

North Yorkshire and York Local Nature Recovery Strategy (LNRS)

Document 3: Statement of Biodiversity Priorities, Part I –
Description of our Strategy Area

February 2026

A decorative graphic consisting of several large, overlapping, semi-transparent circular and arc shapes in shades of beige, light green, and light blue, positioned in the lower half of the page.

LNRS Document Navigation

The North Yorkshire and York Local Nature Recovery Strategy (LNRS) is split into 5 separate parts to help users of the strategy easily find the information that is most relevant to them. The 5 parts are set out in the table below, with a brief description of each one. To access the other parts of the LNRS, please visit: northyorks.gov.uk/lnrs-documents

This is: **Document 3: Statement of Biodiversity Priorities Part I – Description of Our Strategy Area**

1	Thriving Nature in North Yorkshire and York – Short Summary (non-technical) Provides a short summary (non-technical) of the North Yorkshire and York Local Nature Recovery Strategy intended for residents and readers from a non-technical background
2	Thriving Nature in North Yorkshire and York – Our Local Nature Recovery Strategy Provides a detailed overview of the North Yorkshire and York Local Nature Recovery Strategy intended for politicians, land managers, town planners and wider stakeholders
3	Statement of Biodiversity Priorities Part I – Description of Our Strategy Area Provides a detailed description of the strategy area of the North Yorkshire and York Local Nature Recovery Strategy
4	Statement of Biodiversity Priorities Part II – Priorities and Measures Sets out the priorities and measures for the North Yorkshire and York Local Nature Recovery Strategy
5	The Local Habitat Map Online mapping platform providing the Local Habitat Map for the North Yorkshire and York Local Nature Recovery Strategy, including existing Areas of Particular Importance for Biodiversity (APIBs) and Areas that Could Become of Particular Importance for Biodiversity (ACBs)
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Document Overview

The purpose of the strategy area description is to inform setting priorities for recovering or enhancing biodiversity and environmental improvement within the strategy area. Our strategy area description includes the following narrative:

Section A

- Overview – we provide a spatial portrait of our area and outline habitats and species of importance in the national context
- State of nature – we outline some of the declines in nature across North Yorkshire and York
- Pressures leading to decline – we set out some of the causes and likely future pressures leading to further decline in nature
- Wider environmental issues – we describe how creating new and existing habitats can help address matters such as improvements to the water environment and climate mitigation and adaptation
- Land use summary – we outline key statistics for our urban and natural environments, designated sites and waterbodies

Section B

- Sub area map – we introduce the map of our sub areas that represent distinctions between geology, hydrology and concentration of habitats across our study area
- Sub area descriptions – we include a summary description for each sub area and list key habitats, species and statements of environmental opportunities.

Section A – The North Yorkshire and York LNRS strategy area

1. Our Natural Environment

The North Yorkshire and York Local Nature Recovery Strategy (LNRS) land area is over 850,000 hectares covering a range of geologies including limestone, sandstone and ironstone. Long term interactions of land with climate and hydrology have resulted in distinctive topography, with uplands characterised by the Yorkshire Dales, North York Moors and Yorkshire Wolds, and neighbouring lowlands including the Vale of Mowbray, Vale of York and Vale of Pickering.

There is an extensive river network running through North Yorkshire and York, linking the uplands with the Humber and Tees estuaries and Yorkshire Coast. The rivers Swale, Ure, Nidd and Ouse flow in a south easterly direction towards York and then into the Humber estuary (see figure 1 on subsequent page). Other rivers joining the Ouse downstream of York include the Aire, Wharfe and Derwent. In the north, the River Leven rises in the hills of the North York Moors and connects with the River Tees to flow into the Tees estuary; the Esk rises in the same hill as the Leven but flows east towards Whitby. In the west the Ribble finds its source in the Yorkshire Dales, before flowing into neighbouring Lancashire.

Approximately 15% of the national floodplain meadow resource occurs within the North Yorkshire and York strategy area. The Lower Derwent Valley supports one of the best examples of traditionally managed species-rich floodplain meadow habitat in the UK and supports internationally important populations of wintering waterfowl. This is in addition to the floodplain meadow adjacent to the River Ouse and its role in flood management for the City of York.

North Yorkshire is noted for its upland landscapes, dominated by heather moorland and blanket bog that support rare species such as Hen Harrier, Merlin, and Bog Rosemary. The area has 27% of England's blanket bog resource,¹ and around 25% of the upland heathland resource. The North York Moors has the largest block of continuous heather moorland in England. The Yorkshire Dales National Park contains approximately half of all Britain's limestone pavement and contains a significant proportion of the national upland hay meadow habitat, which the area is also famous for.

Lowland heathland is a rare habitat in England, and the York and Selby areas contain 2% of the country's total resource, supporting rare species such as Pillwort, Slender Pond Snail, Adder and Nightjar.

Limestone habitats are especially rich in wildlife, and North Yorkshire is unique in having four different limestone types, each supporting unique habitats and species. These vary from the largest area of Carboniferous limestone in the Yorkshire Dales, the Permian Magnesian limestone running north to south through the centre of North Yorkshire, the Jurassic limestone on the southern edge of the North York Moors, and Britain's most northerly chalk outcrop (Cretaceous) in the Yorkshire Wolds. These support unique flora such as Lady's Slipper Orchid,

¹ Our peatlands – Yorkshire Peat Partnership <https://www.yppartnership.org.uk/our-peatlands>

Purple Milk-vetch, and Perennial Flax. Almost half the plants of Conservation Concern in Yorkshire were linked with limestone and chalk.² The Yorkshire Dales contains more than 40% of England's upland calcareous grassland resource.³

Woodland cover is slightly below the average for England, but we have important areas of ancient and long-established woodlands across our geography. The North York Moors National Park has the highest density of Plantation on Ancient Woodland Sites (PAWS) in the North of England. North Yorkshire and York is known for its large number of country estates and associated parkland, including Fountains Abbey & Studley Royal, Duncombe Park, and Castle Howard, which support large numbers of veteran and ancient trees, an irreplaceable habitat.

The LNRS area encompasses the North Yorkshire coastline from Staithes to Filey Bay, a highly distinctive heritage coast, with internationally recognised Jurassic and Cretaceous geology, and cliffs containing an array of fossils. Coastal grasslands support specialist invertebrates and plant species such as Bithynian Vetch, the hard cliffs are important nesting habitat for declining sea birds such as Kittiwake, and marine mammals such as Minke Whale and Bottlenose Dolphin can be seen out to sea.

North Yorkshire and York hosts a range of rare and iconic species from birds such as the Curlew and Barn Owl, to the Tansy Beetle, 'the Jewel of York', one of only two places it is found in the UK. The North York Moors National Park is now home to the only significant breeding population of Turtle Dove in the north of the UK. Our area is one of few places in the country left for endangered species such as Tassel Stonewort and Freshwater Pearl Mussel. The moth Dark Bordered Beauty has its only England site at Strensall Common, near York. Many of these rare and vulnerable species occur outside of our protected areas.

