffield, Barnsley, Doncaster and Rotherham Councils, SYMCA, the Woodland Trust, the Forestry Commission and Sheffield and Rotherham Wildlife Trust to expand, protect and sustainably manage trees and woodlands across the region.

Established in 2020, the Partnership works to support national targets for increased tree and woodland canopy cover and to help address biodiversity decline. Its vision is for 'a nationally recognised, vibrant and resilient network of trees and woodlands across South Yorkshire that delivers life-changing, sustainable benefits for people, nature, climate and the economy'.

The Partnership delivers this through collaboration with landowners, local authorities and community groups on woodland creation and management. It identifies and prioritises areas suitable for planting using environmental mapping, provides technical support including advice on grants and funding, and monitors progress to maximise ecological, social and economic benefits.

In the longer term, the Partnership aims to increase tree canopy and woodland cover to strengthen climate resilience and biodiversity, improve the management of existing woodlands with a particular focus on ancient semi-natural woodlands, and promote agroforestry and trees outside woodland across urban, rural and agricultural landscapes. It also seeks to support public access and community engagement to ensure equitable access to green spaces, and to coordinate with wider environmental initiatives including flood mitigation, pollution reduction and the Nature Recovery Network.

Through coordinated action, ambitious targets and evidence-based planning, the Partnership is committed to creating a resilient, connected and nature-rich landscape across South Yorkshire.

Image credit: Christopher Tomson

Nottinghamshire, Derbyshire and Yorkshire Coalfield (NCA 38)

The Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA is the largest in South Yorkshire, covering approximately a third of the region. Several rivers flow into the area from the west, notably the Dearne, Don and Rother, which ultimately drain into the River Humber catchment. The geology is dominated by coal measures interbedded with sandstones, shales and mudstones, supporting a range of habitats on post-industrial sites where oak and birch are common, with pockets of heather particularly on reclaimed land.

There are no active coal mines left in South Yorkshire. Restoration of former mining sites began in the late 1980s and early 1990s, marking a significant shift towards environmental recovery and the creation of new wildlife habitats. Two community forest partnerships have had a positive impact on woodland cover across the NCA, and work continues to increase woodland cover and management. The Conservation Volunteers, working in partnership with The Land Trust, manage South Yorkshire Community Woodlands in Barnsley, Doncaster and Rotherham, including Dinnington Community Wood, which comprises 35 hectares of grassland, mixed woodland, wet meadow and footpaths and cycle paths. Some woodlands have not received significant management since planting, resulting in single-age stands that present opportunities for enhancement.

CASE STUDY: The Fleets (Coalfields, Barnsley district)

The Fleets is an area of urban Barnsley where the River Dearne flows through the centre of town. The river previously had steep-sided banks and embankments to keep water within the channel. In 2025 a project was undertaken to re-naturalise the river and its floodplain.

Yorkshire Wildlife Trust, working in partnership with the Environment Agency and Barnsley Metropolitan Borough Council, recreated more space for water to spill onto the former floodplain and created a more varied river channel with greater depth and width. Woody debris was anchored in place to change how water flowed through the channel at high flow and create sheltered areas for fish. Depressions were created in the floodplain to hold flood water for longer, and areas were seeded with native plants.

Nature-based solutions of this kind are not possible everywhere, but where they are achievable they offer significant benefits. Locations suitable for this type of work are being added to a pipeline of interventions – with the combined effect of multiple projects expected to deliver more noticeable overall benefits over time.

The project has created benefits for wildlife both in the river and on the floodplain, while helping to manage future flood risk by creating more space for water – reducing the potential impact on people and properties.

Image credit: Simeon Gurr

The NCA supports mixed farmland including significant areas of arable land. Farming tends to be more intensive than in other parts of the region, reflecting more productive soils and lower altitudes. Livestock farming has declined since 2000, with lower stocking

rates, and grasslands are mainly improved for agriculture or, at best, semi-improved. Field boundary hedgerows are a notable feature throughout the area.

Built-up areas, including Barnsley, Rotherham and part of Sheffield, comprise the largest part of the NCA. Semi-natural habitats have a scattered distribution and are vulnerable to continued fragmentation from the expansion of housing and light industry. However, extensive areas of brownfield land, spoil heaps and subsidence flashes have been restored in recent decades.

Nature recovery initiatives

A key focus of nature recovery has been the Dearne Valley Green Heart Nature Improvement Area (NIA), which aims to restore and enhance the ecological networks of the river, its floodplain and its links to habitats on surrounding slopes and hills. The NIA targets 1,300 hectares of reedbed, wet grassland, wet woodland and woodland, with a 2,690 hectare buffer area of farmland, amenity grassland and reclaimed industrial land whose biodiversity value will be enhanced. A further 1,700 hectares of farmland of poor ecological functionality is targeted for improvement to link up core areas. The Dearne Valley Wetlands SSSI, designated in 2022, forms a series of sites within this NIA recognised for its assemblages of breeding birds of damp grasslands and scrub, open waters and their marginal habitats, reedbeds and fen.

The Fleets in Barnsley is a good example of where works to re-naturalise the River Dearne and its floodplain have been undertaken, providing benefits for people and nature (see case study 44).

Nottinghamshire, Derbyshire and Yorkshire Coalfield: key habitats and species for South Yorkshire
Key habitats: lowland meadows, lowland mixed deciduous woodland, standing open water and wetlands, lowland heathland and lowland neutral grassland.
Key species and species groups: otter, water vole, common toad, lapwing, bittern, freshwater fish (including European eel, Atlantic salmon and bullhead), bats (including Daubenton's, brown long-eared and noctule), and farmland bird assemblages (including grey partridge, corn bunting and yellow wagtail).

Southern Magnesian Limestone (NCA 30)

The Southern Magnesian Limestone character area is characterised by underlying limestone, predominantly magnesium carbonate, which, being less soluble than pure calcium carbonate, leads to distinctive landforms and soil types. The area has numerous active and restored quarries.

The landforms include rolling hills, escarpments and valleys, and the area supports fertile, intensively farmed arable land with large fields bounded by hawthorn hedges and some dry stone walls. Arable land use forms by far the largest portion of the NCA, covering just over half of the area. Balancing nature conservation with agricultural productivity is likely to be an important consideration in delivering nature recovery across farmed landscapes at scale. The Limestone Ridge Nature Recovery Group has identified the decline of farmland birds as an area of concern they are working to address (see case study).

CASE STUDY: Limestone Ridge Nature Recovery Group

The Limestone Ridge Nature Recovery Group is a group of farms on the magnesian limestone area of South Yorkshire farming arable land, with some woodland also present. The group has identified the decline of farmland birds as a key concern and is working to reverse it. The species of principal focus are grey partridge, lapwing and corn bunting, all of which were common in the area in the past but are now on the brink of local extinction.

Working together within the group, and with advice and guidance from Yorkshire Wildlife Trust and the Game and Wildlife Conservation Trust, the farms are making real strides in bringing farmland wildlife back. Member farms are being encouraged to put aside up to 10% of their croppable land for wildlife, with measures benefiting farmland birds as well as bees, ground beetles and sawflies.

The creation of beetle banks, wildflower strips and cultivated margins, alongside the planting of new hedgerows and better management of existing ones, is already seeing some species increase in numbers. Red hemp-nettle has recently been reintroduced to cultivated margins.

Strategic hedgerow planting has been undertaken to link woodlands and old hedgerows, restoring connectivity across the landscape. The group is also exploring ways to fund the creation of new ponds to further enhance the habitat mix that farmland birds and other wildlife depend on.

The soils overlying the magnesian limestone support unique plant communities. The Southern Magnesian lime woods, such as Sprotbrough Gorge, are notably diverse, and magnesian limestone grassland is a nationally scarce calcareous habitat supporting notable species including Yorkshire broomrape, brown argus, duke of burgundy, a range of orchids, milk vetch and spring sedge.

Where grasslands have not been managed, natural succession gives rise to mixed scrub mosaic, which in turn provides important habitat and a foraging resource for birds and insects. Maltby Commons in Rotherham is a good example of where grassland management is delivering real benefits for wildlife, with Maltby Town Council, the Crags Community Group, Sandbeck Estate and Yorkshire Wildlife Trust working together to manage the area for nature while enabling local people to enjoy it.

Woodland and parkland

Woodlands remain important within the NCA, comprising a mix of plantation woodlands and lowland deciduous woodland with oak, ash and lime dominating the canopy, alongside ancient woodlands supporting the rarer large-leaved lime. Woodland cover has increased in recent decades, with many small woodland parcels established throughout the area.

Parkland associated with large estates is also a notable feature of this NCA. These areas have often benefited from stable or traditional management and can include veteran trees, wood pasture and large-scale habitat mosaics. Anston Stones Wood, the majority of which is designated as a SSSI, is a habitat mosaic comprising calcareous grassland, scrub and wetland, and is an important example of limestone woodland in South Yorkshire.

Southern Magnesian Limestone: key habitats and species for South Yorkshire

Key habitats: arable field margins, hedgerows, lowland calcareous grassland, lowland meadow, lowland fen, ancient and native woodland and riparian habitats including rivers and wetlands.

Key species and species groups: brown hare, white-letter hairstreak, latticed heath, turtle dove, lapwing, common toad, farmland bird assemblage (including corn bunting, grey partridge and yellowhammer), calcareous grassland plants (including rare spring sedge, maiden pink and purple milk vetch), and woodland bird assemblage (including tawny owl, greenfinch and woodcock).

Humberhead Levels (NCA 39)

Doncaster is the main urban area within this NCA, which is otherwise characterised by flat agricultural land criss-crossed with drainage channels, and areas of moorland known locally as 'wastes', with open vistas and expansive skies that give parts of this NCA a sense of remoteness. Other important features include hedgerows, green lanes and irreplaceable lowland fen.

Fertile alluvial and peaty soils support intensive agriculture, particularly arable farming. Arable areas represent the largest land use and there is continued pressure to maintain agricultural land productivity, which has limited the expansion of the semi-natural habitat network.[47]

[47] https://nationalcharacterareas.co.uk/Humberhead-Levels/

Water, drainage and wetland restoration

The NCA includes intricate networks of dykes, drains and rivers reflecting its history of land reclamation and drainage. Vermuyden's radical drainage schemes of the 1600s completely transformed the landscape of the Humberhead Levels, diverting the River Don and cutting artificial drainage channels that succeeded in draining a wide area of the Levels. This resulted in the drying of peatland and wetland habitats, although this loss has been countered in more recent times by wetland creation and restoration schemes. The wet grassland improvements at Carr Lodge in Doncaster are a good example of recent work to benefit a range of species (see case study).

Semi-natural habitats have been under considerable pressure from both residential and industrial development in recent years, including warehousing that has developed along the edge of settlements such as Doncaster.

CASE STUDY: Carr Lodge, Doncaster

On the south side of Doncaster, a large area of land was earmarked for housing development on what was Carr Lodge farm, and mitigation was needed for wildlife losses. Thirty-five hectares was given to the Land Trust and is managed by Yorkshire Wildlife Trust to maintain and improve the site for wildlife. Although it already had several small ponds, 18 new small to medium-sized ponds and several shallow wet ditches were created to benefit a range of species, with a particular focus on grass snakes, great crested newts and pond invertebrates.

Raising winter water levels by blocking a small ditch increased the area available for birds, creating winter flooding that often stays until May or June – ideal for lapwing and redshank, which now breed on site. Reducing grazing intensity allowed the vegetation to develop more tussocky patches, providing cover for ground-nesting birds and their chicks.

Funding was provided through the Natural England agri-environment scheme and the Land Trust, with support from City of Doncaster Council. The work has paid off – the site became a Local Wildlife Site in 2024, recognised primarily for its insect interest, with a large number of species associated with the ponds and wet features. Carr Lodge sits adjacent to Potteric Carr, helping to buffer and extend habitat and create a larger, more sustainable area for wildlife.

Image credit: Tim Prosser

The Humberhead Levels are among the country's rarest and most internationally important habitats. They are renowned for their wetland habitats including fens, marshes, reedbeds and most notably lowland raised mire, along with dry acid grassland and lichen and bryophyte heaths. The Levels are particularly important for bird species such as nightjar and those that congregate in large numbers, including wintering and passage waterbirds like golden plover. Ancient willow pollards are a feature of the former fenland, particularly around Fishlake, Doncaster. Wet woodland is also present in places such as Shirley Pool SSSI.

Thorne and Hatfield Moors

Thorne and Hatfield Moors are part of the Humberhead Peatland National Nature Reserve, comprising 31% of the lowland raised peat bogs in the UK and making this the largest stronghold for the habitat in England. The Moors are designated as a Special Area of Conservation for their lowland raised mire and as a Special Protection Area for their population of breeding nightjars, with additional SSSI features including assemblages of invertebrates and breeding birds. Breeding waders and wintering raptors present include golden plover, hen harrier, merlin and short-eared owl.[48] Cranes have also been recorded

[48] https://thmcf.org/

breeding on the moors, and the site is renowned for being home to over 5,000 species of plant and animal, of which over 4,000 are insects.[49]

Humberhead Levels: key habitats and species for South Yorkshire

Key habitats: lowland raised bog, lowland fen, lowland heathland, deciduous woodland, acid, calcareous and neutral grassland, and ditch networks.

Key species and species groups: harvest mouse, Eurasian otter, scarce vapourer moth, large heath butterfly, petty whin, pillwort, curlew, bittern, great crested newt, nightjar, wetland bird assemblage (including black-headed gull, teal and great egret), wetland plant assemblage (including lesser water plantain, marsh pea and water violet), reptiles (including adder, grass snake and common lizard) and lowland heath invertebrate assemblage (including pill mire beetle and Thorne pin-palp).

Challenges and opportunities for nature recovery

When considering the characteristics, land uses, activities and pressures on our region's diverse landscapes, a number of key themes emerge that illustrate both the challenges and opportunities for nature recovery in South Yorkshire:

- development and infrastructure pressures, impacts and opportunities
- climate change
- access to nature
- visitor pressure, misuse and anti-social behaviour
- habitat management and ecological connectivity for species
- tree planting, woodland creation and management
- waterways and water quality
- natural flood management and nature-based solutions
- homes, gardens and communities
- agriculture and agroforestry

[49] https://publications.naturalengland.org.uk/file/5296302

Nature recovery challenges

Development pressures and impacts

What you told us:
'We need to build far more homes to grow and succeed economically, while maintaining and improving access to green space.'

New development and associated infrastructure bring an increased demand for land, raw materials through quarrying, increased water requirements and the generation of more waste. Development can result in additional pressure on ecosystems through impacts on habitats, fragmentation of natural landscapes, biodiversity loss, deterioration in water quality and availability, and pollution including noise and light.

Increased urban pressures are contributing to deterioration in habitat quality in both SSSIs and Local Wildlife Sites. Development also poses a risk to existing green spaces and can reduce ecological connectivity and the loss of key stepping stones for wildlife.

Sites for new development need to be selected with careful consideration for nature, particularly when it comes to brownfield sites. These can be a valuable opportunity to build on land with low ecological value, but awareness is needed of sites that are biodiverse and have the potential to support important species and ecological communities.

Doncaster is currently leading the Yorkshire and Humber region in growth in transport and storage, which brings additional environmental challenges including significant habitat fragmentation from the road network and impacts on wildlife movement and road casualties.

Water quality and watercourses

Watercourses are key wildlife corridors but can be impacted by pollution from sewerage and storm overflows, wastewater treatment plants, road run-off, and land use including pesticides, sediment and nutrient enrichment, as well as industrial sources such as heavy metals, chemicals and persistent organic pollutants. Plastic and microplastic pollution is an increasing issue nationally and globally, and is expected to affect South Yorkshire's waterways too.

Physical modifications to waterbodies, including canalisation, weirs and bank modifications resulting from historic industrialisation and new development, impact natural flow, reduce watercourse condition and negatively affect aquatic connectivity and key species. Together with the impacts of reservoirs, flood protection measures, wider

urbanisation and agriculture, these factors contribute to an overall poorer ecological status.

South Yorkshire's legacy of traditional industries includes the ongoing challenge of minewater rebound, where former mine workings flood and can discharge polluted water into rivers and watercourses. Addressing this may also present opportunities for the creation of wetland and riparian habitats.

Over-abstraction of water from rivers, streams, lakes, ponds and groundwater sources can impact the hydrological and ecological status of habitats across catchments. Yorkshire Water's Water Resource Management Plan 2024 has identified a potential need to reduce abstraction by 11 million litres per day from groundwater sources in North and South Yorkshire by 2035.[50]

Renewable energy

An increasing demand for renewable energy is resulting in more wind turbines, solar farms and biomass cultivation. While renewable energy is a key step towards achieving net zero targets, selecting appropriate locations and correctly mitigating for species that may be affected is important.

Climate change

Climate change is resulting in more intense weather patterns, with flooding, heatwaves and wildfires becoming more prevalent. It is likely to result in species migration and potential losses of less mobile or less adaptive species, and a resultant decline in diversity associated with small or isolated habitats.

Rising sea levels will affect South Yorkshire. Marine projections show that sea level rise will continue across the UK under all emissions pathways.[51] This will increase flows on tidal rivers including the lower Don, and there are already increasing incidents of flooding and changes in flow on rivers such as the Don, Dove and Dearne, with more frequent winter flooding. This often has a knock-on effect on local towns and cities, including damage to land-based species, soil health, habitats and the spread of pollutants. Increased rainfall intensity and flooding also lead to higher sediment loads and nutrient run-off from agricultural land into watercourses, as well as erosion of peat soils and habitats.

[50] https://www.yorkshirewater.com/about-us/our-vision-and-plans/resources/water-resources-management-plan/

[51] https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18_headline_findings_v4_aug22.pdf

Drier summers and prolonged droughts may lead to the drying of lowland peatlands, low river flows and water shortage in wetlands, further degradation of blanket bog, transition mire and wet heath habitats. They may also cause loss of soils to desiccation, changes to nationally scarce calcareous plant communities and stress on food production, and may alter agricultural practices. Climatic modelling suggests that by 2080 the distribution and occurrence of species including merlin, golden plover and ring ouzel will be significantly affected by climate change.[52]

The impacts of climate change may affect the survival of tree and scrub species and result in increased incidence of tree health issues, with consequences for our landscapes, woodlands and hedgerows. The effects of ash dieback and Phytophthora can already be seen in areas such as Greno Woods in Sheffield.