² State of Yorkshire's Nature – Yorkshire Wildlife Trust <https://www.ywt.org.uk/StateofNature#soyn>

³ Flagship Habitats in North Yorkshire, M Hammond (2019)

Section A – The North Yorkshire and York LNRS Strategy Area

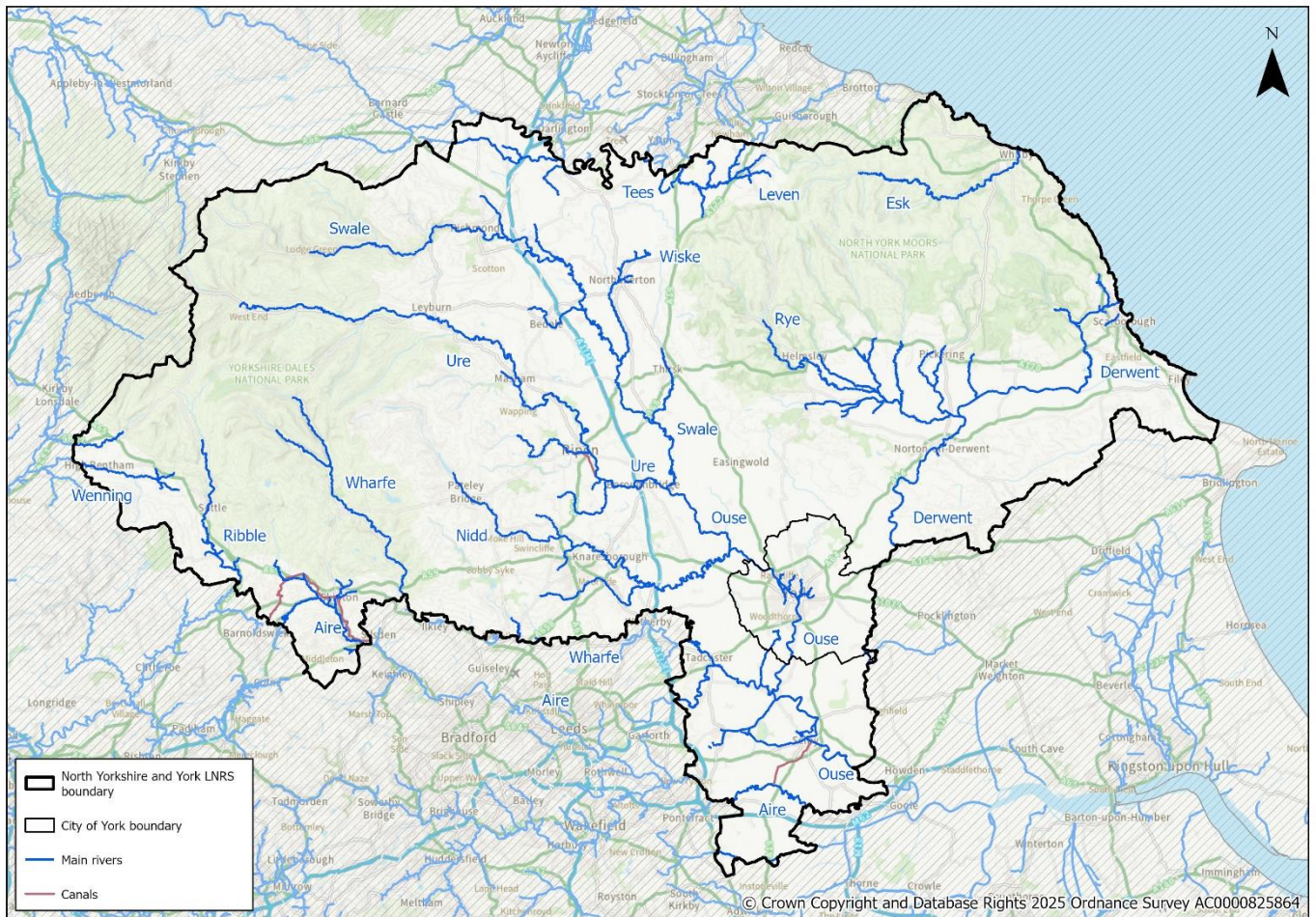


Figure 1 – Main rivers and canals

2. Our State of Nature

Our landscapes have been shaped by humans for thousands of years, starting with neolithic farmers, carrying on through Roman settlers and beyond. Literary and archaeological research has highlighted that North Yorkshire and York was historically more wooded than today, but it was likely never heavily wooded (approximately 12% at the time of the Domesday Book in 1086 (Oliver Rackham, *Trees and Woodland in the British Landscape*, 1976)). Our current woodland cover is almost 9%.

Our historic lowlands were a great mosaic of wetlands, fenlands, and raised bogs. Work began in earnest by the Romans and continued from the 14th Century onwards to make the land more habitable and productive for food, dramatically changing our landscapes. Drainage activity over hundreds of years has led to the loss of 90% of our wetlands, and changes to our rivers natural processes. On the River Ouse corridor, there were around 1200 ha of floodplain meadow at the time of the Enclosures, but only 9% survives, with 91% having been lost.⁴

Large areas of common meadow and moor remained by the time of the Parliamentary Enclosures (between 1750 to 1850). For example, the Swale and Ure Washlands in our area's central lowlands had approximately 1300 ha of Ings (floodplain meadows enclosed by Parliament during this period⁵). This exceeds the entire surviving resource of Great Burnet meadow (the grassland plant community characteristic of traditionally managed Ings) in England and Wales. Other changes in agricultural practices and increased demands on land for human activity has resulted in a 97% loss of our wildflower-rich grasslands. Around 85% of heathland has been lost over the past 150 years, and our lowland heathland resource is now limited to a few designated sites such as Skipwith and Strensall Common.

The UK is one of the most nature-depleted countries on Earth (State of Nature 2023). Our dramatic land use changes over the last hundred years, combined with other factors, both human (such as pollution) and climate-related, has resulted in species abundance declining by around a third since 1970. In Yorkshire over 25% of species have declined in the last 30 years (State of Yorkshire Nature YWT). These can be seen in North Yorkshire and York by the dramatic decline of species such as Turtle Dove, White-Clawed Crayfish, Red Squirrel, and Burnt Orchid. Our area contains over 600 species considered to be endangered or vulnerable to extinction, including Tansy Beetle, Hen Harrier, Curlew, European Eel, Water Vole, and Frog Orchid. Species that may be thought of as common such as the Common Toad, European Hedgehog or Swift are classed as priority species due to their dramatic declines in numbers.