Habitat and species connectivity and management

What you told us:
'We need a mix of wetland, woodland and wildflowers to improve greens spaces for wildlife.'

While important habitats for nature can exist within urban environments, connectivity to allow movement and dispersal of species is essential, and lack of connectivity can be a key driver of species decline.

Lack of recognition and funding for habitat management, or difficulty in accessing existing funding, is a key risk to the ability of land managers to use appropriate management methods. Without management, natural succession will result in the loss of high-distinctiveness habitats to more ubiquitous scrub and woody species. While these are not low-value habitats, the high value of open mosaic habitats on previously developed land should be recognised and maintained, so as not to lose the unique assemblage of species they support. Neglect and lack of funding for management is also an important factor in maintaining the positive conservation management of Local Wildlife Sites.

A lack of collaboration with landowners, land managers and other stakeholders can be detrimental to protecting biodiversity and supporting nature recovery. In the Dark Peak NCA, for example, the difficulty of managing moorlands to meet the needs of a wide range of stakeholders and land uses – including agriculture, livestock production and game production – while protecting biodiversity, geology and hydrology, has been identified as a significant challenge. The dominance of purple moor-grass, which has low diversity and conservation value, is a major concern in upland wet moorland areas.

[52] https://www.bto.org/sites/default/files/publications/bto_climate_change_and_uk_birds_-_james_pearce-higgins_bto_web-compressed.pdf

Land management pressures

Land management approaches can have detrimental impacts. In the Dark Peak, driven grouse shooting is a key land use that steers management decisions. While it can be argued that it supports the upkeep of heathlands, some practices are intensive, including large-scale heather burning, track creation and maintenance, and predator control, which can result in the persecution of birds of prey.[53]

Fragmentation, scrub encroachment and nutrient enrichment present particular threats to habitats and species. In the Yorkshire Southern Pennine Fringe NCA, unimproved neutral grassland habitats are declining – a 75.5% loss in unimproved grasslands within the Sheffield area was identified between 1980 and 2001.[54] In the Southern Magnesian Limestone NCA, scrub patches are important for connectivity and shelter, but over-encroachment results in the loss of species-rich grasslands and a careful balance must be struck. Soils north of Sheffield, including in the Sheaf catchment, are also identified as having very high or extreme vulnerability to soil poaching from sheep and other livestock, with the resulting short sward (a grassy area which is low in height) increasing surface run-off.

Heavily modified rivers with a large number of weirs need to be addressed to improve fish passage, river condition and spawning habitat for salmonids and other species.

Invasive species and disease

The spread of invasive non-native species, and pests and diseases poses considerable challenges. Japanese knotweed can colonise and dominate brownfield sites and riparian zones to the detriment of native flora, and has been identified on the River Don in Rotherham town centre. Tree diseases such as ash dieback can affect trees and woods in urban areas. Since 2009, there has been evidence of crayfish plague in South Yorkshire,[55] having spread from non-native American crayfish to the native and vulnerable white-clawed crayfish. American mink have spread to many parts of the Don catchment, including the centre of Sheffield. The Yorkshire Invasive Species Forum also lists a range of non-native terrestrial plants including Himalayan balsam and giant hogweed, which can dominate and damage riverbanks, as well as floating pennywort and New Zealand

[53] https://www.rspb.org.uk/helping-nature/what-we-do/influence-government-and-business/policies-and-briefings/driven-grouse-shooting-whats-the-cost ; <https://base-prod.rspb-prod.magnolia-platform.com/dam/jcr:846d25c6-9a13-4f20-97a0-008e0a8ee9a6/Report%20(RSPB)%20Economic%20and%20social%20impacts%20of%20options%20for%20grouse%20moor%20management%20(FINAL)%20(020623).pdf>

[54] https://www.sheffield.gov.uk/sites/default/files/docs/parks-sport-and-recreation/parks-countryside-service/grassland-hap.pdf

[55] https://www.wildsheffield.com/wp-content/uploads/2018/05/Sheffield-State-of-Nature-2018-report-web-version.pdf

pygmyweed, which dominate waterbodies – all altering and impacting native habitats and species.

Access to nature

Access to outdoor environments offers many benefits for people, including improvements to health and wellbeing. However, there is considerable inequality when it comes to access to nature. Public Health England (2020)[56] found that the groups who most infrequently access green spaces include older people, those in poor health, people of lower socioeconomic status, those with a physical disability, people from ethnic minority backgrounds and those living in deprived areas. While improving equity in access to nature does not directly contribute to nature recovery, research shows that people who experience nature frequently are more likely to take positive actions towards the natural environment.[57] Providing equality of access is a significant challenge, particularly for communities who are less represented in the countryside or stand to gain the most benefit.

Evidence demonstrates that interventions in green and blue spaces can deliver significant benefits for human health and wellbeing, notably through improved wellbeing, increased physical activity and enhanced social connectedness. Increasing the visibility of and access to these spaces is likely to contribute measurably to improvements in healthy life expectancy of residents across their life course.

Visitor pressure, misuse and anti-social behaviour

> ***What you told us:***
> *'We have a big green area full of litter and junk/scrap (big job) no one cares for it, has a pond with ducks, waterlogged grass and trees just covered in litter.'*

Without careful management, increased visitor pressure can lead to wildlife disturbance, including the loss of ground-nesting birds. Recreation pressures from walking, mountain biking and domestic dogs result in path erosion, illegal off-roading, littering, dog fouling and disturbance to wildlife. This is a particular issue for South Yorkshire – research shows that 10% of visitors surveyed in the South Pennine Moors came from the Sheffield area.

Crime and the misuse of green spaces and wildlife sites, including designated sites, is an increasing concern. This can lead to the failure of habitat creation or enhancement

[56] https://assets.publishing.service.gov.uk/media/5f202e0de90e071a5a924316/Improving_access_to_greenspace_2020_review.pdf
[57] https://www.sciencedirect.com/science/article/abs/pii/S0006320723005189

projects through vandalism, disturbance of wildlife, and damage and degradation of existing habitats.

Agriculture and agroforestry

> ***What you told us:***
> *'Agricultural and industrial exploitation of nature leaves it in a poor state in the area. Our rivers and countryside are polluted from current and especially historical dumping (legal and illegal).*

Agriculture and agroforestry practices can present a number of challenges when not carried out in accordance with best practice or guidance. These include the loss of natural and semi-natural grassland to agricultural expansion, heavy use of glyphosate and other chemicals, over-use of herbicides and pesticides, and a reduction in soil quality and quantity leading to increased reliance on chemical fertilisers.

Productive agriculture can limit the network of semi-natural habitats. In the Humberhead Levels NCA, for example, a low water table is primarily due to intensive land drainage for agriculture, which contributes to the drying out of peat bogs and other water-dependent habitats.

Hedgerows are a key habitat used to demarcate field boundaries, but their coverage halved across the country in the second half of the 20th century. Across northern farmland areas many hedges are gappy or defunct, and in some areas they have been lost entirely.

Nature recovery opportunities

Development and infrastructure

> ***What you told us:***
> *'Nature should dovetail with housing and business. There should be green spaces available for children to play close to their homes.'*

New development, particularly for housing, presents an opportunity to design green and blue infrastructure (the network of natural and semi-natural features within and between our villages, towns and cities) and spaces that benefit nature, improve access to nature for people and deliver wider benefits such as reducing flood risk.

A key opportunity is the effective use of Biodiversity Net Gain, a planning requirement that came into force in 2024, which places an obligation on developments to offset biodiversity loss and demonstrate a net gain in biodiversity. The preference is for biodiversity to be woven into site proposals – in the case of residential developments this

ensures new residents have close access to green space. Biodiversity Net Gain can also support the delivery of larger habitat areas within development sites by requiring Habitat Management and Monitoring Plans overseen by local authorities. Where onsite delivery is not possible, large-scale offsite habitat creation or enhancement can be achieved through habitat banks in key strategic locations, where developers pay for the biodiversity units generated from the enhancement. Local councils and organisations across South Yorkshire are currently looking at establishing habitat banks to create nature-rich areas funded by local developments, maintained for the benefit of nature and people for at least 30 years.

Nature recovery can be supported by promoting the inclusion of high-quality green infrastructure in new developments, including Sustainable Drainage Systems and standards such as Building with Nature,[58] which encourages development with water, wellbeing and wildlife in mind, and the Natural England Urban Greening Factor, a tool developed to increase greening in urban environments. There are also opportunities to encourage the retrofitting of Sustainable Drainage Systems and other green and blue infrastructure into existing developments and industrial areas to reduce flood risk, improve water quality, address health inequalities and enhance wildlife.

Habitat creation, habitat and species connectivity and management

What you told us:
'Rivers and our water carry biodiversity through our region.'

There are a range of opportunities for creating new habitats, supporting connectivity for species and increasing habitat and species management across South Yorkshire.

Working with landowners and land managers

Working with landowners and land managers to support positive management of sites identified as important for nature is a key priority, including protecting, managing, restoring and enhancing important habitats and species, and identifying existing funding streams to allow greater flexibility in land management for conservation.

The Uplands Management Group and Moors for the Future Partnership are already working with land managers to advise on best practice management of blanket bog.

Encouraging the uptake of pollinator parks (areas managed to provide food, shelter, and safe habitats for pollinating insects and animals), such as at Dalton Park Outlet Shopping Centre and Crystal Peaks Meadow, by other businesses and retail parks across South

[58] https://www.buildingwithnature.org.uk/

Yorkshire presents a further opportunity. Working with groups such as the Yorkshire Invasive Species Forum to tackle the spread of invasive non-native species both within South Yorkshire and across boundaries into neighbouring regions will also be essential.

Habitat creation and connectivity

There are opportunities to deliver multiple environmental benefits by restoring lost habitats and landscape features, storing carbon, and providing fuel, shelter and recreational opportunities through increasing the extent of native woodland, scrub and trees and managing existing tree cover. When focused near waterways in valleys this can also help reduce flood risk by increasing water retention, though care is needed to avoid dense canopy cover over watercourses. A focus on steep-sided valleys can also help mitigate climate change impacts such as erosion and run-off.

Encouraging the creation and expansion of a more ecologically connected network of habitats is a key opportunity, including creating and enhancing corridors linking urban and suburban areas with the surrounding countryside. A more diverse mosaic of habitats will provide greater climate resilience, support stock management and natural flood management, and can be achieved through pastoral agroforestry and other measures. Local councils should be encouraged to enhance biodiversity through wildlife-friendly management practices, such as Barnsley Council's approach to rewilding selected grassland areas for wildlife.

Protecting, managing and connecting existing fragments of semi-natural and natural habitats is also a priority. By restoring, enhancing and expanding wildlife corridors such as field margins, road verges, railways and highway green estate, riparian corridors and woodlands we can create a functioning ecological network linking fragmented habitat patches through urban and sustainably farmed environments.

Wetlands and peatlands

Protecting existing wetlands from further drainage, pollution and nutrient or sediment run-off should be achieved by establishing permanent grass buffer strips and working with adjacent landowners to ensure grazing and other land management practices are appropriate. Restoring irreplaceable fen and lowland raised mire wetland habitat, and enhancing and expanding other key wetlands such as raised bogs, grazing marsh, ponds, wet woodland and reedbeds, will create resilient ecological networks that benefit biodiversity, regulate water flow and enhance water quality. Rewetting of lowland peatland would also provide co-benefits including biodiversity enhancement and carbon retention.

In the Humberhead Levels NCA, restoring a more natural hydrology to prevent the drying out of peatland and enable restoration is a priority, alongside encouraging cultivation practices that maintain cover on agricultural peat soils and protect underlying palaeoenvironmental features (ancient landscape features).

Enhancing and expanding areas of species-rich grassland, with a focus on areas alongside drains and riparian habitats to buffer run-off from fields, presents further opportunity, with road verges and railway lines also offering potential corridors.

The feasibility of introducing beavers to naturally engineer ecosystems and help manage localised flows and wetland habitats along suitable rivers should also be explored.

Tree planting, woodland creation and management

What you told us:
'We need more trees, green lungs.'

There are opportunities to plant woodlands and trees outside existing woodland areas, including providing more trees in urban spaces to deliver wider environmental benefits such as the creation and enhancement of green corridors, improved air quality and urban cooling. Organisations and individuals can get involved with initiatives for planting and caring for trees, including Sheffield Street Tree Wardens,[59] Kids Plant Trees[60] (see case study) and the South Yorkshire Mayor's million trees campaign.[61]

CASE STUDY: Kids Plant Trees

Kids Plant Trees is a South Yorkshire-based not-for-profit social enterprise dedicated to helping children and nature thrive together. Founded in 2020 by a group of local parents responding to the climate and biodiversity crises in a practical, community-focused way, the initiative addresses a growing national concern: children's declining connection with nature, particularly in urban areas, and the wider need to increase tree cover and enhance green spaces to support wildlife, resilience and wellbeing.

Working closely with Sheffield City Council's community forestry team, schools, community groups, land developers and local businesses, Kids Plant Trees delivers hands-on nature engagement and green space improvement projects across South Yorkshire. Their work spans two main programmes: Green Schools, supporting primary schools to create nature-rich outdoor environments, and Green Communities, enabling residents and families to co-design

[59] https://sheffieldstreettreepartnership.org/
[60] https://www.kidsplanttrees.org/
[61] https://www.southyorkshire-ca.gov.uk/million-trees

and enhance local green spaces through activities such as tree planting, wild play areas and habitat creation.

Central to the initiative is the principle of involving children from the very start. Young people contribute design ideas, participate in outdoor workshops and gain practical skills in planting and caring for trees and wildlife habitats. This approach builds environmental stewardship, confidence and a sense of agency, while improving school grounds and community spaces for nature and people.

Since January 2020, Kids Plant Trees has planted over 24,333 trees and worked across 60 sites, including 32 schools, 24 community and public spaces and four areas of private land, engaging 6,388 participants and delivering 6,285 hours of activity. Work is prioritised in areas with higher deprivation and lower access to green space, supporting local climate and biodiversity aims by increasing tree cover, enhancing habitat networks and promoting community ownership of green spaces.

By combining nature recovery with social impact, education and community collaboration, Kids Plant Trees offers a powerful model for how small, place-based initiatives can deliver lasting environmental and wellbeing benefits across South Yorkshire.

Image credit: Anna Parkin

Woodland creation

Planting opportunities include restocking Plantations on Ancient Woodland Sites (PAWS) with appropriate, site-suited species, expanding areas of native woodland through

planting such as riparian woodland and hedgerow planting, and encouraging natural regeneration in suitable areas.

Enhancing existing woodlands and expanding tree and woodland cover can contribute to canopy cover in locations where well-managed woodland delivers multiple benefits for biodiversity, water quality, flood risk and landscape character.

Working with landowners, land managers and stakeholders such as the South Yorkshire Woodland Partnership to fill gaps in hedgerows using a range of native species, incorporating hedgerow trees to increase diversity in structure and habitat, and managing margins to ensure hedgerow health and provide a buffer that benefits small mammals, herptiles and pollinators, is a key opportunity across the region.

There are opportunities to apply relevant guidance and principles in the creation of new woodland, such as the Moors for the Future's Creation of Clough Woodlands guiding principles[62] and the Decision Support Framework for Peatland Protection, the Establishment of New Woodland and Re-establishment of Existing Woodland on Peatland in England (July 2023).[63]

Woodland management

Protecting and improving the sustainable management of all woodland types is also important, taking account of the need to restructure existing woodland as a result of tree health issues and to build resilience to climate change impacts such as drought, pests and disease. This includes the management and protection of veteran trees and the restoration of ancient woodlands that have been planted with conifers.

Increasing the area of woodland under sustainable management, in accordance with the UK Forestry Standard, and in productive use can ensure multiple purposes are provided, including the provision of timber and biomass for local use and the enhancement of both wildlife and recreational opportunities. Ancient semi-natural woodland and Plantations on Ancient Woodland Sites should be prioritised, with a focus on bringing them into positive management. Connectivity and buffering should be developed around and between existing woodlands to improve opportunities for wildlife movement and to protect species that utilise the woodlands. This could include supporting landowners through expert advice, training and grant applications.

[62] https://www.moorsforthefuture.org.uk/our-resources/file-preview?id=88904
[63] https://www.gov.uk/government/publications/decision-support-framework-for-peatland-protection-the-establishment-of-new-woodland-and-re-establishment-of-existing-woodland-on-peatland-in-england

Waterways and water quality

What you told us:
'Our water systems need reeds, woodland, a variety of waterside areas for biodiversity.'

Across the region, there are opportunities to manage and enhance watercourses and catchments to benefit nature conservation, recreation, public enjoyment, water supply, water quality and flood management. This includes protecting, enhancing and where appropriate modifying waterways in cities, towns and villages, and ensuring a well-connected network of blue infrastructure throughout urban settlements to improve fish passage and wildlife dispersal, reduce flood risk, enhance health and wellbeing and increase opportunities for connection with nature. This may include managing drains at higher water levels or pre-emptive water level management to accommodate water storage ahead of heavy rainfall.

Engagement and interpretation can be used to improve connection with nature and reduce pollution from littering and vandalism. All Hands on the Don is a good example of community-focused nature recovery along the River Don (see case study below).

CASE STUDY: All Hands on the Don

All Hands on the Don is a community-focused nature recovery initiative led by the Don Catchment Rivers Trust, supporting the long-term restoration of the River Don and its wider catchment. The project responds to well-documented environmental pressures affecting the Don system, including habitat degradation, water pollution, invasive species, fragmentation caused by historic industrialisation and limited public connection to rivers and their wildlife.

Building on the Trust's long history of river restoration and community engagement, All Hands on the Don delivers a wide programme of volunteering, habitat improvement, access enhancement and environmental education. The initiative brings together volunteers, schools, community groups, landowners and local organisations to provide hands-on opportunities in practical conservation, citizen science, ecological surveys and heritage-focused events, fostering stronger connections between people and the river while improving understanding of river ecology and the pressures affecting it.

A key element of the programme is targeted habitat work, including natural flood management interventions, removal of invasive non-native species and improvements to riparian habitats that support fish passage, biodiversity recovery and improved water quality. These actions directly contribute to nature recovery goals such as restoring ecological networks and improving the condition of freshwater and wetland habitats.

The project also operates a Community Grant Scheme, enabling local groups to deliver their own river-focused initiatives from habitat creation and pollution mitigation to heritage

restoration and improved riverside access. This strengthens community ownership and broadens participation, particularly among people who may not traditionally engage with nature.

Collectively, All Hands on the Don delivers significant social and environmental benefits including enhanced biodiversity, revitalised river environments, improved public access, increased community cohesion and greater skills, confidence and wellbeing among participants. It exemplifies how collaborative, community-led action can support the long-term recovery and stewardship of South Yorkshire's river landscapes.

Managing, enhancing and extending wetland habitats associated with the rivers flowing through the region, including wet woodland and scrub along tributaries, can help increase the landscape's ability to naturally and sustainably manage flooding, improve water quality and increase the resilience of riverine habitats and associated species to climate change.

The river corridors through the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA have been heavily modified for urbanisation, industry and flood defence. Mitigating these impacts and restoring natural processes presents a significant opportunity for improving biodiversity, reducing flood risk and providing access to nature.

Further nature recovery opportunities include the use of buffer strips along watercourses, actions to address diffuse pollution, improvements to water quality through upgrades to sewerage and treatment infrastructure, and the introduction of fish passes and removal or modification of barriers to fish passage to enhance movement and migration opportunities.

Natural flood management and nature-based solutions

What you told us:
'More ponds and leaky dams help protect against floods and offer water and homes for wildlife in a natural way.'

Nature-based solutions offer opportunities to mitigate the impacts of climate change and many of the other environmental challenges detailed above, particularly when a catchment-based approach is taken. This includes re-naturalising rivers, creating and extending riparian corridors and wetlands, and considering the reintroduction of key species – recognising that reintroductions can also bring their own challenges. Such approaches can deliver significant benefits for wildlife while also slowing water flow, reducing flood risk and enhancing water quality. See the Nature-based Solutions case study for more on how this is being addressed in South Yorkshire.

CASE STUDY: Source to Sea Nature-based Solutions Programme

South Yorkshire's Source to Sea Nature-based Solutions Programme is a catchment-scale initiative aiming to slow the flow across South Yorkshire and create more space for water. Restoring and developing more natural landscapes will help to slow and store water, support nature recovery and provide wildlife-rich environments for people to enjoy. This will reduce flood risk, mitigate climate change through carbon storage and restore nature by protecting the environment.

The programme is split into three areas, each with distinct characteristics and influences on nature recovery:

- The Upper Don (Peak District National Park and Sheffield)
- The Middle Don (Northeast Derbyshire, Rotherham and Barnsley)
- The Lower Don (Doncaster)

The Upper Don project is the first of the three to be developed, focusing primarily on slowing the flow and storing water in Sheffield's hills through nature-based solutions including creating ponds and wetlands, restoring upland peatlands and managing soils.

Catchments are complex systems, with natural and built features, drainage and other factors affecting how water moves. Connected by Water provides more detail on the types of flooding experienced in South Yorkshire and the projects helping to improve resilience to these risks. Nature-based solutions are one such response, including natural flood management initiatives in headwaters, within river channels and on riparian habitat, which are already being implemented across South Yorkshire.

South Yorkshire's rivers are key environmental assets and important vehicles for nature-based solutions. They have the potential to support a high diversity of aquatic and terrestrial wildlife, provide connectivity between habitats throughout the region and play a critical role in flood risk management.

The Limb Brook Project is a demonstrator showcase of the positive benefits of natural flood management – where leaky dams, attenuation ponds and swales were created or installed alongside hedgerows – and meadow creation. These habitats now support a range of wildlife including a variety of amphibians and insects, and data shows that the interventions are slowing the flow into the brook by 2%. During modest storms, 100% of rainfall can now be captured rather than causing unwanted and potentially damaging flooding.

Recognising rivers and canals as important landscape features and ecological networks, providing habitats, connectivity and cultural value, can contribute to improving their ecological condition. This includes diversifying riparian habitats by thinning to encourage more light or planting trees where canopy cover is lacking. Naturalisation and de-culverting, or daylighting, of watercourses will also increase the diversity of riverbed composition, creating more niches and habitats for fish and invertebrate species.

Access to nature

What you told us:
'For the LNRS to work, it takes people and community engagement and co-design with local communities, ensuring good space within a short walk for all, including most vulnerable groups.'

Expanding opportunities to access the natural environment and encouraging inclusive participation among the area's large and diverse urban will require collaborative action. This could be achieved by working in partnership with a range of stakeholders to identify the barriers that prevent people from accessing and enjoying the countryside and developing targeted interventions to address these and improve access. Key existing resources include the South Yorkshire Countryside Directory for People with Disabilities[64] and A Handbook and Guide for Agencies Working with Black and Minority Ethnic Communities in South Yorkshire, produced by the Tourism and Environmental Change Research Unit at Sheffield Hallam University.[65]

Opportunities include improving access to and through our landscapes via footpaths, cycle paths and bridleways, and within urban environments through well-designed and well-managed green infrastructure and Sustainable Drainage Systems, alongside creating recreational and educational engagement opportunities. The 3:30:300 rule offers a useful framework for improving and expanding the local urban forest and promoting health, wellbeing and resilience (IUCN, 2021).[66] Based on people being able to see a minimum of three trees from their home, a minimum of 30% canopy cover in an area, and being no more than 300 metres from the nearest park or green space, it provides a practical standard for urban greening. The Accessible Greenspace Standards from Natural England[67] offer further guidance. A range of sites for visitor access should be balanced with quieter sites and areas with managed access to protect sensitive habitats and wildlife.

[64] https://www.opencountry.org.uk/wp-content/uploads/2024/11/South-Yorkshire-Directory-2024.pdf
[65] https://www.semcharity.org.uk/wp-content/uploads/2019/09/Maxwell_Handbook_Vol1.pdf
[66] https://iucnurbanalliance.org/promoting-health-and-wellbeing-through-urban-forests-introducing-the-3-30-300-rule/
[67] https://designatedsites.naturalengland.org.uk/GreenInfrastructure/downloads/Green%20Infrastructure%20Standards%20for%20England%20Summary%20v1.1.pdf

Visitor pressure, misuse and anti-social behaviour

While addressing the impacts of visitor pressure and misuse of sites is a wider issue that cannot be fully tackled through the LNRS, understanding the drivers for these issues and engaging communities will allow them to be factored into nature recovery proposals and designs for habitat creation and site enhancement.

Homes, gardens and communities

> ***What you told us:***
> *'I have created a wildlife garden with multiple ponds. Local children helped me release froglets back into my wildlife garden once they had all four legs. Not only did I get to know lots of neighbours, but a number have now added container ponds and bog areas to their own gardens.'*

Promoting the enhancement of green spaces for nature and encouraging local authorities, businesses, schools, local organisations and residents to undertake nature-friendly and wildlife-friendly practices can deliver significant benefits at relatively low cost. This can include reduced mowing regimes and reducing or eliminating the use of chemical herbicides and pesticides in selected areas. Barnsley Council has introduced a new approach to grass-cutting across more than 75 hectares of grassland, leaving longer between cuts to increase the abundance of native wildlife in public green spaces and road verges.

Wildlife-friendly gardening and related measures can enhance large areas of urban and suburban privately owned green space, through hedgehog highways, leaving wilder areas of lawn, providing bat roosting boxes and bird boxes targeting Red-Listed species such as swift and house sparrow, and avoiding chemical herbicides and pesticides. Individuals can be encouraged to join initiatives such as Nature Recovery Sheffield[68] and Rotherham.[69] Sheffield and Rotherham Wildlife Trust's Nature Recovery Community Toolkit provides information and ideas to support schools, businesses and residents to deliver activity and projects for nature recovery.[70]

These opportunities will require active engagement, but many practices have the potential to save funds and resources that can be used elsewhere. Where funding can be harnessed, it can be used to facilitate the establishment of species-rich grasslands and hedgerows, planting of native trees and shrubs appropriate to the local area, planting for pollinators and climate resilience, and delivering other measures highlighted above.

[68] https://www.wildsheffield.com/getinvolved/naturesheffield/
[69] https://www.wildsheffield.com/getinvolved/nature-recovery-rotherham/
[70] https://www.wildsheffield.com/nr-toolkit/

Agriculture and agroforestry

> ***What you told us:***
> *'A farmed landscape – continuing to grow some food for our densely populated island, but using farming practices that allow wildlife to thrive and soil health to be the main priority. This will require a more holistic mindset.'*

Areas of arable and pastoral farmland can be managed to improve their contribution to biodiversity, food provision and landscape character, to improve soil and water quality, and reduce soil erosion.

The Dearne Valley Farmers cluster group is an example of landowners working to improve the farmed area and deliver bigger, better and more joined up landscape-scale nature recovery. The project is run as a partnership with partners Tyers Hall Farm, the Yorkshire Farming and Wildlife Partnership and the Don Catchment Rivers Trust.

Regenerative farming offers numerous benefits for landowners, farmers and consumers including carbon drawdown, flood protection, restored biodiversity, food security and higher animal welfare standards. A group of local farmers on the magnesian limestone area are working together to improve the farmed area and deliver bigger, better and more joined up landscape-scale nature recovery.

There are opportunities to encourage agroforestry practices that integrate trees into farming systems, which can improve farm productivity as well as delivering wider environmental benefits such as carbon sequestration, improved soil health and improved habitat diversity.

4. Priorities and measures

A key output for each Local Nature Recovery Strategy is to 'agree priorities and identify potential measures'. This is a critical stage in the process , requiring comprehensive engagement with a wide range of regional stakeholders to develop the 'priorities, in terms of habitats and species, for recovering or enhancing biodiversity' (paragraph 48 of the Statutory Guidance).

Defra uses specific terminology to structure this:

- '**priorities**' describe the end results or outcomes the strategy is seeking to achieve; they explain *what* outcomes are sought and *why* they are beneficial
- '**measures**' describe the specific practical actions to achieve those priorities; they explain *how* a Priority can be met by taking specific action, and, if possible, *where* such actions will be most effective

For a given 'priority' there are one or more 'measures' that link an action to a given outcome.

We have divided our priorities and measures into two categories:

- '**overarching**' – this includes outcomes and interventions that apply across a range of different habitats
- '**habitat-based**' – these are specific to certain habitats and form the majority of our 'priorities' and 'measures'. We have split this further into broad habitat groupings, which include:
    - watercourses, waterbodies and wetlands
    - grasslands and heathlands
    - woodlands and trees
    - urban nature

The priorities and measures have been developed and reviewed throughout production of the LNRS. They have been shaped through:

- discussions across the Working Group, Steering Group, and Advisory Panel (our whole LNRS governance model), representing all Supporting Authorities and a wide range of professional expertise and perspectives
- developmental alignment with the 'area description' as above, which identifies the challenges and opportunities for nature recovery in South Yorkshire
- insights from wider perspectives, gained from engagement activities including farmer events, public activities across the region, and an online map-based survey
- contributions from key stakeholders and potential delivery partners through in-person, habitat-specific workshops held during August

Habitat-based priorities and measures workshops (August 2025)

Supported by an external facilitator, SYMCA delivered four half-day workshops providing an opportunity for wider organisations to engage with the development of 'priorities' and 'measures' for the broad habitat groups (waterbodies, grassland and heathland, woodland and trees, and urban nature), with separate engagement undertaken in relation to priorities across farmed landscapes and multiple habitats.

The workshop structure enabled the collection of comments on the scope and content of emerging priorities and measures, including consistency, wording, alignment with other strategies, identification of potential gaps and additional data sources. They also gathered views on potential delivery partners who will support approaches to delivering South Yorkshire's Local Nature Recovery Strategy.

Key outcomes included substantive additions and rewording to the priorities and measures, a stronger emphasis on the Lawton principles, and the creation of a category of enabling measures to underpin wider action. The workshops also identified a need for consistent wording between priorities and for language to be accessible to non-specialists, with definitions provided for technical terms where appropriate.

The workshops built on earlier engagement in exploring delivery issues. Participants highlighted the following concerns and priorities:

- the need for LNRS delivery to dovetail with existing schemes relevant to farming, with funding streams sustained over the medium and long term
- the time horizons built into existing schemes such as Biodiversity Net Gain and Landscape Recovery are seen as incompatible with farm tenure arrangements and business planning given climate, market and policy pressures
- the challenge of incentivising landowners and farmers to engage with competitive funding where the chance of success may be limited
- concern about the deliverability of interventions such as conservation grazing in the context of extreme weather
- the potential impact of increasing scrub on farmland
- strong interest in landowners cooperating to achieve joined-up areas for nature
- the importance of including public education as part of the strategy, emphasising responsible behaviours from the impact of dog walking on ground-nesting birds to informed stewardship of gardens and other land

Table 6 below breaks down the number of priorities and measures in each category.

Table 6: All priorities and measures

	'Overarching'	'Habitat-based'				Total
		Grassland and heathland	Urban nature	Woodland and trees	Watercourses, waterbodies and wetlands	
Priorities	8	4	4	3	5	**24**
Measures (*of which mapped*)	28 (*0*)	22 (*7*)	26 (*3*)	25 (*8*)	29 (*14*)	**130 (32)**

'Overarching' priorities and measures

The 'overarching' grouping of priorities and measures for nature recovery in South Yorkshire includes actions that apply widely across the region. This may mean that they are actions that could either:

- be relevant across a wide geographical area within South Yorkshire – for example '**Install features to mitigate the impact on species dispersal of infrastructure such as roads and railways, for example underpasses and green bridges at specific locations**'
- enable or unlock other habitat-specific measures – for example '**Active management of invasive non-native species (INNS)**' may be essential for the success of nature recovery action in and around waterways

As such, they are not candidates for mapping as nature recovery opportunities – see more on this in Section 5. The content in this section has been developed through engagement across a range of stakeholder voices and stages – through discussions with partners in our Governance Model, external workshops, surveys and events. In many instances, the priorities in this section began as proposals specific to certain habitats, and through further discussion it became clear that these apply across a range of different habitats. For example:

The tables below provide a complete list of overarching 'priorities' or outcomes we are seeking to achieve, and their respective 'measures' or actions required to achieve them.

Priority OV-01

Deepen people's relationships with nature, bringing it closer to where people live, especially where it is needed most.	
Code	Description
OV-01-01	Manage green and blue spaces and infrastructure for accessibility and safety by improving lighting, access, amenities, security, and reducing pollution and unauthorised vehicle use.
OV-01-02	Improve people's connections with nature through initiatives involving education, arts, and culture.
OV-01-03	Use data on access to nature and deprivation to focus interventions in areas where nature is in short supply, achieving more equitable access to nature across the region and improving health and wellbeing of residents.
OV-01-04	Support visual and physical interaction with nature for all – improving accessibility for those with additional needs, mobility challenges or limited transport options.

Priority OV-02 Build collaborations to drive nature recovery.	
Code	Description
OV-02-01	Continue working in partnership as a model for stakeholders to coalesce around interventions for nature recovery, based on natural rather than administrative boundaries.
OV-02-02	Support existing and new farmer clusters as proven models to share best practice of stewarding farmed landscapes to support nature recovery.
OV-02-03	Develop an advisory and coordinating role to support farmers and landowners to access funding and to deliver the LNRS priorities and measures.
OV-02-04	Promote open and inclusive data to inform ongoing interventions, working closely with our Local Environmental Records Centres (LERCs).

Priority OV-03 Provide opportunities to engage people in nature recovery activity.	
Code	Description
OV-03-01	Enable and empower people and communities to engage with nature and support nature recovery in their homes, workplaces and local areas, such as through 'friends of' groups, volunteering, community tree planting, 'clean up' events, community wildlife gardens and allotments.
OV-03-02	Improve 'green skills' through creating and increasing opportunities for training and development, including through apprenticeships, placements, and taught courses, covering land management, land use planning, ecological surveying and other nature-based skills.

OV-03-03	Support 'green job' employment opportunities in the public, private and third sectors to oversee, design, deliver and manage nature recovery interventions.
OV-03-04	Create opportunities for children and young people to participate in nature recovery projects and to engage with the natural environment.
OV-03-05	Promote citizen science contributions to enhance our knowledge, data and understanding, such as using riverfly monitoring, habitat monitoring, real time sensing and other technologies.

Priority OV-04 Active management of invasive non-native species (INNS).	
Code	Description
OV-04-01	Work with regional partners to support and implement an approach across organisations and projects to coordinate action, monitoring and reporting, develop communications and engagement, and share best practice to manage INNS.

Priority OV-05 Ensure management of existing public spaces and development of new sites supporting nature.	
Code	Description
OV-05-01	Increase and improve sustainable management of public spaces for nature.
OV-05-02	Maximise biodiversity benefits arising from strategic development sites and supporting infrastructure through the planning system, through policy, advice, and implementation of Biodiversity Net Gain.
OV-05-03	Encourage the use of 'nature-based solutions' in new infrastructure developments to improve resilience against climate change pressures (for example, rising urban temperatures, wildfires, more intense rainfall events, prolonged flooding and summer droughts).
OV-05-04	Communicate action for nature on new development to the public, addressing a strong negative perception of the impact of new development on nature.
OV-05-05	Install features to mitigate the impact on species dispersal of infrastructure such as roads and railways, for example underpasses and green bridges at specific locations.

Priority OV-06 Improve public understanding of natural habitats and species to reduce recreational pressure.

Code	Description
OV-06-01	Minimise the pressure on sensitive habitats and species from recreation and tourism through partnership working – for example, by identification of sensitive sites in need of management plans, footpath and public rights of way improvements and promote responsible recreation.
OV-06-02	Use education, community engagement and co-design to facilitate public understanding and appreciation of biodiversity and environmental issues to ensure appropriate use of sites and habitats and reduce levels of recreational pressure where evidence suggests negative impacts are likely.
OV-06-03	Tackle environmental crime by working with partners such as the police and fire and rescue services to ensure robust reporting, monitoring and planning for remedial action.