⁴ Deep meadows and transparent floods: the story of the Ouse Ings, Carstairs Countryside Trust & Floodplain Meadows Partnership, M Hammond (2017)

⁵ Historic Habitats – The Lower Ure Conservation Trust <https://www.luct.org.uk/history>

Pressures that led to the decline in nature, and will continue to impact into the future if not addressed, include:

Habitat loss and fragmentation – urbanisation and agricultural intensification since the Second World War have historically led to the direct loss in habitat as well as a reduction in the quality of remaining habitat. Rivers and their riparian habitats have been heavily modified for flood risk and land drainage reasons and many structure and weirs present a barrier to fish migration. These changes over time have created a fragmented network of sites for nature that have reduced the ability of species to migrate and made them more at risk of localised extinctions.

This fragmentation increases the potential for recreational disturbance, the negative impact of leisure activities on wildlife and their habitats. This can include changes in animal behaviour, habitat damage, and even physical harm or death of wildlife. Activities like walking beyond public rights of way, dogs walking off-leash, photography and drone flying can all contribute to recreational disturbance.

Water Pollution – Since the Industrial Revolution our waterways have been impacted by the chemical and biological waste products of commercial and residential activities. Agriculture and rural land management activities also continue to have an impact upon water quality. Pollution can occur from direct discharges into the river (such as via a pipe), from diffuse sources (such as through ground or via multiple sources) or from the release of sediment into the water. However, the return of iconic species like Atlantic Salmon to some of Yorkshire's rivers, in many cases for the first time in 200 years, demonstrates the positive efforts to clean these rivers. However, less than 20% of our waterbodies in North Yorkshire and York are classed as good ecological status, highlighting the impact issues such as pollution are still having on these ecosystems. More work is required to reduce the input of unwanted chemicals and nutrients from sewage treatment and run off from roads and agriculture into our watercourses, to support the recovery of our aquatic and riparian wildlife.

Air Pollution – In England, the two main sources of atmospheric nitrogen pollutants are nitrogen oxides and ammonia. Nitrogen oxides result from the burning of fossil fuels, in both power stations and motor vehicles, while ammonia and nitrous oxides are mainly emitted from agriculture. Overall, 96% of the England's most sensitive wildlife habitats are affected by excessive nitrogen deposition.⁶

There is clear evidence for the negative impact on our ecosystems, including species loss, changes in soil chemistry and habitat degradation, due to eutrophication (excessive nutrient enrichment, leading to biodiversity loss), acidification or direct damage through toxicity. When excessive nutrients enter the soil, slower growing species adapted to low-nutrient conditions tend to decline, resulting in reduced species richness. These habitat changes may have an impact on other groups, such as insects and birds.

⁶ We need to talk about Nitrogen – British Ecological Society <https://www.britishecologicalsociety.org/need-talk-nitrogen/>

Nitrogen deposition is a complex problem and requires a coordinated response across several policy areas. Integrated approaches are needed across areas such as agriculture, transport, energy, climate change, water quality and public health, to drive emissions reductions.

Invasive species – There are estimated to be around 2000 Invasive Non-Native Species (INNS) in Britain. Many are well established, such as the Grey Squirrel, but 10 new ones are establishing each year.⁷ INNS are estimated to cost the UK economy £1.84 billion a year and are a major threat to our nature. Some directly target our native wildlife (e.g. American Mink, Signal Crayfish), whilst others cause indirect harm whilst undermining the banks of our watercourses (Himalayan Balsam), damaging our property (Japanese Knotweed), or impacting on human health (Giant Hogweed). When planning work to restore habitats or encouraging more recreational and educational activities in the outdoors, we must ensure that we do not create new paths for INNS to spread further through our landscapes.

Pests and diseases – These are prevalent throughout our natural world, with more coming into our country through human activity and climate change. Warmer average temperatures and wetter environments could increase the presence of pests and disease even further. Ash dieback was first observed in England back in 2012 and is expected to eventually kill up to 80% of ash trees across the UK.^{8,9} It will change the landscape and threaten many species which rely on ash. Other species such as *Phytophthora ramorum* cause extensive damage and death to more than 150 plant species, including some forest species such as Larch that is extensive in North Yorkshire and York.

Climate change – The UK is predicted to experience warmer, wetter winters and hotter, drier summers. The impacts we are already experiencing with our changing climate are impacting the species around us as well. Flooding during breeding seasons can lead to nests and habitats being washed out, while droughts can prevent access to essential water and food sources. Changes in temperature can cause flowering periods to fall out of synch with emerging pollinating insects, leading to a lack of food at essential life stages. Changes in temperature will force animals to either survive in poor living conditions or migrate, which can be extremely challenging if the habitat they rely on is highly fragmented. Expansion of our urban spaces and corridors can mean that these precious stepping stones for their survival are lost. Upland and lowland peat habitat have been drained to create productive farmland; climate change will exacerbate and accelerate the drying out of these peatlands, releasing carbon instead of storing it.

⁷ Non-native species – NNSS <https://www.nonnativespecies.org/non-native-species/about-non-native-species-v2-5>

⁸ Ash Dieback (*Hymenoscyphus fraxineus*) – Woodland Trust <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/tree-pests-and-diseases/key-tree-pests-and-diseases/ash-dieback/>

⁹ Estimating mortality rates of European ash (*Fraxinus excelsior*) under the ash dieback (*Hymenoscyphus fraxineus*) epidemic – Coker et al. (2018), Plants, People, Planet <https://doi.org/10.1002/ppp3.11>

Land use change - In England there are many demands being made on land including the needs of agricultural production (food and non-food), employment and residential development, strategic infrastructure including renewable energy, protected landscapes, nature recovery and leisure and recreation. It is understood that Government will publish its Land Use Framework (LUF) during 2025 to assist better management of these competing demands on land. North Yorkshire and York faces all these competing demands across its geography and it will need tools like the LUF and the planning system to help manage competing demands on land effectively.

More specifically, in the City of York, the average annual net provision is 822 dwellings, with 13,152 new homes proposed across the Local Plan period 2017-2032/33. In North Yorkshire the new 'standard method' from the National Planning Policy Framework (December 2024) indicates the need for 4077 dwellings per year across the geography including the two national parks.

3. Benefits from nature

Healthy biodiversity and fully functioning ecosystems are essential to life on this planet. They help provide human food, fighting pests and diseases, supporting pollinators and the production of crops, fruit and fish.

Creating new habitats and enhancing existing habitats to create a larger network for nature will help humans mitigate and adapt to climate change, since all habitats can store carbon whilst also supporting biodiversity at a landscape scale. The measures included in the LNRS will help nature recover and create a network that could be more resilient to future climates for us as well as the species around us.