Priority OV-07 Future-proof action to ensure climate resilience of natural habitats.	
Code	Description
OV-07-01	Improve understanding of, and proactively plan for, changing capacity of habitats to thrive due to climate impacts, for example by ensuring the selection of resilient tree species as part of woodland management.
OV-07-02	Support species threatened by climate change by enhancing ecological connectivity between sites and habitats and across landscapes (including urban green and blue infrastructure in), enabling movement of species and wildfire planning to maintain and strengthen these ecological networks.

Priority OV-08 Safeguard, expand and ensure the good condition of a well-connected network of habitats.	
Code	Description
OV-08-01	Support landowners to achieve and sustain the positive conservation management of Local Wildlife Sites and Priority Habitats, through restoration and enhancement measures targeting their 'reasons for designation'.
OV-08-02	Work with stakeholders and landowners to identify external pressures impacting the condition of protected sites, and pursue opportunities to address them through coordinated action, for example developing site management plans to complement, not to duplicate or conflict with, statutory requirements.
OV-08-03	Review the operation of Local Sites Partnerships and processes to ensure they effectively identify and designate Local Wildlife Sites.

OV-08-04	Support development of habitat banks in strategic locations to deliver Biodiversity Net Gain by working with stakeholders and landowners.

'Habitat-based' priorities and measures

There are a total of 102 'habitat-based' measures. Each one has been considered a candidate for mapping where the action would be most strategic and effective for nature recovery within the region. Through consultation with the Working Group and mapping consultants Natural Capital Solutions, and further input from wider partners in workshops, we have been able to map opportunity areas for 32 of the 102 measures.

Measures that are mapped are not more or less important than non-mapped measures; however, in certain contexts there are important distinctions between the two. Specifically in the application of Biodiversity Net Gain (BNG), only mapped measures will be considered in scope of 'strategic significance'. **For each of the 32 mapped measures, we have produced supplementary guidance (Annex D) explaining the habitat distinctiveness and condition target requirements for achieving a 'high' strategic significance multiplier.**

Many measures interact with and amplify each other, and all are important for wider nature recovery across South Yorkshire. The order in which they appear below does not imply any hierarchy. While most measures are intended as place-based interventions, for example to *'reinstate or reconnect meanders, backwaters, and natural in-channel features (...)'*, several are enabling or supporting activities, for example *'support landowners and managers with advice and incentives (...)'*.

The following sections, and corresponding tables, provide a full list of all habitat-based priorities and measures into the four previously defined broad categories. These categories are intended to provide structure to the strategy but inevitably do overlap and interact with one another.

Watercourses, waterbodies and wetlands

South Yorkshire's extensive network of rivers, streams, canals, ponds and wetlands is vital for wildlife – providing diverse habitats and the connectivity that allows species to move across the landscape. These environments face growing pressure from climate change, declining water quality, invasive species and urban development. There is strong public appetite for restoring them – with beavers and water voles among the most frequently mentioned species people want to see return.

Most of South Yorkshire sits within the Don and Rother catchment, with the Idle and Torne catchment covering the northeast of Doncaster. The majority of waterbodies in these catchments are in moderate ecological condition – only 3 of 56 assessed waterbodies are of good or high quality. All waterbodies currently fail chemical status, reflecting both longstanding pressures and revised national assessment methods introduced in 2019. Key pressures include pollution from agricultural run-off, sewage and storm overflows, barriers to fish movement, and the modification of river channels through urbanisation and flood management.

The Fleets, Barnsley is a recent example of river re-naturalisation on the River Dearne in the heart of urban Barnsley. Working with the Environment Agency and Barnsley Metropolitan Borough Council, Yorkshire Wildlife Trust recreated a more varied river channel, introduced woody debris to create sheltered areas for fish, and seeded the restored floodplain with native plants – creating benefits for wildlife while helping to manage future flood risk. See the full case study on page 44.

Priority Species supported:
Aquatic invertebrates – e.g. beetle, mayfly, stonefly
Freshwater fish – e.g. Atlantic salmon, river lamprey, European eel
Stonewort/aquatic plants – e.g. bristly stonewort, delicate stonewort
Wetland and wet grassland plants – e.g. marsh pea, lesser water-plantain
Wetland birds – e.g. crane, little egret, marsh harrier

See the full species priority list in Annex A

Priority RI-01
Restore natural processes to reconnect rivers and streams with their floodplains and provide nature-based climate resilience for biodiversity and local communities.

Measures		
Code	Description	Mapped/Not Mapped

RI-01-01	Reinstate or reconnect meanders, backwaters, and natural in-channel features where possible to restore diverse and resilient ecosystems, providing wider benefits including natural flood management and improved water quality.	Not mapped
RI-01-02	Create and maintain native, species-rich and structurally diverse habitats along watercourse margins by up to 10m to enhance and connect biodiversity, provide shade, intercept pollutants (urban, transport and industrial), and capture run-off.	Mapped
RI-01-03	Remove or realign artificial and engineered floodbanks, barriers and modifications where feasible to allow re-establishment of natural river processes. Include control and mitigation measures for potential migration of INNS following removal of barriers.	Not mapped
RI-01-04	Create and manage new floodplain grazing marsh, where appropriate, to reconnect rivers with floodplains, and by expanding existing habitats.	Mapped
RI-01-05	Restore headwater streams to enhance spawning habitat such as river gravels for salmonids, instream water weeds and substrates for coarse-fish egg-laying.	Not mapped

Priority RI-02

Improve and restore in-channel and riparian habitats, and work with natural processes across the wider catchment to enhance habitats, remove barriers, improve water quality, slow run-off and regulate water temperature so that more watercourses and waterbodies are in good condition and support sustainable populations of native freshwater species.

Measures

Code	Description	Mapped/Not mapped
RI-02-01	Protect existing good, and create new, in-channel habitats and features such as marginal vegetation, riffles, reefs, islands, gravel beds and pools for fish spawning and other aquatic fauna and flora.	Not mapped
RI-02-02	Remove or modify artificial barriers such as culverts and weirs to support the movement and dispersal of migratory fish and promote diverse and resilient aquatic populations and communities. Include control and mitigation measures for potential migration of INNS following removal of barriers.	Mapped

RI-02-03	Enhance the biodiversity of man-made and artificially impacted waterbodies (including mill ponds, recreational lakes and reservoirs) by installing habitat features such as vegetated margins, floating islands, and by planting reedbed and fen.	Mapped
RI-02-04	Deploy natural flood management methods across catchments to protect and enhance the quality of river waters and habitats to slow the flow. This includes catchment-wide sustainable land management and habitat creation to intercept overland flows and prevent pollutants and soils entering rivers.	Not mapped
RI-02-05	Enhance the water quality and biodiversity value of canals, through sensitive in-channel vegetation management practices, buffering bankside habitats by up to 10m from the top of the bank. This may include eradication of invasive non-native species, catchment management, remediation and removal of sediment, and removing blockages at goits.	Mapped
RI-02-06	Enhance the water quality and biodiversity value of drains through sensitive in-channel vegetation management practices, buffering bankside habitats by up to 10m from the top of the bank. This may include eradication of invasive non-native species, catchment management, remediation and removal of sediment, and removing blockages at goits.	Mapped[71]
RI-02-07	Work with farmers to manage and reduce soil poaching by livestock along rivers, to help reduce nutrient load into rivers and improve riparian habitat.	Not mapped
RI-02-08	Protect water courses from further encroachment by ensuring new development is set back where possible.	Not mapped
RI-02-09	Expertly manage ancient and veteran white willows in the former fenlands of the Humberhead Levels. Identify and record to prevent further loss of the trees and the rare and specialist species that live within them.	Mapped
RI-02-10	Increase riparian woodland, scrub and mosaic habitats in suitable cloughs of upper catchments to increase biodiversity, provide natural flood management, improve water quality and cooling/shading.	Mapped

[71] Data copyright of respective Drainage Board. This data should not be relied upon, no warranty is given. You may not copy, redistribute or reverse engineer these records without the express written permission of the Drainage Board. The data does not imply that maintenance works will be carried out and the Board(s) reserve the right to alter this data at any time.

Priority WE-01 A catchment-wide network of good condition wetland habitats, including lowland fen, wet woodland, reedbed, floodplain grazing marsh, reservoirs and ponds to support species recovery and resilience to climate change for local communities and wildlife.		
Measures		
Code	Description	Mapped/Not mapped
WE-01-01	Create and manage mosaics of fen, marsh, swamp and open water habitats through hydrological and vegetation management, for example through the introduction of suitable plant species to increase diversity and ecological connectivity.	Mapped
WE-01-02	Restore and manage mosaics of fen, marsh, swamp and open water habitats through hydrological and vegetation management, for example introduction of suitable plant species to increase diversity and ecological connectivity.	Mapped
WE-01-03	Create dynamic wetland mosaics through the restoration of natural processes, through the reintroduction of Eurasian Beaver where appropriate.	Not mapped
WE-01-04	Restore and manage existing floodplain grazing marshes through early summer hay cuts, 'aftermath' interventions such as extensive grazing regimes and water level management.	Mapped
WE-01-05	Restore and manage ponds for biodiversity by reducing over-shading, controlling non-native species, and reintroducing native aquatic plants where appropriate.	Not mapped
WE-01-06	Create networks of ponds and associated habitats for wildlife in both urban and rural areas to enhance ecological connectivity.	Not mapped
WE-01-07	Manage and protect key areas for breeding ground-nesting, and wintering bird populations, including floodplain meadows and wet grasslands.	Not mapped

Priority BO-01 Lowland raised bog is in 'favourable' condition with internationally important sites protected, to ensure active peat formation and no loss of peat, protected distinctive habitat and species assemblages, carbon storage, and preservation of culturally significant remains.
Measures

Code	Description	Mapped/Not mapped
BO-01-01	Restore and enhance existing lowland raised bog by managing water levels to promote peat-forming vegetation, including through planting sphagnum species, preventing scrub succession and the control of invasive and non-native species.	Mapped
BO-01-02	Manage water levels to promote the establishment of a wildlife-rich 'lagg fen' zone around Thorne and Hatfield Moors, expanding wetland habitats and providing the Humberhead Peatlands with greater resilience to climate and environmental pressures.	Not mapped
BO-01-03	Provide practical and financial advice and support on the rewetting of farmed and warped peats to enhance habitats and explore productive uses including paludiculture for ecosystem service benefits (such as reduction of flood risk and carbon capture).	Not mapped
BO-01-04	Restore and manage mire habitats (flushes, valley mires, seepages) outside of lowland raised bog to enhance biodiversity and provide ecosystem service benefits such as soil and water management.	Not mapped
BO-01-05	Manage vegetation and water levels on lowland agricultural peat to re-wet ground conditions and habitats, reduce carbon emissions and reduce soil loss by wind erosion.	Mapped

Priority BO-02 Blanket bog and mire habitats are in 'favourable' condition with internationally important sites protected, ensuring ongoing peat accumulation and no loss of peat, safeguarding the distinctive upland habitat and species assemblages, carbon storage, and preservation of culturally significant remains.		
Measures		
Code	Description	Mapped/Not mapped
BO-02-01	Restore and manage mire habitats (flushes, valley mires, seepages) outside of blanket bog to enhance biodiversity and provide ecosystem service benefits such as soil and water management.	Not mapped
BO-02-02	Restore and enhance blanket bog, for example through blocking grips and gullies, planting sphagnum mosses, and	Mapped

	increasing vegetation cover in line with the 'Decision support framework for peatland protection'.	

Grassland, heathland and farmed landscapes

Good-quality grasslands and heathlands support rich, specialised communities of plants and animals that are increasingly rare in the wider landscape. Together they form core habitat networks and mosaics, enabling the movement and survival of species with restricted distributions, including acid, neutral and calcareous grassland specialists and dwarf-shrub and bryophyte heath communities. Their restoration and enhancement through conservation grazing, hydrological repair and species-rich meadow creation directly expands ecological connectivity and improves habitat condition.

South Yorkshire's farmed landscapes are crucial to nature recovery, comprising over 40% of the region's land use and holding significant potential to reverse biodiversity decline while continuing to produce food. When managed sensitively, arable and pastoral farmland can support a rich mix of habitats including species-rich grasslands, hedgerows, wetlands and agroforestry systems that provide connectivity between existing wildlife sites and enable nature to recover at a landscape scale. Because farmers and land managers are long-term stewards of the land, farmed landscapes are uniquely placed to deliver sustained, joined-up nature recovery that benefits both wildlife and rural livelihoods.

The Limestone Ridge Nature Recovery Group is a group of farms on South Yorkshire's magnesian limestone working together to reverse the decline of farmland birds including grey partridge, lapwing and corn bunting. By putting aside up to 10% of croppable land for wildlife and creating beetle banks, wildflower strips and new hedgerows, the group is already seeing species increase in numbers while continuing to farm productively. See the full case study on page 46.

Priority Species supported:
Arable plants – e.g. field garlic, cornflower, greater butterfly-orchid
Bats – e.g. whiskered bat, noctule bat
Calcareous grassland plants – e.g. basil thyme, meadow saffron, henbane
Farmland birds – e.g. linnet, skylark, reed bunting
Grassland invertebrates – e.g. dark spinach, grass rivulet
Grasslands fungi – e.g. pink waxcap, green earthtongue
Lowland heathland birds – e.g. nightjar, tree pipit, woodlark
Lowland heathland invertebrates – e.g. mire pill beetle, Thorne pin-palp
Tall sward and scrub invertebrates – e.g. diptera ('true flies')
Upland birds – e.g. golden plover, hen harrier, common sandpiper
Wetland and wet grassland plants – e.g. marsh pea, lesser water-plantain
Wetland birds – e.g. crane, little egret, marsh harrier

See the full species priority list in Annex A

Priority GR-01
Increase the amount of grasslands in good condition, managed as part of a resilient network of ecologically connected sites, supporting a diverse and sustainable population of grassland species and providing wider benefits such as natural flood management, carbon sequestration and storage, and cooling air temperatures.

Measures		
Code	Description	Mapped/Not mapped
GR-01-01	Manage and enhance existing grasslands (acid, neutral, calcareous, and wet) of high biodiversity value to maintain and extend the existing ecological network.	Mapped
GR-01-02	Restore and enhance degraded or unmanaged semi-natural grassland habitats to bring them into sustainable management, prioritising sites that buffer existing good grasslands or areas with rare species such as ground-nesting birds. For example, through low intensity grazing and/or appropriate cutting regimes.	Mapped
GR-01-03	Create new semi-natural grassland habitats of value and secure sustainable management on these sites, prioritising sites that buffer existing good grasslands.	Mapped
GR-01-04	Maximise biodiversity of grassland sites through use of green hay/seed collection from existing local good condition sites.	Not mapped

GR-01-05	Create, restore and enhance species-rich hay meadows, prioritising areas with rare species, such as ground-nesting bird species.	Not mapped
GR-01-06	Enhance the biodiversity value of grasslands in public open spaces, road verges, and other grasslands, through management regime interventions – for example, reduced cutting frequency, collection of arisings, and increasing species diversity.	Not mapped
GR-01-07	Introduce small scale features within grassland to promote invertebrate diversity and abundance – for example, butterfly banks and small-scale disturbance such as scrapes.	Not mapped
GR-01-08	Support landowners and managers with advice and incentives to conserve and enhance existing grassland sites.	Not mapped

Priority HE-01 Increase and expand structurally and species-diverse upland moorland mosaics, including upland heath, to provide biodiverse habitats, natural flood risk and scrub management, and carbon sequestration.		
Measures		
Code	Description	Mapped/Not mapped
HE-01-01	Restore and enhance wet heath and complimentary mosaics of heathland, grassland, wetland, woodland, and scrub habitat, including transitional habitats – for example, through an appropriate level of grazing, natural regeneration and using blocking grips and gullies.	Mapped
HE-01-02	Create wet heath and complimentary mosaics of heathland, grassland, wetland, and scrub habitat, including transitional habitats – for example, through an appropriate level of grazing, natural regeneration and using blocking grips and gullies.	Mapped
HE-01-03	Enhance and diversify plant species and age structure of dwarf scrub heath – for example, through appropriate grazing and tree and bracken management.	Not mapped
HE-01-04	Use moorland management techniques that improve biodiversity and wider environmental benefits such as heather cutting in place of burning.	Not mapped

Priority HE-02 Good condition lowland heathland managed as part of a resilient network of ecologically connected sites, to protect distinctive habitat and species assemblages of restricted distribution and regional importance.		
Measures		
Code	Description	Mapped/Not mapped
HE-02-01	Manage and restore heathland to prevent loss of condition and extent, including where present as part of a habitat mosaic.	Mapped
HE-02-02	Create and buffer wildlife-rich and structurally diverse heathland habitat mosaics of acid grassland and scrub to improve connectivity for heathland species between new and existing heathland sites, for example in the Humberhead Levels. This could include seed and brash collection from donor sites.	Mapped
HE-02-03	Support landowners and managers with advice and incentives to conserve and enhance existing heathland and heathland mosaic sites.	Not mapped

Priority FA-01 Farmed landscapes provide diverse habitats and species connectivity alongside commercial productivity, making rural landscapes more abundant in wildlife.		
Measures		
Code	Description	Mapped/Not mapped
FA-01-01	Develop and maintain an extensive network of species-rich arable field margins, headlands and corners that support a variety of species through planting wildflowers and seed-bearing plants, reducing the use of herbicides and pesticides and introducing features that provide vital habitat for invertebrates, such as beetle banks.	Not mapped
FA-01-02	Create more space for wildlife by diversifying the habitat in arable cropped areas, for example through installing features like ponds, beetle banks, and skylark plots, or managing for in-field trees, rough grassland, bird cover crops, and conservation headlands.	Not mapped
FA-01-03	Reduce management intensity of grassland through practices such as lower fertiliser inputs, lower livestock	Not mapped

	density, and later cutting to improve breeding success of ground-nesting birds and reduce run off of soil and fertiliser into water courses.	
FA-01-04	Create new hedgerows as part of an integrated network, emphasising traditional methods such as laying, coppicing and pollarding.	Not mapped
FA-01-05	Promote opportunities for agroforestry to support productivity, improved animal husbandry, shelter, habitat connectivity, nutrient loss, soil health, and adaptation to climate.	Not mapped
FA-01-06	Identify areas where agroforestry could support productive farming and connect, buffer, and protect habitats.	Not mapped
FA-01-07	Identify areas with locally significant arable plants (such as arable weeds) and landowners willing to manage parts of their land sympathetically to create and/or maintain populations of these declining arable plants – sourcing local seed of important arable plants and introducing them to new locations where they can be maintained as part of arable management.	Not mapped

Woodland and trees

Good-quality woodlands provide structurally diverse, species-rich habitats that support a wide range of specialist and generalist wildlife. Woodlands in good ecological condition, with multi-layered canopies, varied age structures, abundant deadwood and diverse species provenance create resilient ecosystems supporting woodland birds, mammals, invertebrates, fungi and a diverse understorey. Sustainable management practices such as coppicing, pollarding, thinning and targeted pest control further enhance habitat quality and ecological resilience.