Creation, restoration, or enhancement of the range of habitats present in North Yorkshire and York, both in our rural and urban environments, will help store water and slow its flow, reducing the impacts of flood events and drought conditions, which can be significant issues across our area for both people and nature. Clean rivers result in reduced costs of water with most of Yorkshire's drinking water coming from river and reservoirs. Creating more diversity in the landscape through hedgerows and field margins, woody areas, wetlands, and rough grasslands can help prevent soil to run off our fields, preventing the loss of valuable assets for food production. These activities will also help prevent sediment and run off from our roads entering our waterways, improving their quality at a lower cost than by mechanical means.

Increasing tree cover, particularly in urban spaces, can help cool down our streets and houses as temperatures increase, as well as help clean our air.

Access to nature is crucial for health and wellbeing. Research shows that spending time in natural environments can lead to numerous benefits, including reduced stress and anxiety, enhanced mood and mental health, boosted immune function, lower blood pressure, reduced heart rate, and improved heart health. These benefits highlight the importance of nature in maintaining physical and mental health, and the need for equitable access to natural spaces for all individuals.

Our area's nature is integral to our local tourism offer. Investing in its condition and increasing its abundance and enabling people's access to it in a sustainable way will support this vital element of North Yorkshire and York's economy.

Many of our habitats have been lost or become degraded because we no longer value them as assets. The reduced demand for hay from our meadows, rushes and reeds from our wetlands, or timber products from our woodlands has been a key factor in the change in these habitats to become less wildlife rich. We must find new markets for the products associated with habitat management, such as feedstocks for anaerobic digestion and biomass to help grow our local green energy markets.

All the above work cannot take place unless we increase the workforce in our area to support these ambitions around nature recovery. This will unlock opportunities for businesses to be created and expand and unlock further education opportunities in our area.

4. Land Use Summary for North Yorkshire and York

In terms of land use today, over 70%¹⁰ of North Yorkshire and York is under agricultural use, including the rearing of livestock, arable and mixed farming. Other land uses include forestry, semi-natural habitat or greenspace associated with urban areas or development. There is very low urban coverage at 5.8% of the total area. More comprehensive figures on land use, nature conservation designation and water quality are included in the tables below.

Approximately 50% of North Yorkshire is protected landscape, designated either as National Park (the Yorkshire Dales and the North York Moors) or National Landscape (Forest of Bowland, Nidderdale and the Howardian Hills). The natural environment has strong links with North Yorkshire and York's economy, with agriculture, forestry and tourism being specialisms of the region.

The figures in the tables below were provided by the North and East Ecological Data Centre (NEYEDC), Forestry Commission, Environment Agency, and Natural England.

Table 1 – Land use in North Yorkshire and York

Land Type	Area (Hectares)	Percentage of Total LNRS Area (%)
Urban	49,720	5.8
Allotments, community gardens, private gardens, golf courses, amenity grassland, road islands and verges	20,608	2.4
Building, roads, other built structures	29,111	3.4
Agriculture	488,079	57.2
Arable	286,210	33.5
Improved Grassland	196,066	23.0
Other Agricultural Land	5,803	0.6
Semi-natural Habitat	299,952	35.2
Woodland ¹¹ (broadleaved, mixed, and orchards)	46,350	5.4
Scrub, Scattered Trees	2,785	0.3
Parkland	3,978	0.5
Semi-natural Grassland	71,396	8.4
Bog	54,892	6.4
Heathland	82,040	9.6
Limestone Pavement	716	0.1
Wetlands	9,089	1.1
Intertidal sediment, mudflats, shingle	985	0.1
Inland rocks, scree, boulders	1,332	0.2
Coastal Rocks	882	0.1
Other land types	15,393	1.8
Coniferous woodland	27,781	3.3
Miscellaneous habitats	13,118	1.5
TOTAL	853,144	100

¹⁰ Please note that in the table the "Agriculture" section is given a total percentage of 57.2%. The additional 13% comes from habitats such as heathland and semi-natural grassland, which can also be classed as agricultural land because they are grazed for livestock or have hay crops taken from them.

¹¹ Total woodland habitat cover in our area is 8.7%. Trees outside woodland is estimated at 2.8%, based on the "Trees Outside Woodland Mapping" by Forest Research. This gives a total tree and woodland cover for North Yorkshire and York as 11.5%. www.forestresearch.gov.uk/tools-and-resources/ftth/trees-outside-woodland-map/

5.Areas of Particular Importance for Biodiversity

The designations below make up the core of the nature recovery network, referred to as ‘Areas of Particular Importance for Biodiversity (APIB)’. These encompass international, national, and locally designated sites, and areas of irreplaceable habitat (see tables below).

N.B. sites can be covered by both national and international designations.

These can be seen on the LNRS Local Habitat Map. For more information about these sites, please visit the MAGIC online map.¹²

Table 2 – Areas of Particular Importance for Biodiversity (APIB) in North Yorkshire and York

Type	Area (Hectares)	Percentage of total LNRS area (%)
European Designated Sites (SPA, SAC, Ramsar)	103,270	12.1
Sites of Special Scientific Interest	117,897.7	13.8
National Nature Reserves	1970	0.2
Marine Conservation Zones	6113	n/a
Local Wildlife Sites	10,617	1.2
Local Nature Reserves	303	0.04
Irreplaceable Habitats:		
Ancient woodland	14,553	1.7
Blanket bog	54,737	6.4
Limestone pavements	716	0.1
Lowland fens	1998	0.2

¹² MAGIC – Defra <https://magic.defra.gov.uk/>

Condition of our designated sites, waterbodies and woodland

Table 3 – Condition of existing sites in North Yorkshire and York

Table 6: Condition of existing sites in North Yorkshire and York					
Sites of Special Scientific Interest (SSSI)					
n.b. the total area of SSSI below is slightly higher than in the previous table because some SSSI units continue out of the North Yorkshire and York LNRS area.					
Condition		Area (Ha)		Percentage	
Favourable		17,746.5		15.1	
Unfavourable – Recovering		84,196.7		71.4	
Unfavourable – No change		10,470.2		8.9	
Unfavourable – Declining		5,448.2		4.6	
Partially Destroyed		33.85		0.03	
Destroyed		2.21		0.002	
TOTAL		117,897.7		100	
Woodland					
Category				Percentage	
Woodland managed by Forestry England				25.8%	
Woodland under other management ¹³				41.6%	
Woodland not in management				32.6%	
Waterbodies - Water Framework Directive Status Classification (2022)					
Condition	Rivers and Canals	Lakes	Transitional/ Coastal	Total	Percentage of total number of waterbodies
High	-	-	-	0	0
Good	65	2		67	19.6
Moderate	180	7	2	189	55.2
Poor	43	-	-	43	12.6
Bad	13	-	-	13	3.8
Not assessed	16	14	-	30	8.8
TOTAL	317	23	2	342	100

¹³ Woodland (regardless of ownership) is considered to be in management if it meets one or more of the following criteria:

- It has a Forestry Commission-approved management plan (some of which include an incorporated felling licence),
- It has a standalone felling licence with restocking conditions,
- It is covered by a Forest Design Plan (applicable to Forestry England landholdings),

All of the above must comply with the UK Forestry Standard.

Section B – Sub-area descriptions

North Yorkshire and York LNRS Area – Sub Area Map

The map arranges the LNRS area into sub areas that represent distinctions between geology, hydrology, and the concentration of habitats. The boundaries are based on Natural England's National Character Areas (NCAs)¹⁴ and the equivalent NCA map for the LNRS Strategy Area is provided in Appendix 1.

On subsequent pages of this document, each sub area is provided with an overarching physical description, followed by information on its key habitats and species, concluding with statements of environmental opportunity. The following section on urban environments covers the city of York and the larger settlements and market towns of North Yorkshire.

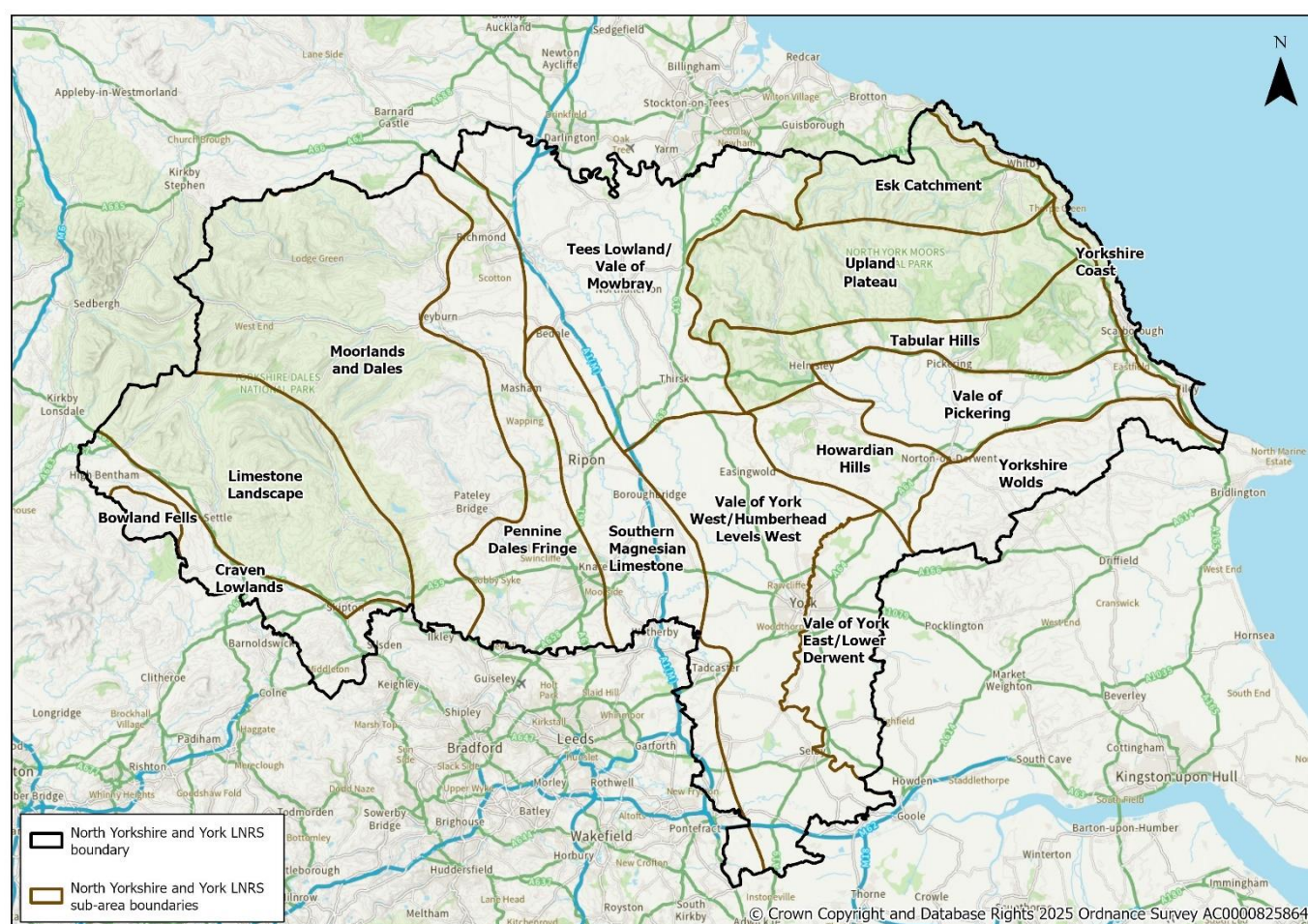


Figure 2 - North Yorkshire and York LNRS Sub Area Map

¹⁴ For more information about National Character Areas, visit <https://nationalcharacterareas.co.uk>

Urban environments

The city of York, our large towns such as Harrogate and Scarborough, and the smaller market towns spread across the county, have all been shaped by the landscapes they sit within and by many phases of development over time. As a result, the nature that uses these urban spaces can vary across North Yorkshire and York. Infrastructure such as buildings, roads and railways have created barriers for nature and contributed to the decline in many species over the decades.

However, our urban buildings and infrastructure can provide greater support for certain groups of species and habitats that are able to thrive in these environments. Urban greenspace and accessible wildlife habitats have an important role in increasing the quality of life of residents, and this is the area where local people can directly help nature's recovery. Wildlife in towns and villages is not necessarily isolated and many species can move through habitat corridors and into the wider countryside, using routes such as road and public rights of way verges, hedgerows, private gardens and waterways. These can be managed for wildlife benefit, while also bringing people additional access to nature and health and wellbeing benefits.

Features within urban settings such as river, canal and rail corridors, office and factory grounds, brownfield sites, churchyards and private gardens provide special opportunities for many species and can support flower and invertebrate-rich grasslands. Examples include St Nicks nature reserve in York, a former landfill site. In churchyards, walls and gravestones can support rich lichen and fern floras.

Although often referred to as 'green deserts' playing fields and other amenity grassland can provide foraging areas for some birds of conservation concern, including Song Thrush, Fieldfare, Redwing and Starling. Some bird species of conservation concern are found in urban settlements, including Bullfinch, House and Tree Sparrows, Spotted Flycatcher and Kittiwakes, where ecological conditions are suitable, although there has been much decline in recent years. Bumblebees and other pollinators are often attracted to gardens and green spaces, and garden ponds are known to support newts, frogs, toads and dragonflies.