Associated habitats such as scrub, hedgerows and wood-pasture provide important structural diversity and strengthen connectivity between woodland and grassland ecosystems, providing corridors and stepping stones for wildlife movement. At 15%, South Yorkshire has the highest tree and woodland coverage in Yorkshire, providing a strong platform to build on. However, many woodlands across the region have not received significant management since planting, and ancient semi-natural woodlands remain under pressure from development, fragmentation and invasive species.

South Yorkshire Woodland Partnership brings together all four local authorities, SYMCA, the Woodland Trust, the Forestry Commission and Sheffield and Rotherham Wildlife Trust to expand, protect and sustainably manage trees and woodlands across the region.

Established in 2020, the Partnership works to increase tree and woodland canopy cover, improve management of existing woodlands and support community engagement with trees and nature. See the full case study on page 42.

Priority Species supported:
Reptiles – e.g. adder, common lizard, grass snake, slow-worm
Urban birds – e.g. house martin, house sparrow, starling
Woodland birds – e.g. marsh tit, nightingale, woodcock, goshawk
Woodland invertebrates – e.g. bast bark beetle, wood-boring weevil

See the full Species priority list in Annex A

Priority WO-01
Woodlands are in active management and good ecological condition, part of a resilient network of ecologically connected sites providing favourable habitat for recovery in woodland species and wider environmental and societal benefits.

Measures

Code	Description	Mapped/Not mapped
WO-01-01	Promote traditional tree and woodland management such as pollarding, coppicing and thinning where appropriate in line with the UK Forestry Standard.	Not mapped
WO-01-02	Diversify tree species age and height for structural diversity in all woodlands, emphasising multi-layered vegetation from canopy to ground layer (including standing deadwood) to provide quality habitat for generalist and specialist species and increase resilience.	Not mapped
WO-01-03	Promote climate and disease resilience in new and existing woodland through diversifying tree species provenance, including native broadleaf of local origin and naturalised species from southern provenances, in line with best practice to reflect a range of climatic conditions.	Not mapped
WO-01-04	Create new woodlands to buffer and connect existing woodlands to enable habitat connectivity between fragmented woodlands and increase the overall tree and woodland cover by incorporating natural colonisation and regeneration.	Mapped
WO-01-05	Enhance existing woodlands and wet woodlands by working with land managers to bring more of these habitats into sustainable management, including water-	Mapped

	level regulation, for nature recovery and wider environmental benefits.	
WO-01-06	Create and manage new wet and riparian woodland where it will support the presence of priority species, and where it will provide wider ecological connectivity and ecosystem benefits including flood alleviation.	Mapped
WO-01-07	Support woodland habitat condition through targeted, sensitive wildlife management where appropriate, for example by managing native roe deer in balance with sustainable tree and woodland habitats, and working collaboratively across the region to remove non-native species – particularly grey squirrel, with a view to the ultimate recovery of native red squirrel.	Not mapped
WO-01-08	Create and enlarge existing species-diverse mosaics as transitional habitats between new grassland and woodland sites, incorporating scrub, hedgerows, wood pasture, ancient and veteran trees.	Mapped
WO-01-09	Increase the transitional zone within woodland and around woodland edges, for example between grassland or heathland. This can include planting appropriate trees and shrubs, ride management and promoting a natural scrub structure.	Not mapped
WO-01-10	Introduce locally appropriate climate-resilient ground flora into new planting schemes.	Not mapped
WO-01-11	Manage productive (commercial) forestry and woodland sites to support species diversity, for example through continuous cover forestry and introduction of ground flora.	Not mapped
WO-01-12	Establish and maintain clough woodlands, prioritising areas where they have been lost – providing this aligns with the Open Habitats Policy, wader guidance, and the 'Decision Support Framework for Peatland Protection'. Incorporate an appropriate mix of native tree species and shrubs to re-establish these habitats. Ecological assessment will confirm any conflicts with other habitat types and ensure suitability of species, and natural capital assessment will show the ecosystem services likely to be delivered.	Mapped
WO-01-13	Safeguard, restore and manage existing hedgerows (including trees in hedges to create wildlife corridors to increase the connectivity of habitats.	Mapped

Priority WO-02

All ancient woodlands are in sustainable management to safeguard for future generations as environmentally, culturally and socially valued and irreplaceable assets.		
Measures		
Code	Description	Mapped/Not mapped
WO-02-01	Restore all ancient woodlands into positive management, in accordance with current government guidance and standards. This is defined as: Ancient Semi-Natural Woodlands, Woodland Pasture, Plantation on Ancient Woodland Sites, and Ancient and Veteran Trees.	Mapped
WO-02-02	Connect and buffer existing ancient woodland with woody habitat corridors using appropriate blend of conventional planting with natural colonisation and natural regeneration.	Mapped
WO-02-03	Improve knowledge of ancient and veteran trees by promoting use of the Ancient Tree Inventory and improving the quality of records in South Yorkshire.	Not mapped
WO-02-04	Create veteran trees of the future (veteranisation) to support sustainable populations of veteran tree habitats, focussing on known appropriate locations, for example by planting species which veteranise quickly.	Not mapped
WO-02-05	Trial soil translocations in new and existing woodlands within close proximity to ancient woodland, using evidence-based approaches to restore soil biodiversity, including mycorrhizal communities, by good biosecurity to limit the potential movement of harmful soil pathogens.	Not mapped
WO-02-06	Encourage sustainable management of Plantations on Ancient Woodland Sites with site-appropriate species to regenerate characteristics of ancient woodland such as soil and ground flora.	Not mapped
WO-02-07	Celebrate the cultural heritage and social importance of ancient and veteran trees with local communities in South Yorkshire.	Not mapped

Priority WO-03 Engage local communities with wooded landscapes to support biodiversity in populated areas and for wider societal benefits.
Measures

Code	Description	Mapped/Not mapped
WO-03-01	Support management of existing traditional orchards as biodiverse areas.	Not mapped
WO-03-02	Create new orchards as biodiverse areas providing mental and physical health benefits across local urban and peri-urban communities.	Not mapped
WO-03-03	Build upon existing opportunities to promote and educate members of the general public on tree health, for example use of Tree Alert and Tree Warden schemes.	Not mapped
WO-03-04	Improve and maintain public access through wooded green space, focussing on areas with greatest need.	Not mapped
WO-03-05	Create new and promote public access through wooded green space, focussing on areas with greatest need.	Not mapped

Urban nature

South Yorkshire's towns and cities are home to a rich and varied network of parks, rivers, ponds, street trees and green spaces that are vital for both wildlife and people. Expanding and connecting these spaces helps wildlife move through the landscape, improves air quality and gives more people access to nature on their doorstep. People in the most deprived urban areas are ten times less likely to live close to natural spaces, making equitable access to urban nature a priority across the region.

Associated features such as roadside verges, hedgerows, green roofs, sustainable drainage systems and community gardens play an important supporting role, providing additional habitat and connectivity across the urban landscape. South Yorkshire's towns and cities also contain significant areas of brownfield and post-industrial land with high potential for nature recovery, alongside an extensive network of urban waterways that provide important wildlife corridors.

Kids Plant Trees is a Sheffield-based social enterprise dedicated to helping children and communities connect with nature through hands-on tree planting and green space improvements. To date, the organisation has planted over 24,333 trees, worked with 32 schools and improved 24 public and community spaces, prioritising areas with limited access to green space. See the full case study on page 59.

Priority Species supported:
Open mosaic/brownfield invertebrate – e.g. grizzled skipper, dingy skipper
Reptiles – e.g. adder, common lizard, grass snake, slow-worm
Individual species – e.g. West European hedgehog, common toad, swift

See the full species priority list in Annex A

Priority UR-01 Make urban green and blue nature networks bigger, better, and more joined up across our villages, towns, and cities to increase connectivity and allow movement of species through the landscape and help mitigate the impacts of climate change while providing other environmental and health benefits.		
Measures		
Code	Description	Mapped/Not mapped
UR-01-01	Protect and manage existing habitats at Local Wildlife Sites to strengthen the ecological network.	Not mapped
UR-01-02	Create, enhance and manage green and blue infrastructure to connect parks, community green spaces, hedgerows, rivers and ponds managed through recognised standards, good practice and biodiversity objectives.	Not mapped
UR-01-03	Create, enhance and manage urban trees, providing habitat connectivity, climate resilience and fairer access to trees for people in urban areas.	Not mapped
UR-01-04	Maintain existing resilient street trees; providing urban resilience, connectivity, tree equity, climate adaptation and access to nature.	Not mapped
UR-01-05	Integrate aquatic, wetland and water management features – such as ponds, rain gardens, green roofs, permeable surfaces, soakaways and sustainable urban drainage systems – into the design of new developments.	Not mapped
UR-01-06	Support native species by reducing barriers to their movement and increasing permeability, for example through appropriate, well-maintained interventions such as rail/road crossing points, smaller-scale permeability measures and wildlife refuges.	Not mapped
UR-01-07	Integrate features to support native species such as bat/bird boxes, swift bricks, insect hotels, hedgehog homes and highways, green roofs and foraging habitats into new development.	Not mapped
UR-01-08	Create or install bird and bat boxes, wildlife ponds, wild patches in gardens, insect hotels, and hedgehog highways to existing homes and gardens to provide more space for nature.	Not mapped

UR-01-09	Take opportunities to retrofit bird and bat provision and other features for wildlife into existing buildings, for example when repairs and upgrades are taking place.	Not mapped
UR-01-10	Use nature-based solutions such as wildlife-rich sustainable urban drainage systems and contour planting to manage and store water, helping to provide new habitats, improve water quality, and reduce the risk of flooding and impacts of drought.	Not mapped
UR-01-11	Restore and improve the biodiversity value and functionality of rivers and watercourses through urban areas, address impacts from pollution and drainage, and improve visibility and accessibility to people.	Not mapped
UR-01-12	Encourage normalisation of urban grazing through shepherding and public education.	Not mapped
UR-01-13	Create a network of wetland features (such as ponds, swales, ditches) to mitigate against urban diffuse pollution, increase biodiversity connectivity, and reduce flood risk.	Not mapped

Priority UR-02 Ensure biodiverse habitats along existing and new highways, cycleways and other transport infrastructure to provide habitat connectivity, allow species movement through the landscape, and help mitigate the impacts of climate change.		
Measures		
Code	Description	Mapped/Not mapped
UR-02-01	Create biodiverse habitats as part of new linear infrastructure such as transport corridors and energy networks (through more urban trees, scrub, shrubs and hedgerows, nature-rich roundabouts, and year-round food sources and habitats for invertebrates).	Not mapped
UR-02-02	Restore and enhance the quality of biodiverse habitats along existing linear infrastructure (through more urban trees, scrub, shrubs and hedgerows, nature-rich roundabouts, and year-round food sources and habitats for invertebrates).	Not mapped
UR-02-03	Use highway verge management approaches that support native wildflowers and improve soil health.	Not mapped

Priority UR-03 Create, enhance, connect and manage a mosaic of habitats across previously developed sites to reduce habitat fragmentation, increase biodiversity, and protect the structural complexity and unique conditions that support specialist species.		
Measures		
Code	Description	Mapped/Not mapped
UR-03-01	Create high-quality habitat on existing mineral extractions sites that is suitable for the site's soil type, for example collieries in the Coalfields, limestone in the Magnesian Limestone area or sand and gravel in the Humberhead Levels area.	Mapped
UR-03-02	Create and manage open habitat mosaics on previously developed land to increase the extent of these habitats for biodiversity.	Not mapped
UR-03-03	Maintain, enhance and manage inland rock habitats to safeguard the condition and extent of their features of special biodiversity interest and the species that depend on them.	Mapped
UR-03-04	Identify, safeguard and manage areas that meet the definition of Open Mosaic Habitats on Previously Developed Land (Priority Habitat) to maintain the extent and features of special biodiversity interest and the species that depend on them.	Not mapped

Priority UR-04 People have a better understanding of and access to nature, whilst recreational impacts on sensitive sites, habitats and species are minimised.		
Measures		
Code	Description	Mapped/Not mapped
UR-04-01	Create new nature-rich green infrastructure such as parks, green spaces, and accessible routes close to where people live to increase equity of access to nature in line with best practice (for example the Natural England Green Infrastructure Framework).	Not mapped
UR-04-02	Enhance and manage existing nature-rich green infrastructure such as parks, green spaces, and accessible routes close to where people live to increase equity of	Not mapped

	access to nature in line with best practice (for example the Natural England Green Infrastructure Framework).	
UR-04-03	Create new biodiverse green spaces at public buildings, schools and hospitals, and other anchor institutions that are well managed, provide more and better habitat sites and provide benefits for people and nature.	Not mapped
UR-04-04	Enhance and manage existing spaces at public buildings, schools, hospitals, and other anchor institutions to provide more blue and green infrastructure for people and nature.	Mapped
UR-04-05	Support, educate and empower people to learn about and take action for nature including in gardens, allotments, local communities and schools and businesses so more people understand and want to care for nature and contribute to its recovery.	Not mapped
UR-04-06	Improve accessibility for all to and within nature-rich public green spaces where appropriate – for example, through signage and information, safe and well-maintained benches, paths and cycle routes, and community engagement to support sensitive use of the space.	Not mapped

Species prioritisation

Priority species list

An additional but integrated output of the LNRS process is the identification of priority species that can be supported by nature recovery actions, as set out in the Statutory Guidance (paragraphs 44, 48 and 53).

A priority species list was developed through a structured process, of first bringing together available datasets on the conservation status of species in the region to create a longlist of candidate priority species. This was reviewed and refined into a shortlist with input from over 16 local and national specialists. The work was undertaken initially by Sheffield and Rotherham Wildlife Trust, developed further by RSK Environmental Ltd., and reviewed and revised by Natural England. The full priority species list is provided in Annex A.

Priority species span a wide range of taxonomic groups including:

- 70 birds, including nightjar, hen harrier, bittern and osprey
- 56 flowering plants, including cornflower, meadow saffron and marsh pea

- 55 insects, including white-letter hairstreak, goat moth and dingy skipper
- 15 mammals, including Eurasian otter, red squirrel and whiskered bat
- 4 reptiles, including adder, grass snake and common lizard

The priority species list is mainly comprised of scarce and declining species. In addition to species with existing populations in South Yorkshire, 11 species have been identified as candidates for reintroduction – species that have been lost from the region but have the potential to regain sustainable population levels through deliberate, human-assisted release back into their former natural habitat. These include:

- 3 mammals: Eurasian beaver, pine marten and hazel dormouse
- 3 flowering plants: oblong-leaved sundew, coral-necklace and pennyroyal
- 1 mollusc: freshwater pearl mussel

Priority species selection criteria

Defra's guidance requires species to be assigned to specific categories relating to the kind of intervention or action considered effective to support population recovery. Only species that can be supported within the scope of the LNRS are included. A summary of the methodology is set out in Annex C. In summary, the priority species list comprises species that:

- need targeted habitat management, for example requiring specific configurations or complexes of connected or nearby habitats, either at site level or across large areas and multiple sites
- need improvements in environmental quality, for example where they are limited by one or more pressures beyond site level that can be mitigated at LNRS scale
- need bespoke conservation actions, for example tailored measures that can be spatially indicated on the local habitat map

Species for which any of the following applies are not included:

- need more, bigger or better-connected habitat, for example species with high recovery potential that do not require specific or targeted recovery measures
- need better evidence where on-the-ground action is not yet a priority, for example where there is insufficient evidence regarding drivers of decline, required recovery actions or range and population levels
- need action outside England, for example where recovery potential is low due to factors beyond English borders
- are vagrants or occasional visitors with no extant population in the strategy area

Development of the priority species list has brought together the best species evidence available at the South Yorkshire scale, benefiting from regional expert perspectives to refine and triangulate the data. The list will be used by delivery organisations to identify which species are priority for recovery action in South Yorkshire and what specific actions can be taken to support their recovery.

The list groups prioritised species into assemblages where relevant. Species assemblages are collections of different species that co-occur in a specific habitat, area or at a particular time. For each habitat-based group of priorities, assemblages that will benefit from those actions are provided alongside examples of priority species included.

Actions to support all priority species

Natural England's review of the priority species list identified the following actions, which can support all species included:

- undertake further survey work – monitoring and research to understand population and distribution trends and the drivers of decline
- share data appropriately to focus efforts where they will have the greatest impact on species recovery
- provide opportunities for citizen science to contribute to knowledge and understanding, including monitoring population and distribution trends through initiatives such as the Big Butterfly Count and Big Garden Birdwatch
- promote education and raise awareness about species needs
- provide volunteer opportunities to build knowledge and develop the experts of the future
- provide support and funding for landowners and land managers to maximise impact on species recovery

Action taken in Sheffield to address declining swift populations is a good example of the community action that can support nature recovery (see case study below).

CASE STUDY: Sheffield Swift City

Swifts migrate to the UK from Africa each May for around three months to breed before returning. However, due to habitat loss, modern construction practices and a scarcity of nesting sites, swift numbers are under threat – as of 2021 the species was Red-Listed as a bird of conservation concern.

To address the decline in swift populations, Sheffield and Rotherham Wildlife Trust named Sheffield a Swift City in 2023. Working with the Sheffield Swift Network, a collaboration of local groups, the ambition is to protect swifts and work together for their conservation across the city.

Actions include the installation of swift boxes and bricks that mimic the nooks and crannies of traditional buildings, providing nesting opportunities that can help swifts rebuild their populations. Nest sites are monitored regularly, and the initiative includes raising community awareness and engagement. The Sheffield Swift Map has also been developed as a tool for local swift conservation, highlighting the efforts of local swift groups and identifying opportunities to increase swift breeding activity across the city.

More information and access to the Sheffield Swift Map can be found at:
https://www.wildsheffield.com/swift-city/

5. Mapping nature recovery opportunities

A key requirement of the Local Nature Recovery Strategy is to map, wherever possible and appropriate, where potential measures could have the greatest impact. Described as 'the final, most important stage of the strategy', this mapping produces a regional map of all areas where the recovery or enhancement of biodiversity could make a particular contribution to other environmental benefits.

Areas of Particular Importance for Biodiversity

Before mapping potential areas for nature recovery, a prior step is required: mapping Areas of Particular Importance for Biodiversity within the region, referred to as 'APIB'. The scope of the APIB is clearly defined by Defra and includes national conservation sites (Special Areas of Conservation, Special Protection Areas, National Nature Reserves and Sites of Special Scientific Interest), Local Nature Reserves, Local Wildlife Sites, and areas of irreplaceable habitat including ancient woodland, ancient and veteran trees, blanket bog, limestone pavements, coastal sand dunes, Spartina saltmarsh swards, Mediterranean saltmarsh scrub and lowland fens.

The purpose of producing the APIB is to identify the best remaining wildlife sites across the region already recognised for their importance for biodiversity. This establishes a nationally consistent baseline map and has been used to inform where nature recovery action should take place in South Yorkshire. In particular, it underpins Principle 1 of the strategy, which aims to improve the quality and extent of habitats by enhancing existing nature-rich sites and developing a network of bigger, better and more connected habitats.

To comply with Statutory Guidance (paragraphs 73–93), the local habitat map identifies Areas that Could Become of Particular Importance for Biodiversity, as well as locations where the recovery or enhancement of biodiversity could make a particular contribution to other environmental benefits.

Methodology

This section summarises the approach taken to mapping potential measures. For further methodological detail please refer to Annex C.

SYMCA produced the APIB using open-source data supplemented by Local Sites data managed by the local authorities. Natural Capital Solutions was commissioned to map potential measures through gathering relevant spatial datasets, developing a method for

each mapped measure and iteratively refining the output through close engagement with the Working Group and an external workshop process with key regional stakeholders.

Through discussion in the Working Group, measures were separated into two types:

- **enhance measures** are closely linked with the APIB map and focus on the restoration and enhancement of habitats that currently exist within South Yorkshire
- **create measures** build on the APIB map and are aimed at buffering, connecting and creating new habitats – taken together, this area of potential new habitat is referred to as 'Areas that Could Become of particular importance for biodiversity' or 'ACB'

The Working Group established and refined a distinct methodology for each potential measure. These were then mapped as opportunity areas if they met all of the following criteria:

- the relevant area is sufficiently concentrated, with further criteria applied where necessary to prioritise areas and avoid indiscriminate or widespread mapping, in line with paragraph 77 of the Statutory Guidance[72]
- spatial data required to inform mapping is of sufficient quality, up to date and consistently available across South Yorkshire, whether from open source, national datasets or provided by partners
- a robust methodology, drawing on relevant datasets, can be developed and accepted by the Working Group

A wider stakeholder process followed, with four workshops held in January and February 2026, each focusing on a specific broad habitat category: wetland, rivers and bogs; grassland; heathland; and woodland and urban. The workshops provided an opportunity to review and sense-check draft spatial mapping, enhance it with on-the-ground knowledge, confirm that sites mapped for nature recovery are correctly identified, and help prioritise instances where different mapped opportunities overlap.

Of the 102 habitat-based measures, simple criteria were used to consider how and whether to map each as opportunity areas for nature recovery. This resulted in in 32 mapped and 70 non-mapped measures.

To prevent a congested map, a prioritisation process was used to reduce the overall extent of mapped measures across the region to within 30–50% geographic coverage of South Yorkshire. Spatial overlaps were then reduced by applying strict zoning criteria to

[72] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1146160/Local_nature_recovery_strategy_statutory_guidance.pdf

certain mapped measures and establishing a hierarchy that prioritises opportunities for scarcer habitats.

This prioritisation process has reduced but not eliminated instances of mapped measures overlapping. Some sites are, therefore, considered opportunities for more than one measure, retaining flexibility for delivery of the most appropriate habitat at a site or, as is likely and more desirable, a mix of habitats.

How to use the mapped measures

The mapped measures neither direct nor preclude other land uses or management for any given site. Instead, they provide additional insight to those making decisions about land use, including plan-making, development proposals, and the management of agricultural land, private estates, business sites and private gardens. This enables developers and other end-users to ensure that land use in South Yorkshire contributes positively to environmental outcomes, with decisions based on the best available evidence.

A mapped measure does not automatically mean permission for habitat creation or enhancement is granted by the landowner. Measures are mapped using available information and should be undertaken only following site assessment by relevant experts. Any actions to create or enhance habitat should be taken in consultation with landowners, relevant authorities and ecological experts.

Mapped measures have a specific role in meeting strategic significance requirements within Biodiversity Net Gain policy (a planning requirement for most new developments to deliver improvements in biodiversity) – this is set out further in Section 6.

While the mapping is at high resolution, indicating opportunities at field scale, it is based on landscape-scale assumptions rather than on-the-ground observations. Ground truthing at the delivery stage is therefore necessary to confirm that measure opportunities are deliverable at a specific location. This should consider ecological appropriateness and feasibility, whether a mix of habitats should be delivered where a site presents opportunities for more than one measure, landowner agreement, and funding availability.

For create measures, the maps indicate the field in which an opportunity exists. They do not necessarily suggest that the whole field parcel is an opportunity.

How to view the mapped measures

The Local Habitat Map contains multiple layers of high-resolution spatial data and is best viewed using the interactive mapping portal.

6. How we will deliver this strategy together

No single organisation is responsible for delivering this strategy – it will take all of us working together to achieve our collective ambitions. The following sections set out how different groups and organisations can use the LNRS to contribute to delivery.

SYMCA

Defra is currently developing guidance for Responsible Authorities to clarify their role in delivery, focusing on four key functions:

- lead and convene a delivery partnership to plan and prioritise delivery
- embed the LNRS into local decision making
- identify priority strategic projects and facilitate project development
- monitor and report on delivery of nature recovery activities across the strategy area

SYMCA will begin development of a Spatial Development Strategy as required under the Planning and Infrastructure Act 2025. The SDS will provide a strategic framework for land use, housing and infrastructure within South Yorkshire. By integrating the LNRS into the SDS, SYMCA will seek to secure delivery against the nature recovery priorities set out in this strategy when planning decisions are made at regional and local levels.

Further opportunities for SYMCA include:

- developing a Nature Recovery Delivery Plan with stakeholders, building on wider regional initiatives
- targeting funding for nature recovery projects, including private finance investments in nature and carbon markets
- ensuring that wider plans and strategies – such as Spatial Development Strategies, Local Growth Plans, public health strategies and climate resilience and adaptation plans – embrace opportunities to support nature recovery
- providing a framework that empowers local communities and stakeholders to take action in their localities.

EXAMPLE: Local Investment in Natural Capital (LINC)

The Local Investment in Natural Capital programme is a Defra initiative led by the Environment Agency and delivered through local authorities. It aims to develop a pipeline of investment-ready natural capital projects and associated finance mechanisms that generate revenue and returns for investors while directing investment towards local priorities for protecting and enhancing the natural environment.

There are opportunities to explore how the mechanisms and approaches developed through this programme could support delivery in South Yorkshire.

Local planning authorities

Across South Yorkshire, there is a need to provide over 56,000 net new homes over the next decade. Local planning authorities are required to consider the priorities set out in the LNRS when determining how their local plan should contribute to and enhance the natural environment.[73] Most development sites are in scope of Biodiversity Net Gain requirements, providing opportunities to secure habitat enhancement and creation on- or off-site, whereby developers discharge their BNG duty through habitat enhancement at other locations.

Beyond BNG requirements, which came into effect in early 2024, other aspects of the Environment Act 2021 will support local planning authorities to deliver on this strategy. This includes incorporating the strategy into the preparation of Local Plans, drawing on the mapped opportunities for nature recovery to inform master planning and the design of development sites. Local Nature Recovery Strategies may also be a material consideration in planning decision making.

More broadly, all public authorities must conserve and enhance biodiversity and are legally required to embed nature recovery into their policies, decisions and land management. This biodiversity duty, strengthened by the Environment Act 2021, means that authorities must actively plan, act and report on how they support biodiversity. Specifically, public authorities must take account of national and local biodiversity strategies including the LNRS when considering how to fulfil this duty. All public authorities in South Yorkshire can, therefore, refer to the principles, priorities and measures, including mapped opportunities for intervention, when developing a corporate strategy or reviewing how to meet their biodiversity duty.

[73] https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment.

At a more localised scale, neighbourhood plans – community-led documents prepared at parish or neighbourhood level – can include policies that promote the designation and protection of local green space and other areas important for nature, and can influence proposals for new development. There are currently 15 neighbourhood plans in place across South Yorkshire.

The interaction between the LNRS and development

Through mapping potential measures, the LNRS identifies areas where development could have the greatest impact on nature and where habitat creation, restoration or enhancement facilitated through development proposals would be most beneficial for nature recovery. The LNRS does not protect land outside designated sites or compel landowners to deliver the works identified in the strategy. However, some land and sites within the LNRS are already designated for nature conservation and benefit from existing protections.

New development has a positive opportunity to support nature recovery by incorporating sustainable design and delivering long-term gains for biodiversity. Where mapped measures identified in the LNRS interact with development sites, including sites allocated in Local Plans, developers can use the LNRS to help identify strategic priorities and guide interventions to support nature recovery.

A document has been produced clarifying how planning applications subject to Biodiversity Net Gain may qualify for strategic significance according to the multiplier used within the Statutory Biodiversity Metric. For each of the 32 mapped measures, Annex D describes the habitat condition required to meet strategic significance.

As set out in the Statutory Biodiversity Metric User Guide[74] (Table 7), a high strategic significance score can be achieved when both of the following apply:

- the location of the habitat parcel has been mapped on the Local Habitat Map as an area where a potential measure has been proposed to help deliver the priorities of the LNRS
- the proposed intervention is consistent with the mapped potential measure in the LNRS for that habitat parcel

[74] https://assets.publishing.service.gov.uk/media/689c5ee17b2e384441636196/The_Statutory_Biodiversity_Metric_-_User_Guide_-_July_2025.pdf

Farmers, landowners and land managers

Farmers, landowners and land managers can use the LNRS to determine appropriate and viable nature recovery uses for land they own or manage, explore nature recovery opportunities with adjacent landowners and farmers, and identify opportunities for Landscape Recovery projects including Environmental Land Management schemes for large-scale, long-term habitat restoration and land-use change.

CASE STUDY: Doncaster and Humberhead Levels UNESCO Biosphere Proposal

Doncaster has submitted an application to become a UNESCO Biosphere Reserve, a global recognition given to places that protect nature while supporting healthy, sustainable communities. Biosphere Reserves are areas where people test new approaches to environmental management, tackling climate change and creating good places to live and work. They drive investment, sustainable development and research, and facilitate a positive relationship between people and nature through collaboration between local landowners, land managers and farmers.

There are currently seven designated Biosphere Reserves in the UK, but none in the North of England.

The proposed Biosphere area includes some of Doncaster's most important natural landscapes, particularly its wetlands and limestone areas. These support rare plants and wildlife and play an important role in storing carbon and reducing flood risk. Biosphere status would help bring greater attention, funding and expert support to protect and restore these landscapes. The designation would not introduce any new rules or restrictions – instead it would create opportunities for investment, green jobs, research, tourism and skills development.

The Doncaster and Humberhead Levels Biosphere has been awarded Candidate status by the UK Man and Biosphere Committee. Formal designation would accelerate the delivery of multiple projects spanning nature recovery, biodiversity, carbon reduction, climate adaptation, flood risk reduction, economic development and employment.

Community workshops are already taking place so residents can shape the proposal and have their say. Biosphere status would help Doncaster strengthen nature recovery, boost its local economy and demonstrate leadership on sustainability across the region.

Partners and communities

Businesses and anchor institutions can use the LNRS to inform corporate donation decisions, adopt a more civic approach to their corporate, social and environmental

responsibilities, and guide investment in natural processes such as the carbon cycle, water purification and soil fertility that produce clean water, shade and food. The strategy also provides a basis for strengthening reputation and supporting business growth through positive environmental action.

Environmental organisations, conservation bodies, partnerships, health partners, community groups and members of the public can use the LNRS to develop targeted solutions for implementing nature recovery locally, bring communities together to deliver improvements at scale for the benefit of local people, and secure funding and investment in the locality.

CASE STUDY: Bringing Yorkshire's Nature Back – Yorkshire Wildlife Trust

Bringing Yorkshire's Nature Back is Yorkshire Wildlife Trust's blueprint for nature recovery across the region, building directly on the State of Yorkshire's Nature report (2024), which showed that many of Yorkshire's best-loved species and habitats are declining and that urgent, coordinated action is needed to reverse this trend. The blueprint sets out how Yorkshire can meet the global 30by30 target – protecting and effectively managing at least 30% of land and water for nature by 2030 – through practical, joined-up work across sectors.

The initiative responds to major challenges facing the region: falling wildlife populations, fragmented habitats, climate pressures and the UK's slow progress towards international biodiversity targets. It identifies where action is most needed, where nature is under the greatest pressure and where opportunities exist to restore healthy and connected landscapes, drawing on the best available data to present an accessible, evidence-based plan.

A key part of Bringing Yorkshire's Nature Back is partnership. Yorkshire Wildlife Trust is calling on councils, landowners, community groups, environmental organisations, businesses and farmers to join a new coalition for nature recovery. This coalition will work collaboratively to remove barriers, share resources, design joint projects and increase the visibility and impact of the region's efforts. It will also complement the four Local Nature Recovery Strategies being developed across Yorkshire, ensuring that local plans contribute to a wider, connected nature network.

The blueprint aims to inspire collective ambition across Yorkshire and demonstrate that large-scale nature recovery is achievable through shared action. By focusing on the 30by30 target, it offers a hopeful and practical vision for restoring wildlife, improving resilience to climate change and creating a healthier, more vibrant region for communities and nature alike.

Government

Government may use the LNRS to assess funding and investment applications, inform the work of arm's-length bodies including the Environment Agency, the Forestry Commission and Natural England, identify priority areas that could contribute to the 30by30 commitment, develop criteria for future nature recovery funding schemes and support the development and delivery of monitoring programmes.

National Parks

National Parks may use the LNRS to shape their Protected Landscape management plans and inform their nature recovery plans, policies and targets.

Universities and educational institutions

Universities and educational institutions can use the LNRS to drive regional environmental action by:

- using the strategy as a live, place-based evidence base for courses in ecology, planning, geography, environmental management and sustainability
- aligning campus land management and estates strategies directly with LNRS priorities
- shaping curricula, apprenticeships and professional training to support green jobs while contributing data and expertise to ongoing monitoring and evaluation of nature recovery
- acting as delivery and convening partners to foster collaboration between local authorities, communities, businesses and land managers

All public, private and voluntary bodies have a role to play, alongside local communities, in delivering the LNRS mission and vision. Success will depend on embedding the strategy's seven principles of partnership working and shared endeavour throughout delivery.

Glossary

Term	Definition
30by30	The global commitment, adopted through the Kunming-Montreal Global Biodiversity Framework in 2022, for nations to protect and effectively manage at least 30% of their land and seas for nature by 2030. In England, this commitment is being delivered through a range of mechanisms including Local Nature Recovery Strategies, which help identify and prioritise land that could contribute to the target.
Ancient and Veteran trees	Ancient and veteran trees can consist of individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands and are regarded as irreplaceable habitats. Ancient trees are those that are exceptionally valuable due to attributes which can include their great age, size, condition, cultural and heritage value, as well as the biodiversity value of the decaying wood habitats they provide. A veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to their exceptional biodiversity, as well as their cultural and heritage value. All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient or veteran will vary by species because each species ages at a different rate.[75]
Ancient Woodland	Any area that's been wooded continuously since at least 1600 AD. This includes ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration, as well as plantations on ancient woodland sites. Plantations on ancient woodland sites are those replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi. These have equal protection in the National Planning Policy Framework. Some ancient wood pastures and historic parklands are also regarded as distinct forms of ancient woodland, and they have recently been added to the Ancient Woodland Inventory in recognition of their importance.
Biodiversity Net Gain (BNG)	A planning requirement introduced under the Environment Act 2021, which came into force in February 2024. It requires most new developments to deliver a measurable improvement or net gain in biodiversity compared to the pre-development baseline, typically a minimum of 10%. This can be achieved on-site, off-site or through the purchase of biodiversity units from a habitat bank.