Our buildings can support bats, Swallows, House Martins and Swifts. Hedgehogs are common visitors to gardens and other urban green spaces, and our rivers provide corridors for larger mammals such as otter. The presence of ponds, species-rich grasslands, trees, woodlands, hedgerows, shrubs and healthy waterways all increase opportunities for wildlife around us. Innovative design of our built environment, such as Sustainable Drainage Schemes (SuDS), green roofs and walls, swift bricks and other nest boxes, create opportunities for nature at all heights and scales.

Key habitats – species-rich grasslands, woodland, hedgerow, ponds, rivers, canals, brownfield sites which can include grassland, scrub and wetland.

Key Species – bats, Hedgehog, Otter, Swift, House Martin, Redwing, Fieldfare, Starling, Tree and House Sparrows, Kittiwake, Common Frog, Common Toad, Great Crested Newt, White-letter Hairstreak, Garden Tiger, Cornflower, Ragged Robin.

Statements of Environmental Opportunity

- Ensure that there is a well-connected network of high-quality green/blue infrastructure through our urban settlements which will enable people to understand and enjoy the natural environment, as well as providing a range of other benefits including biodiversity enhancement, food provision and flood risk mitigation.
- Protect and enhance the waterways of our cities, towns and villages to reduce flood risk, improve water quality and conserve the valuable contribution they make towards sense of place, biodiversity, recreation and sense of history.
- Promote the inclusion and retrofitting of sustainable drainage schemes in developments to increase water storage and filtration and provide more space for nature.
- Explore opportunities to amend management of our existing urban greenspaces to incorporate more space for nature, including species-rich grassy areas, species-rich hedgerows, trees and pollinator-friendly shrubs.
- Encourage homeowners, housing authorities and local councils to adopt wildlife-friendly practises in gardens and community greenspaces, including reduced mowing, nestbox installation, prevention of chemical use, hedgehog gap installation, tree and shrub planting, to create more spaces for nature in urban settlements.

1. Bowland Fells

A distinctive upland block with steep escarpments, upland pasture and expansive open moorland. Area is dominated by blanket bog, upland heathland, and flushes, fen and swamp. Steep sided woodland valleys also an important feature.

Key habitats – blanket bog, upland heathland, upland flushes, fen and swamp, woodland, scrub.

Key species – Hen Harrier, Merlin, Lesser Black-backed Gull, Ring Ouzel, wading birds.

Statements of Environmental Opportunity

- Safeguard, manage and enhance the large areas of open, expansive blanket bog and wet-heath habitats and the important species they support, to ensure a strong network of habitats as well as for the benefits this brings to climate regulation, water quality and availability. Develop and implement wildfire management plans to support this.
- Manage and enhance the landscape character and biodiversity of the moorland fringes, with their mosaic of pastures and meadows and their strong field patterns defined by drystone walls and hedgerow, to improve ecological networks and strengthen landscape character.
- Manage and enhance the watercourses and catchments for nature conservation, public enjoyment, recreation, water supply and flood management.
- Increase the significance of trees and woodland and manage existing tree cover to provide a range of benefits, including helping to assimilate new infrastructure, restore lost habitats and landscape features, store carbon, reduce soil erosion, enhance water quality and provide timber, fuel and recreational opportunities.
- Manage the development of and support sustainable tourism to minimise its impact on the cultural heritage, landscape character and tranquillity of the area, and increase opportunities for visitor engagement, enjoyment and understanding of the natural environment.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Educate and take action against wildlife crime to ensure an end to persecution and a sustainable future for birds of prey such as Hen Harrier.

2. Craven Lowlands

These are transitional landscapes between the uplands areas of Bowland, Southern Pennines and Yorkshire Dales. The Ribble, Lune and Aire rivers and their floodplains are important component to the area and its farmed landscape, with associated woodland and species-rich grassland valleys. Some mire, blanket bog and heathland habitats are present, as well as upland grassland habitats. Parkland habitats are scattered across the area. The farmed landscape's irregular field patterns are defined by hedgerows and hedgerow trees.

Key habitats – upland heathland, blanket bog, mires, upland hay meadow, upland calcareous grassland, river, deciduous woodland, scrub, species-rich grasslands (pasture and meadow), lowland fen, parkland.

Key species – Curlew, Lapwing, Snipe, Redshank, Atlantic Salmon, Brown Trout, European Eel, farmland birds (e.g. Barn Owl, Skylark, Yellow Wagtail).

Statements of Environmental Opportunity

- Manage and enhance the landscape character and biodiversity of the farmed environment, with its mosaic of pastures and meadows, and strong field patterns defined by drystone walls and hedgerows, to improve ecological networks.
- Restore, buffer and expand the area's important habitats, including blanket bog, wet heath, waterbodies and woodland, to provide benefits for climate change, flood regulation, reduced fire risk, soil quality and erosion, and water quality.
- Work to ensure that riparian and wetland habitats are well managed and well connected to the high density of waterbodies. Enhance the network (including in-river habitat for migratory fish) to further increase biodiversity, improve its ability to buffer pollution, increase flood mitigation and improve water quality.
- Increase the resilience and significance of woodland, wood pasture and parkland, and manage and expand existing tree cover to provide a range of benefits, including helping to assimilate new infrastructure; reconnecting fragmented habitats and landscape features; storing carbon; and providing fuel, wood products, shelter and recreational opportunities.
- Increase the enjoyment and understanding of the landscape and to experience a sense of escapism and inspiration, while also conserving the qualities of the landscape and its valuable historic and wildlife features. Develop visitor management plans where relevant to mitigate pressures.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.

3. Limestone Landscape

This south-west area is considered outstanding for its 'karst' (limestone) landforms, cave systems and exposures of Carboniferous rocks, and supporting important habitats such as limestone pavements, tarns (including two extremely rare upland marl lakes), and calcareous grasslands. The extensive cave systems beneath the Dales provide important hibernation sites for moths and bats. The fells have significant amounts of blanket bog, upland heathland, upland flushes and lowland raised bog. Drystone walls are more common boundary features. Several major rivers start here, including the Ribble, Wharfe, Aire, and Lune. Woodland is in low levels across the area, with some important ancient woodlands and planted woodlands that support species such as red squirrel. Farming is mainly livestock, grazed at high intensity and with some adjacent areas of intensive grass production to support it.

Key habitats – limestone caves, limestone pavements, upland tarns, upland calcareous flushes and seepages, alkaline fen, petrifying springs with tufa formation, upland and lowland calcareous grasslands, upland hay meadows, blanket bog, upland heathland, upland flushes, lowland raised bog, rivers, woodland (including upland ash woodland), scrub.

Key species – Red Squirrel, Curlew, Golden Plover, Merlin, Hen Harrier, Black Grouse, Ring Ouzel, White-clawed Crayfish, Northern Brown Argus, Bird's-eye Primrose, Teesdale Violet, Lady's Slipper Orchid, Yorkshire Feather-moss, Nowell's Limestone Moss, Tissue moth, bat species.

Statements of Environmental Opportunity

- Protect and expand the network of semi-natural habitats that create the distinctive pastoral character of the dales (including important upland hay meadows and wetlands along the numerous watercourses) to enhance water quality, strengthen connectivity, support rare species and allow for adaptation to climate change.
- Protect, enhance and restore the open moorland and blanket bogs to conserve their internationally important habitats and species, strong sense of place, history and remoteness, and peat soils, with their ability to sequester and store carbon and contribute to water quality. Develop and implement wildfire management plans to support this.
- Protect, enhance and expand existing native woodland in this largely unwooded landscape to improve habitat connectivity, benefit wildlife, improve water quality, reduce flooding and soil erosion, sequester carbon and provide wood fuel and wood products.
- Protect, enhance and expand the area's many major rivers' in-river and riparian habitats, and wetlands to reduce flood risk, improve water quality and conserve the valuable contribution they make towards sense of place, biodiversity, recreation and sense of history.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality,

reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.

- Educate and take action against wildlife crime to ensure an end to persecution and a sustainable future for birds of prey such as Hen Harrier.
- Promote responsible recreation and use of the limestone features in this landscape, such as limestone pavements and caves, to maintain and enhance them for the wildlife they support.

4. Moorlands and Dales

The northern Yorkshire Dales and Nidderdale have broad watersheds with wide and deep, often u-shaped river valleys between. Drystone walls are more common boundary features. Several major rivers start here, including the Swale, Ure and Nidd. Farming is mainly livestock, utilising the pastures and meadows of the Dales and moorland rough grazing. Grouse shooting is a major land use. Calaminarian grassland linked to past industrial processes is present in the area, a rare habitat in England, and supports a distinctive assemblage of specialist plants, bryophytes and lichens. There are some important ancient woodlands, and some conifer plantations support red squirrels, but generally woodland cover is limited in extent. This area is important as water catchment with a series of reservoirs (e.g. Angram/Scarhouse, Grimwith, Leighton/Roundhill and Gouthwaite) supplying water to Yorkshire residents.

Key habitats – upland heathland, blanket bog, upland flushes, alkaline fen, petrifying springs with tufa formation, upland hay meadows, rivers, woodland, scrub, lowland dry acid grassland, purple moor grass and rush pasture, upland hay meadow, upland acid grassland and rough pasture, lowland hay meadow, lowland fens, calaminarian grassland, lowland raised bog, limestone caves, reservoirs and ponds.

Key species – Red Squirrel, Hazel Dormouse, Curlew, Golden Plover, Merlin, Hen Harrier, Black Grouse, Short-eared Owl, White-clawed Crayfish, Adder, Slow Worm, Common Lizard, Pearl-bordered Fritillary, Duke of Burgundy butterfly, Malham Sedge Caddisfly, Burnt Orchid

Statements of Environmental Opportunity

- Protect, enhance and restore the open moorland and blanket bogs to conserve their internationally important habitats and species, strong sense of place, history and remoteness, and peat soils, with their ability to sequester and store carbon and contribute to water quality. Develop and implement wildfire management plans to support this.
- Protect and expand the network of semi-natural habitats (including important upland hay meadows and wetlands along the numerous watercourses) to enhance water quality, strengthen connectivity, support rare species and allow for adaptation to climate change.
- Protect, enhance and extend, as appropriate, existing native woodland in this largely unwooded landscape in order to improve habitat connectivity, benefit wildlife, improve water quality, reduce flooding and soil erosion, sequester carbon and provide wood fuel and wood products while also being mindful of the constraints to woodland expansion in this sensitive landscape.
- Protect, enhance and expand the area's many major rivers' in-river and riparian habitats, and wetlands to reduce flood risk, improve water quality and conserve the valuable contribution they make towards sense of place, biodiversity, recreation and sense of history.

Section B – Sub-area descriptions

- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Educate and take action against wildlife crime to ensure an end to persecution and a sustainable future for birds of prey such as Hen Harrier.
- Expand the range of habitats present along the moorland fringe, including woodland, scrub and rough grassland, to reduce fire risk, improve habitat connectivity and benefit wildlife.

5. Pennine Dales Fringe

A transitional landscape between upland and lowland with a varied topography of exposed upland moorland fringes and plateaux dropping to lower foothills, separated by major river valleys and incised by numerous minor tributary valleys. The landscape holds several reservoirs (Thruscross, Swinsty/Fewston, Lindley Wood) that are an important source of water for Yorkshire residents. Drystone walls are common in the west while hedges, often thick and tall with frequent hedgerow trees, are more prevalent at lower elevations in the east. Broad valleys, widening to the east, with their more fertile soils support arable crops, while steeper, higher land in the west supports predominantly livestock farming. It is a well woodland landscape (many ancient in origin), as well as a high number of historic houses with associated parkland and veteran trees. Moorland edge mosaic habitats are important for species such as black grouse and ring ouzel.

Key habitats – rough grassland, upland heathland, lowland fen, lowland meadows, rivers, floodplain grazing marsh, wood pasture and parkland, woodland (including upland ash wood and wet woodland), scrub.

Key species – Curlew, Lapwing, Hen Harrier, Willow Tit, Atlantic Salmon, Brown Trout, European Eel, River Lamprey, Otter, Water Vole, White-clawed Crayfish, bat species, Adder, Slow Worm and Common Lizard

Statements of Environmental Opportunity

- Protect and connect native broadleaved woodland, parkland and veteran trees to maximise their value for wildlife, flood risk alleviation, water quality, climate regulation, recreation, sense of place, sense of history, and provide timber and fuel.
- Protect and enhance the area's many major rivers' in-river and riparian habitats, and wetlands to reduce flood risk, improve water quality and conserve the valuable contribution they make towards sense of place, biodiversity, recreation, and sense of history.
- Expand the range of habitats present along the moorland fringe, including woodland, scrub, and rough grassland, to reduce fire risk, improve habitat connectivity and benefit wildlife.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Educate and take action against wildlife crime to ensure an end to persecution and a sustainable future for birds of prey such as Hen Harrier.

6. Southern Magnesian Limestone

The landscape is a low rolling ridge running north-south, cut by river valleys running west to east, notably the Ure, Nidd, and Wharfe. The limestone geology has influenced many aspects of the landscape, from use of its limestone resource as a local building material to the specialised limestone grasslands associated with limestone areas. Fragments of woodland, species-rich grasslands (including on road verges), and fen are scattered throughout the landscape, as well as several historic parkland sites.

Key Habitats – lowland calcareous grassland, lowland meadow, deciduous woodland (including upland mixed ash wood), wood pasture & parkland, wetlands (e.g. lowland fen), rivers, hedgerows

Key Species – Thistle Broomrape, Cylindrical Whorl Snail, Small Amber Snail, Bittern, farmland birds, wading birds.