[75] https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions [Accessed 29/10/24]

Term	Definition
Coppicing	Coppicing is an ancient woodland management technique involving cutting trees or shrubs (typically hazel, ash, or oak) close to the ground, known as the 'stool', during the winter dormant season. This stimulates rapid, sustainable regrowth of new stems, creating a multi-stemmed tree. It is a sustainable method for producing timber, enhancing biodiversity, and encouraging woodland floor flowers.
Clough woodlands	Clough woodlands are native broadleaf woodlands situated in steep-sided, narrow valleys (cloughs) on the edge of open moorland, particularly in Northern England. These habitats follow stream routes, connecting moorlands to lowlands, helping to stabilise slopes, reduce flood risks, and enhance biodiversity by providing vital shelter in exposed landscapes.
Ecosystem services	The direct and indirect contributions ecosystems provide for human wellbeing and quality of life. This can be in a practical sense, such as the provision of food and water, climate regulation and flood protection, as well as cultural aspects such as reducing stress and anxiety.
Green and blue infrastructure	A general term to describe the network of natural and semi-natural features within and between our villages, towns and cities. These features range in scale, from street trees, green roofs and private gardens through to parks, rivers and woodlands.
Invasive Non-Native Species	Invasive non-native species (INNS), or invasive alien species, are those that are introduced, intentionally or unintentionally, outside of their natural geographic range, causing environmental, social and/or economic impacts. INNS can drive losses of native species through impacts such as predation, competition, introducing diseases and altering habitats.
Irreplaceable habitats	Habitats that are very difficult (or take a very long time) to restore, create or replace once they have been destroyed. This may be due to the age, uniqueness, species diversity or rarity of the habitat. Irreplaceable habitat includes some of England's most ecologically valuable terrestrial and intertidal habitat, including areas of ancient woodland, ancient and veteran trees, blanket bog, lowland fens and coastal sand dunes. Irreplaceable habitats are protected in England through the National Planning Policy Framework for their importance.
Lagg fen	The transitional wetland zone found at the margins of a raised bog, where water draining from the bog meets the surrounding mineral soils. Lagg fen supports a distinctive community of plants adapted to nutrient-rich, waterlogged conditions and plays an important role in regulating water levels across the bog system. Almost all lagg fen in South Yorkshire has been lost to drainage and agriculture.
Minewater rebound	The process by which groundwater gradually refills former coal mine workings after pumping ceases. As water levels rise, it can absorb

Term	Definition
	minerals and contaminants from the surrounding geology and, if left unmanaged, discharge into rivers and watercourses as polluted minewater. South Yorkshire has a legacy of coal mining that makes minewater rebound an ongoing water-quality challenge.
National Character Areas	National Character Areas divide England into 159 distinct areas. Each is defined by a unique combination of: landscape, biodiversity, geodiversity, history and cultural and economic activity. The respective boundaries follow natural lines in the landscape, not county or district boundaries.
Nature recovery	The process of actively restoring, creating, and connecting wildlife-rich habitats to reverse biodiversity loss.
Nature-based solutions	The European Commission defines nature-based solutions as 'Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience'. This typically includes actions such as wetland restoration, river/floodplain restoration, agroforestry, and soil protection. These actions can in turn help to deliver services such as erosion control, drought and flood prevention, carbon sequestration, cooling, and wildfire prevention.[76]
Nature Improvement Area	Nature Improvement Areas are large (in the region of 10,000-50,000 hectares), discrete areas that were announced in the Natural Environment White Pape, *The Natural Choice*, securing the value of nature. They were established to create joined up and resilient ecological networks at a landscape scale. Each is run by a partnership of local authorities, local communities and landowners, the private sector and conservation organisations with funding provided by Defra and Natural England.[77]
Open mosaic habitat	A biodiverse mix of habitats that features a patchwork of bare ground, patchy grassland and other vegetation like scrub and flowers. They are an important habitat for a large number of rare invertebrates.
Open Mosaic Habitat on Previously Developed Land	Open Mosaic Habitat on Previously Developed Land (OMHPDL) is a UK Biodiversity Action Plan (BAP) priority habitat, often called high-value brownfield land.
Paludiculture	Paludiculture is the agricultural cultivation of crops on wet or rewetted peatlands, designed to keep the soil saturated while remaining economically productive. This 'wet farming' approach prevents peat degradation and subsidence, significantly reducing greenhouse gas emissions compared to traditional drained agriculture.
Pollarding	Pollarding is a long-standing method of pruning that involves cutting the upper branches of a tree back to a main framework (or 'knuckle') at

[76] https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/key-eu-actions/NbS [Accessed 09/02/26].

[77] https://www.gov.uk/government/publications/nature-improvement-areas-improved-ecological-networks/nature-improvement-areas-about-the-programme [Accessed 10/02/26].

Term	Definition
	regular intervals, usually every 1–5 years. It limits a tree's overall height and width, encourages dense foliage growth, and is commonly used in urban areas to prevent trees from outgrowing their space or conflicting with overhead infrastructure.
Priority habitats	Habitats that are recognised as of Principal Importance (HPI) across the UK and listed under Section 41 of the Natural Environment and Rural Communities Act.
Priority species	Species that are recognised as of Principal Importance (SPI) across the UK and listed under Section 41 of the Natural Environment and Rural Communities Act.
Responsible Authority	The organisation appointed under the Environment Act 2021 to prepare, publish and review a Local Nature Recovery Strategy for a defined area. For South Yorkshire, the Responsible Authority is the South Yorkshire Mayoral Combined Authority (SYMCA).
Rides	A woodland ride is a linear, open trackway or path within a forest, primarily designed to provide access for management, walking, or riding. These sunlit corridors, which are often bordered by wildflowers and shrubs, act as vital wildlife corridors, biodiversity hotspots, and important structural elements.
Riparian	A riparian zone is the area where land meets a river, stream, lake or wetland. It's an important natural space with damp soil and plants that thrive in wet conditions. These areas help hold riverbanks in place, filter pollutants from water runoff, and provide essential homes for wildlife
Soil poaching	Soil poaching is the physical degradation of soil structure caused by livestock trampling, particularly on wet or waterlogged grassland. It causes the soil to become heavily compacted, broken, and muddy, leaving bare patches that reduce grass yield, inhibit water infiltration, and increase surface run-off
SSSI status definitions	**Favourable condition:** The designated feature is being adequately conserved and the results from monitoring demonstrate that the feature is meeting all the mandatory site-specific monitoring targets set out in the monitoring specification. There may be scope for the further (voluntary) enhancement of the feature. **Destroyed condition:** Lasting damage has occurred to an entire designated feature such that it has been irretrievably lost. No amount of management will bring it back; this feature will never recover. For example, a finite mineralogical feature has been totally removed from its surroundings without consent and is lost forever.

Term	Definition
	Part destroyed condition: Lasting damage has occurred to part of a designated feature, such that it has been irretrievably lost and will never recover. No amount of management will allow the feature to ever reach favourable condition. **Unfavourable declining condition:** The feature is not being conserved and will not reach favourable condition unless there are changes to management or external pressures. The feature condition is becoming progressively worse. This is reflected in the results of monitoring over time and the longer the feature remains in this poor condition, the more difficult it will be, in general, to achieve recovery. **Unfavourable no change condition:** The feature is not being conserved. It will not reach favourable condition unless there are changes to the management or external pressures. If the feature is unfavourable, it should be recorded as unfavourable – no change, where the necessary actions to achieve favourable condition have not been identified, none are underway, or at least one is behind schedule. **Unfavourable recovering condition**: Often known simply as 'recovering'. The feature is not yet fully conserved but the necessary actions to achieve favourable condition have: been identified and recorded, at least one action is underway, and there are no actions behind schedule. Provided that the recovery work is sustained, the feature will reach favourable condition in time, but at least one of the designated feature's mandatory attributes is not currently meeting their targets.
Strategic significance	A multiplier within the Statutory Biodiversity Metric that increases the biodiversity unit value of habitat creation or enhancement carried out in locations identified as priorities within a Local Nature Recovery Strategy. Where a development proposal delivers habitat in a mapped LNRS opportunity area, it may qualify for a higher strategic significance score, increasing the biodiversity units generated and making it easier to meet Biodiversity Net Gain requirements.
Sustainable Drainage Systems	Sustainable drainage systems refer to a range of environmentally friendly rainwater management techniques,

Term	Definition
	such as soakaways, to reduce water run-off entering sewers and to prevent flooding. They manage surface water in a way that mimics natural processes, providing benefits that traditional drainage methods do not.[78]
Supporting Authority	Organisations defined in legislation as having a complementary role to the Responsible Authority in the preparation of a Local Nature Recovery Strategy. For South Yorkshire, the Supporting Authorities are Barnsley Metropolitan Borough Council, City of Doncaster Council, Rotherham Metropolitan Borough Council, Sheffield City Council, Natural England and the Peak District National Park Authority.
UK Forestry Standard	The UK Forestry Standard defines the government requirements for forestry in the UK. It provides a basis for regulation and monitoring, including national and international reporting.

[78] https://researchbriefings.files.parliament.uk/documents/CBP-10483/CBP-10483.pdf [Accessed 10/02/26].

Abbreviations

Term	Definition
ACB	Areas that Could Become of Particular Importance to Biodiversity
APIB	Areas of Particular Importance for Biodiversity
BAP	Biodiversity Action Plan
BNG	Biodiversity Net Gain
DCRT	Don Catchment Rivers Trust
Defra	Department for Environment, Food and Rural Affairs
EIP	Environmental Improvement Plan
HPI	Habitats of Principal Importance
INNS	Invasive Non-Native Species
IUCN	International Union for Conservation of Nature
LINC	Local Investment in Natural Capital
LNR	Local Nature Reserve
LNRS	Local Nature Recovery Strategy
LWS	Local Wildlife Site
NbS	Nature-based Solutions
NCA	National Character Area
NFM	Natural Flood Management
NIA	Nature Improvement Area
NNR	National Nature Reserve
OMH	Open Mosaic Habitat
OMHPDL	Open Mosaic Habitat on Previously Developed Land
PAWS	Plantation on Ancient Woodland Site
RA	Responsible Authority
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SDS	Spatial Development Strategy
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SYMCA	South Yorkshire Mayoral Combined Authority
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

Appendix A – International, national, regional and local policy context

International

30by30

Agreed at Biodiversity COP 15 in Montreal by almost 200 nations, including the UK, '30by30' is a commitment to reverse biodiversity loss and protect at least 30% of land and sea area by 2030. The UK's commitment to this international target is enshrined within the 2025 Environmental Improvement Plan. It is a legally binding target. The '30%' is a scientifically informed target required to reverse nature's decline.

Progress towards meeting this target requires urgent and significant action given that, to date, no published Government data puts the percentage of UK land in good condition for wildlife at higher than 7% nationally.

An important and ambitious initiative is underway in Yorkshire, coordinated by Yorkshire Wildlife Trust, to identify opportunities to reach the '30%' target within Yorkshire.

Paris Agreement on Climate Change (2015)
A treaty that commits to holding global warming to well below two degrees Celsius above pre-industrial levels, endeavouring to limit increases to no more than 1.5 degrees.

National

Environment Act (2021)

Establishes legally binding targets for restoring and enhancing nature across England, including air and water quality, waste, recycling and species decline, and targets for increasing tree and woodland cover. Local Nature Recovery Strategies are central to this.

Environmental Improvement Plan (EIP) (2025)

The UK government's Environmental Improvement Plan (EIP) 2025, replacing the Environmental Improvement Plan (2023), provides a roadmap for meeting environmental commitments and Environment Act targets, recognising the need to work in partnership with local government, communities, landowners, businesses, farmers, environmental organisations, and others.

It includes key commitments and goals around which actions are framed.

Goal 1: Restored nature	We will create a network of bigger, better and more resilient habitats to help nature thrive.
Goal 2: Air	We will achieve clean air.
Goal 3: Water	We will ensure English waters are clean, resilient and plentiful.
Goal 4: Chemicals and pesticides	We will minimise environmental risks from chemicals and pesticides.
Goal 5: Waste	We will minimise waste by designing it out of the system, reusing and recycling materials wherever possible.
Goal 6: Resources	We will ensure that natural resources are produced, managed and consumed sustainably.
Goal 7: Climate change	We will reduce greenhouse gas emissions to accelerate to net zero and work to prepare the natural environment for the effects of climate change.
Goal 8: Reducing environmental hazards	We will reduce the risk of harm to people, the environment and the economy from natural hazards.
Goal 9: Biosecurity	We will enhance biosecurity to protect our natural environment and boost the health and resilience of plants, animals, ecosystems and people.
Goal 10: Access to nature	We will ensure inclusive access to nature and protect nature's beauty and heritage.

Blueprint for Halting and Reversing Biodiversity Loss

The UK's National Biodiversity Strategy and Action Plan for 2030 sets out how England, Wales, Scotland and Northern Ireland will work together to address biodiversity loss.

National Environmental Objectives (NEOs)

The UK government provided LNRS Responsible Authorities with guidance for how LNRSs can contribute towards 'National Environmental Objectives' (NEOs). These NEOs are drawn from the Environmental Improvement Plan (2023). The guidance should be used when developing strategy priorities and provides quantified targets for habitat creation and species recovery, as well as wider societal benefits. The priorities and measures developed as part of the South Yorkshire LNRS contribute directly or indirectly the majority of these targets.

The Planning and Infrastructure Act 2025

The Planning and Infrastructure Act introduces strategic planning at a sub-regional level, with a duty for SYMCA to prepare a Spatial Development Strategy (SDS) offering opportunities to facilitate effective cross-boundary working.

The Act also strengthens the role of Natural England, including new duties to prepare Environmental Delivery Plans and operate a Nature Restoration Fund aimed at avoiding harming protected sites and species, and addressing any impacts from development. As such, Natural England will remain a key partner in supporting nature recovery and environmental improvement in South Yorkshire, and delivery of the South Yorkshire LNRS.

National Planning Policy

Proposed changes to the National Planning Policy Framework (December 2025) would further embed delivery of Local Nature Recovery Strategies through the planning system. Development plans (which set out planning policies used to determine planning applications) will need to take account of Local Nature Recovery Strategies.

As well as identifying opportunities for the conservation, enhancement and recovery of landscapes, sensitive waterbodies, habitats and species of principal importance, development plans must consider any areas identified in Local Nature Recovery Strategies that could become of particular importance for nature, treating them as opportunities to integrate new development with nature's restoration.

Drawing on measures proposed by Local Nature Recovery Strategies, development proposals should make suitable opportunities to connect to and strengthen ecological networks that extend beyond development sites.

The Protected Landscapes Duty became law at the end of 2023 and requires public bodies and utility companies to take an active role in the environmental stewardship of National Landscapes and National Parks. In practice, this can mean taking steps to ensure their actions do not cause harm or pollution and that planning and development decisions properly consider the impact on the landscape.

Regional

South Yorkshire Strategy

The South Yorkshire Strategy is being developed through a collaborative process that brings together key stakeholders, including local authorities and representatives from the health, education, business and voluntary sectors. Its purpose is to create a shared vision and clear priorities for tackling the region's biggest challenges and unlocking its potential. The strategy builds on existing local area and South Yorkshire plans and aims to enhance collective impact through alignment under key ambitions, shared learning, and strategic coordination.

South Yorkshire faces big, connected challenges: improving health, tackling crime and safety concerns, creating good jobs as the economy changes, restoring pride in our towns and communities, and taking urgent action on climate change.

Three overarching ambitions have been identified to provide a focus and clear priorities that everyone can rally around. This includes the ambition that 'every community is connected and proud of its place'. Investing in a more sustainable South Yorkshire involving flood resilience and water management, green urban regeneration and development, and enhancing natural habitats and species will be essential to deliver this ambition to create safer and more vibrant, cohesive, resilient communities in which people have pride to look after themselves, each other and their local environment, and where everyone is welcome and belongs.

South Yorkshire Local Growth Plan

The South Yorkshire Local Growth Plan sets out how we will grow the region's economy over the next 10-years, with a vision to create 'a bigger, better economy by 2035', with four missions to achieve this:

1. A stronger diverse business base
2. Connected vibrant places
3. Pathways to stay near and go far
4. A resilient South Yorkshire

One of the two Strategic Objectives under Mission 4 is to achieve a status where 'our nature is more diverse' through focusing on actions and outcomes to enhance natural habitats and species; create beautiful green urban regeneration and development; and improve flood resilience and water management.

The South Yorkshire Local Nature Recovery Strategy is cited as a key strategy to help inform and provide a framework for achieving the Local Growth Plan's vision for a more sustainable and resilient South Yorkshire.

Connected by Water

Connected by Water is a major South Yorkshire partnership created to help communities, landscapes and nature become more resilient to flooding and climate change. The initiative brings together seven key organisations: the South Yorkshire Mayoral Combined Authority, Barnsley, Doncaster, Rotherham and Sheffield Councils, Yorkshire Water and the Environment Agency. The partnership formed in response to severe flooding in 2019, which caused serious damage to homes, businesses and infrastructure across the region.

Alongside major engineering schemes, the partnership is delivering a wide range of nature-based solutions that support both flood resilience and nature recovery. These include creating wetlands, reconnecting rivers with their natural floodplains, restoring peatlands, planting trees and hedgerows, and creating ponds and scrapes to slow and store water. These measures reduce flood risk while also improving habitats for wildlife, enhancing carbon storage and creating more green spaces for people to enjoy.

Connected by Water aims to better protect 25,000 homes, businesses and key infrastructure across South Yorkshire. By combining engineering, nature-based solutions and strong community involvement, the partnership is creating a more resilient, nature-rich region and demonstrating how climate adaptation and nature recovery can go hand in hand (see also case study, Section 3).

South Yorkshire Woodland Partnership

South Yorkshire Woodland Partnership is committed to creating a nationally recognised, vibrant and resilient network of trees and woodlands across South Yorkshire that delivers life-changing, sustainable benefits for people, nature, climate and the economy, through collaboration with local woodland stakeholders.

Yorkshire Wildlife Trust State of Yorkshire's Nature report

Provides data and analysis into how nature is faring and, crucially, where action is needed to create healthier, resilient and more abundant landscapes.

Peak District National Park Management Plan, Landscape Strategy and Nature Recovery Plan

All local authorities have a duty to 'further the purposes' of Protected Landscapes and ensure that the measures align with the purpose and help to deliver its targets and objectives. The State of Nature report 2023 highlights the habitats and some of the species regarded as of high value and importance within the Peak District and how they contribute to the overall network and to supporting various ecosystem services.

The Peak District Nature Recovery Plan aims to contribute to the goals and targets set out in the Environmental Improvement Plan 2023 and to the national Nature Recovery Network. The vision set out is: *The Peak District brimming with wildlife – at the heart of the country and the heart of the nature recovery network. A place for wildlife and people, where nature works with people, and anyone can connect with a resilient, wildlife-rich natural environment.*

Neighbouring LNRS

The South Yorkshire LNRS shares its border with the following Local Nature Recovery Strategy areas:

- North Yorkshire and York
- West Yorkshire
- Hull and East Yorkshire
- Derbyshire
- Nottinghamshire and Nottingham
- Greater Lincolnshire

Local

South Yorkshire consists of four local authorities (Barnsley, Doncaster, Rotherham and Sheffield) with part of the region also falling within the Peak District National Park managed by the Peak District National Park Authority.

Each authority has various local plans, climate/environment plans and health and wellbeing plans, which set out ambitions, targets and policies of relevance to nature recovery in South Yorkshire.

Environmental groups, as well as local neighbourhoods and parishes, often also have locally relevant climate, environment or nature plans.

Appendix B – Broad Habitat Registers

Asset register for South Yorkshire and its four metropolitan boroughs containing the area and percentage cover of broad habitat types. Source: South Yorkshire natural capital and biodiversity mapping, 2021. Natural Capital Solutions Ltd.

	South Yorkshire		Sheffield		Rotherham		Doncaster		Barnsley	
	Hectares	*% area*	*Hectares*	*% area*	*Hectares*	*% area*	*Hectares*	*% area*	*Hectares*	*% area*
Artificial exposure / waste	610	0.4	34	0.1	90	0.3	457	0.8	30	0.1
Bare sand	2	0.0	-	0.0	0	0.0	2	0.0	-	0.0
Boundaries	796	0.5	144	0.4	195	0.7	307	0.5	148	0.5
Built up areas	11,468	7.4	3,568	9.7	2,424	8.5	3,340	5.9	2,136	6.5
Cultivated / disturbed land	40,232	25.9	496	1.3	10,629	37.1	23,290	41.0	5,813	17.7
Felled woodland	715	0.5	197	0.5	23	0.1	455	0.8	40	0.1
Garden	11,440	7.4	3,728	10.1	2,432	8.5	3,035	5.3	2,245	6.8
Grassland, amenity	6,044	3.9	1,563	4.2	1,200	4.2	2,101	3.7	1,180	3.6
Grassland, improved	21,180	13.6	2,497	6.8	3,812	13.3	6,525	11.5	8,329	25.3
Grassland, marshy	217	0.1	8	0.0	3	0.0	151	0.3	55	0.2
Grassland, semi-natural	11,061	7.1	5,878	16.0	757	2.6	2,137	3.8	2,289	7.0
Grassland, unknown	416	0.3	82	0.2	103	0.4	173	0.3	59	0.2
Heathland	7,120	4.6	5,514	15.0	127	0.4	210	0.4	1,268	3.9
Intertidal	9	0.0	-	0.0	-	0.0	9	0.0	-	0.0
Mire	6,173	4.0	2,762	7.5	7	0.0	1,717	3.0	1,660	5.0
Mixed habitats	1	0.0	-	0.0	-	0.0	1	0.0	-	0.0
Natural rock	2	0.0	1	0.0	-	0.0	1	0.0	1	0.0
Other	493	0.3	101	0.3	147	0.5	127	0.2	118	0.4
Path	566	0.4	221	0.6	116	0.4	125	0.2	105	0.3
Pavement	1,714	1.1	626	1.7	349	1.2	418	0.7	320	1.0
Railway	438	0.3	96	0.3	95	0.3	205	0.4	43	0.1
Roads	5,424	3.5	1,586	4.3	1,094	3.8	1,641	2.9	1,102	3.3
Saltmarsh	0	0.0	-	0.0	-	0.0	-	0.0	0	0.0
Scrub	468	0.3	91	0.2	98	0.3	218	0.4	61	0.2
Swamp and marginal	2,881	1.9	432	1.2	22	0.1	2,302	4.1	125	0.4
Trees / Parkland	6,251	4.0	1,778	4.8	1,093	3.8	1,992	3.5	1,387	4.2
Uncertain agriculture (impr	918	0.6	157	0.4	181	0.6	355	0.6	225	0.7
Unclassified	529	0.3	50	0.1	111	0.4	279	0.5	89	0.3
Water, brackish	43	0.0	543	1.5	-	0.0	43	0.1	-	0.0
Water, fresh	2,231	1.4	543	1.5	353	1.2	922	1.6	414	1.3
Woodland, broadleaved	12,846	8.3	3,586	9.7	2,935	10.2	3,485	6.1	2,839	8.6
Woodland, coniferous	1,826	1.2	727	2.0	63	0.2	436	0.8	599	1.8
Woodland, mixed	1,116	0.7	326	0.9	197	0.7	358	0.6	234	0.7
	155,230	**100.0**	**37,335**	**101.3**	**28,654**	**99.8**	**56,816**	**100.0**	**32,915**	**100.2**

Appendix C – Environmental Site Designations

Appendix C(i): Sites of Special Scientific Interest (SSSI) in South Yorkshire

*Sites of Special Scientific Interest found in South Yorkshire, including the area each site covers within South Yorkshire, their current condition status, and the year of the most recent condition assessment. * are sites designated for geological interest.*

NAME	AREA (HECTARES) IN SOUTH YORKSHIRE	TOTAL PERCENTAGE AREA IN FAVOURABLE CONDITION
Anston Stones Wood	34.2	94.67
Ashfield Brick Pits*	0.6	0.00
Bilham Sand Pits*	0.2	0.00
Bradgate Brickworks*	1.1	18.15
Cadeby Quarry*	96.4	100.00
Canyards Hills	65.6	100.00
Carlton Main Brickworks*	15.7	100.00
Dark Peak	8128.6	7.99
Dearne Valley Wetlands	650.0	100.00
Denaby Ings	25.2	0.00
Dyscarr Wood	3.4	19.76
Eastern Peak District Moors	2890.5	32.18
Edlington Wood	100.9	100.00
Ginny Spring, Whitwell Wood	0.7	0.00
Hatfield Moors	1423.6	1.27
Lindrick Golf Course	37.2	0.00
Little Don Stream Section*	1.0	100.00
Maltby Low Common	6.1	100.00
Moss Valley Meadows	>0.0	80.64
Moss Valley	10.5	0.00
Neepsend Brickworks*	4.2	100.00
Neepsend Railway Cutting*	1.5	0.00
New Edlington Brickpit*	0.2	0.00
Owston Hay Meadows	5.5	100.00
Potteric Carr	117.5	52.34
Pye Flatts Meadows	2.3	100.00
River Idle Washlands	43.6	0.00
Roche Abbey Woodlands	63.0	100.00
Sandall Beat	66.3	0.00
Shirley Pool	16.1	60.00

NAME	AREA (HECTARES) IN SOUTH YORKSHIRE	TOTAL PERCENTAGE AREA IN FAVOURABLE CONDITION
Spring Meadows, Alderman's Head and Cow Croft Meadows	16.8	81.25
Sprotbrough Gorge	81.4	32.98
Stairfoot Brickworks*	0.1	0.00
Stannington Ruffs*	2.7	100.00
Thorne, Crowle and Goole Moors	1250.6	5.92
Totley Wood	15.1	0.00
Wadsley Fossil Forest*	0.2	100.00
Went Ings Meadows	6.5	93.22
Wharncliffe Crags*	15.5	100.00
Wood Lee Common*	6.4	0.00

Appendix C(ii): Special Areas of Conservation (SAC) in South Yorkshire

Special Areas of Conservation found within South Yorkshire, alongside the features each site is designated for, and the area they cover.

Name	Designated Features	Area within South Yorkshire (Hectares)
Hatfield Moor	• H7120 Degraded raised bogs (still capable of natural regeneration)	1,244.2
South Pennine Moor	• H4010 Northern Atlantic wet heaths with Erica tetralix • H4030 European dry heaths • H7130 Blanket bog • H7140 Transition mires and quaking bogs • H91A0 Old sessile oak woods with Ilex and Blechnum in the UK	10,833.8
Thorne Moor	• H7120 Degraded raised bogs (still capable of natural regeneration)	1,364.4

Appendix C (iii): Special Protection Areas (SPA) in South Yorkshire

Special Protection Areas found within South Yorkshire, alongside the features each site is designated for, and the area they cover.

Name	Designated Features	Area within South Yorkshire (Hectares)
Peak District Moors (South Pennine Moors Phase 1)	• Golden plover, *Pluvialis apricaria* - A140, b • Merlin, *Falco columbarius* - A098, b • Short-eared owl, *Asio flammeus* - A222, b	11,019.1
Thorne & Hatfield Moors	• Nightjar, *Caprimulgus europaeus* - A224, b	1,781.4

Appendix C (iv): National Nature Reserve (NNR) in South Yorkshire

The designated features and area covered by the Humberhead Peatlands National Nature Reserve in South Yorkshire.

Name	Designated Features	Area (Hectares)
Humberhead Peatlands	• Archaeology and palaeoecology • Breeding nightjar population • Degraded raised mire with potential for restoration • Designated breeding-bird assemblages • Designated invertebrate assemblages • Fen and non-SSSI/SAC/SPA designated habitats and species • Natural England estate, buildings and equipment • Value of the NNR for public engagement and access	2,546.3

Appendix C (v): Local Nature Reserves (LNR) in South Yorkshire

Anston Stones Wood	Potter Holes Plantation
Bowden Housteads Wood/Carbrook Ravine	Quarry Park
Buntings Wood	Roe Woods and Crabtree Pond
Carlton Marsh	Salmon Pasture
Catcliffe Flash	Sandall Beat
Centenary Riverside	Scholes Coppice and Keppel's Field
Dearne Valley Park	Sharrow School Green Roof, Sheffield
Ecclesall Woods	Sheffield General Cemetery
Elsecar Reservoir	Shire Brook Valley
Firsby Reservoir	Sunnybank
Fox Hagg	Town End Common

Gleadless Valley	Warren Vale
Hatchell Wood	West Haigh Wood
Loxley and Wadsley Common	Wharncliffe Heath
Maltby Commons	Wheata Woods
Northcliffe Quarry	Woodhouse Washlands
Old Denaby Wetland	Woolley Wood
Porter Valley Woodlands	Worsbrough Country Park

Appendix C (vi): Local Wildlife Sites in Positive Management

The number and percentage of Local Wildlife Sites in positive management in South Yorkshire.

Local Authority	Local Wildlife Sites in positive management
Barnsley	35% (19 sites out of 55) as of March 2025
Doncaster	27% (95 sites out of 354) as of March 2025
Rotherham	31% (37 sites out of 120) as of March 2020
Sheffield	15% (38 sites out of 253) as of March 2025

Note: Information on positive management is based on the best available data including responses to landowner surveys and assumptions where no site data is available. It is recognised that responses can be subjective and that the above data should be treated with caution.

Appendix D – National Character Areas: Habitat Coverage in South Yorkshire

Dark Peak (NCA 51)

Land use	Area (hectares)	% NCA	% South Yorkshire
Acid, calcareous, neutral grassland	3469.12	19.58%	2.24%
Arable and horticultural	140.54	0.79%	0.09%
Bare ground	25.38	0.14%	0.02%
Bog	1912.49	10.79%	1.23%
Bracken	965.46	5.45%	0.62%
Broadleaved, mixed and yew woodland	1159.55	6.54%	0.75%
Built-up areas and gardens	27.35	0.15%	0.02%
Coniferous woodland	689.78	3.89%	0.44%
Dwarf shrub heath	8325.18	46.98%	5.36%
Fen, marsh and swamp	195.41	1.10%	0.13%
Improved grassland	441.79	2.49%	0.28%
Water	368.38	2.08%	0.24%

Yorkshire Southern Pennine Fringe (NCA 37)

Land use	Area (hectares)	% NCA	% South Yorkshire
Acid, calcareous, neutral grassland	5417.80	30.44%	3.49%
Arable and horticultural	683.73	3.84%	0.44%
Bare ground	5.73	0.03%	0.00%
Bog	104.11	0.58%	0.07%
Bracken	144.96	0.81%	0.09%
Broadleaved, mixed and yew woodland	3770.39	21.18%	2.43%
Built-up areas and gardens	3515.73	19.75%	2.27%
Coniferous woodland	273.53	1.54%	0.18%
Dwarf shrub heath	247.56	1.39%	0.16%
Fen, marsh and swamp	1270.14	7.14%	0.82%
Improved grassland	2221.02	12.48%	1.43%
Unclassified	6.80	0.04%	0.00%

Water	137.53	0.77%	0.09%

Nottinghamshire, Derbyshire and Yorkshire Coalfield (NCA 38)

Land use	Area (hectares)	% NCA	% South Yorkshire
Acid, calcareous, neutral grassland	11039.54	21.28%	7.11%
Arable and horticultural	9593.34	18.49%	6.18%
Bare ground	13.91	0.03%	0.01%
Bog	0.60	0.00%	0.00%
Bracken	199.00	0.38%	0.13%
Broadleaved, mixed and yew woodland	8500.55	16.39%	5.48%
Built-up areas and gardens	12811.79	24.70%	8.25%
Coniferous woodland	224.72	0.43%	0.14%
Dwarf shrub heath	17.84	0.03%	0.01%
Fen, marsh and swamp	5259.19	10.14%	3.39%
Improved grassland	3664.79	7.06%	2.36%
Unclassified	215.83	0.42%	0.14%
Water	332.11	0.64%	0.21%

Southern Magnesian Limestone (NCA 30)

Land use	Area (hectares)	% NCA	% South Yorkshire
Acid, calcareous, neutral grassland	4035.03	12.82%	2.60%
Arable and horticultural	16772.37	53.27%	10.81%
Bare ground	49.43	0.16%	0.03%
Bog	2.28	0.01%	0.00%
Bracken	0.02	0.00%	0.00%
Broadleaved, mixed and yew woodland	4506.27	14.31%	2.90%
Built-up areas and gardens	2920.06	9.27%	1.88%
Coniferous woodland	89.72	0.28%	0.06%
Dwarf shrub heath	472.20	1.50%	0.30%
Fen, marsh and swamp	397.10	1.26%	0.26%
Improved grassland	1898.44	6.03%	1.22%
Unclassified	218.75	0.69%	0.14%
Water	124.83	0.40%	0.08%

Humberhead Levels (NCA 39)

Land use	Area (hectares)	% NCA	% South Yorkshire
Acid, calcareous, neutral grassland	8385.69	23.08%	5.40%
Arable and horticultural	12702.73	34.97%	8.18%
Bare ground	229.41	0.63%	0.15%
Bog	1776.49	4.89%	1.14%
Broadleaved, mixed and yew woodland	4907.66	13.51%	3.16%
Built-up areas and gardens	4275.38	11.77%	2.75%
Coniferous woodland	348.47	0.96%	0.22%
Dwarf shrub heath	624.05	1.72%	0.40%
Fen, marsh and swamp	197.69	0.54%	0.13%
Improved grassland	1985.08	5.46%	1.28%
Unclassified	277.76	0.76%	0.18%
Water	616.81	1.7%	0.39%

Sherwood (NCA 49)

Land use	Area (hectares)	% NCA	% South Yorkshire
Arable and horticultural	0.13	100.00%	0.00%

Appendix E – Nature conservation classifications

Nature conservation classification	Definition
International and European designations[79]	The best examples of habitats and species of birds that are either threatened or valuable within the European Union are protected under Special Areas of Conservation (SAC) and Special Protection Areas (SPA). These sites make up a network of sites across Europe called Natura 2000, protected under the EU Habitats Directive. The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) retains the protections previously provided by the EU Habitats Directive and Birds Directive in English law.
Special Areas of Conservation	These are strictly protected sites designated under the Habitats Regulations. The habitat types and species are those considered to be most in need of conservation at a European level (excluding birds, which are covered by Special Protection Areas).
Special Protection Areas	Special Protection Areas (SPAs) are strictly protected sites classified in accordance with the Birds Directive as retained in UK law. They are classified for rare and vulnerable birds and for regularly occurring migratory species.
National designations	
Sites of Special Scientific Interest	Sites of Special Scientific Interest (SSSI) represent the country's best wildlife and geological sites. They are legally protected in England and Wales by the Wildlife and Countryside Act 1981, amended by the Countryside and Rights of Way Act 2000. Many SSSIs are internationally important for their wildlife and home to the rarest and most vulnerable habitats and species in Europe. As such, many have additional European designations as described above.
National Nature Reserves	National Nature Reserves (NNR) were established to protect some of the most important habitats, species and geology, and to provide 'outdoor laboratories' for research.

[79] https://www.planningaid.co.uk/hc/en-us/articles/203220061-What-are-the-types-of-nature-conservation-designations [Accessed 09/02/26].

Nature conservation classification	Definition
	Most NNRs offer significant opportunities to schools, interest groups and the public to experience wildlife first-hand and learn more about nature conservation.
Locally protected sites	
Local Nature Reserves	Local Nature Reserves can be created by local authorities, or town and parish councils if the district council has granted them the power to do so. Sites can be selected for their wildlife, geology, education or enjoyment (without disturbing wildlife).
Local Wildlife Sites	Local Wildlife Sites are identified and selected locally by partnerships of local authorities, nature conservation charities, statutory agencies, ecologists and local experts, and their selection is based on the most important, distinctive and threatened species and habitats, often of regional importance. They are not legally protected in the same way as national and European sites; however, they are safeguarded through local planning policies.
Designated landscape	
National Parks	National Parks are large areas of land that are protected by law for the benefit of the nation in England. They have the statutory purpose of conserving and enhancing natural beauty, wildlife, and cultural heritage, and of promoting opportunities for the understanding and enjoyment of the special qualities of National Parks by the public.

We are grateful for the involvement and input from the LNRS Supporting Authorities, which were represented on the Steering Group and Working Group.

BARNSLEY Metropolitan Borough Council

Rotherham Metropolitan Borough Council

NATURAL ENGLAND

City of Doncaster Council

Sheffield City Council

SOUTH YORKSHIRE SYMCA MAYORAL COMBINED AUTHORITY

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