Statement of Environment Opportunities

- Protect the underlying geology and range of historic landscape features, including the extensive Palaeolithic, Neolithic and bronze-age monuments, as part of the wider landscape and the evidence and time-depth of the area's historic evolution. Increase opportunities to improve access to, understanding of and enjoyment of historic features within the landscape, as well as their links to biodiversity and underpinning geodiversity.
- Protect, enhance and expand the area's many major rivers' in-river and riparian habitats, and wetlands to reduce flood risk, improve water quality and conserve the valuable contribution they make towards sense of place, biodiversity, recreation and sense of history.
- Protect and manage existing semi-natural habitats, including grasslands, wetlands, woodlands, parklands and veteran trees; and increase the area of semi-natural habitats, restore and create new areas, and create networks and links between habitats, to make their ecology more resilient and to afford increased movement of species.
- Protect the overall rural landscape and maintain its highly tranquil quality, managing the arable landscape to ensure the continued production of quality crops while also enhancing landscape features such as field boundaries and improving biodiversity, soil quality, reduction of soil erosion, water quality and flood risk management.
- Promote the successful incorporation of any future major land use changes, directing them where they can enhance the existing landscape and seeking optimum design to obtain the greatest net benefits, such as to minimise visual impact on the wider landscape, incorporating green infrastructure and creating new access to enhance recreational opportunity for people to experience wildlife.

7. Tees Lowlands / Vale of Mowbray

The Tees Lowlands encompasses the foothills of the Cleveland Hills in the east, dropping down to a broad, open plain. The River Leven originates in the North York Moors and flows down to join the meandering lower reaches of the River Tees. The area is largely agricultural in character, with fragmented woodland cover, and remnants of wet grasslands.

The Vale of Mowbray is a low-lying vale characterised by undulating floodplains associated with the rivers Swale, Wiske and Cod Beck. This is a farmed landscape, with a mix of arable and livestock, with limited woodland cover scattered across the area, along with hedgerows and hedge trees throughout and historic parks and gardens. Fragments of high quality wet grassland and wetlands are still present, in some cases linked to remnants of lowland peatland. There are major transport corridors with a series of market towns running down it. The area includes important historic features e.g. Roman settlements.

Key habitats – Rivers, Arable field margins, improved grassland, deciduous woodland, hedgerows, remnants of lowland meadow, wet grassland, fen, floodplain grazing marsh, ponds.

Key species – River Lamprey, European Eel, Atlantic Salmon, Sea/Brown Trout, Water Vole, farmland birds, Brown Hare.

Statements of Environmental Opportunity

- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality, and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Ensure that there is a well-connected network of high-quality green infrastructure throughout the Tees Lowlands and Vale of Mowbray which will enable people to understand and enjoy the natural environment, as well as providing a range of other benefits including biodiversity enhancement, food provision and flood risk mitigation.
- Protect and enhance the water resources of the area, in particular the aquifer and rivers, by supporting sustainable management of the farmed landscape, retaining important levels of food provision while protecting soils and water quality. Manage and enhance the network of in-river and riparian habitats and restore wetland habitats in the floodplain.
- Manage and extend the presently limited native woodland cover throughout the area to develop woodland habitat networks, and restore and expand the existing hedgerow network, to enhance sense of place, and assist in managing erosion, peak flow events and carbon storage, and provide timber, fuel and recreational opportunities.

8. Vale of York West / Humberhead Levels West

The western half of the Vale of York is low lying, farmland dominated landscape, heavily influenced by rivers, with pockets of wetlands, floodplain meadows and woodland. The City of York lies in the heart of this landscape, with the river corridor and fragments of good-quality floodplain meadow, and fen present at Askham Bog. The area contains the entire UK population of Tansy Beetle apart from 2 sites in East Anglia.

The western half of the Humberhead Levels is also flat low lying and largely agricultural landscape. The whole area characterised by long views and big open skies. There are strong links to the rivers Aire and Went crossing the landscape, with remnant wetlands and floodplain. Clay sand and gravel deposits have led to series of quarries in the area. There is the presence of industry at several power stations. Peat soils may be present, but likely to be further south. There is limited woodland and hedgerow cover in this sub area however a key ancient woodland site occurs at Bishop Wood.

Key habitats – arable and pasture, hedgerows, canals and ditches, rivers, floodplain grazing marsh (including Great Burnet floodplain meadows), wetlands (including fen and ponds), lowland meadows, deciduous woodland, wood pasture and parkland linked to estates along the area.

Key species –Tansy Beetle, Depressed River Mussel, Water Vole, River Lamprey, European Eel, Atlantic Salmon, Sea/Brown Trout, Pillwort. farmland birds, wading birds.

Statements of Environmental Opportunity

- Identify opportunities within the existing agricultural systems to enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality and reduce soil erosion and deliver benefits for biodiversity, carbon storage and climate regulation.
- Manage and enhance the network of rivers, canals, ditches and important wetland habitats within the area, increasing the landscape's ability to manage flood and drought risk naturally and sustainably, and provide other ecosystem services such as improving water quality while recognising the needs of individual species and habitats and increasing the resilience of wildlife to climate change.
- Increase the network of species-rich meadows, pastures, flower-rich field margins and hedgerows, ensuring that they and the wider farmed environment are managed to reduce rates of diffuse pollution and improve water quality.
- Protect the open and expansive character of the landscape, its cultural features and sense of remoteness, by ensuring that new development is sensitively located, accommodates green infrastructure, retains long views, and makes a positive contribution to biodiversity.

9. Vale of York East / Lower Derwent Valley

Low lying, farmland dominated landscape, heavily influenced by rivers, with pockets of wetlands and internationally important floodplain “ings” meadows. A string of “commons” containing remnant heathland habitats are dotted along the valleys. High concentration of internationally and nationally important National Nature Reserves. Woodland cover is low in this area.

Key habitats – lowland hay meadow, floodplain grazing marsh (including Great Burnet floodplain meadows), arable, hedgerows, rivers, lowland heathland, lowland dry acid grassland, ponds.

Key species – wildfowl and wading birds (Wigeon, Teal, Ruff, Whimbrel, Common and Green Sandpiper, Oystercatcher, Spotted Crake), farmland birds, Water Vole, Otter, Dark Bordered Beauty, Tormentil Mining Bee, Scarce Dusky Yellowstreak mayfly, *Dolichopus migrans* (a fly), Tansy Beetle, Greater Water Parsnip, Pillwort, River Lamprey, European Eel, Atlantic Salmon, Brown Trout.

Statements of Environmental Opportunity

- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Manage and enhance the network of in-river and riparian habitats, and important wetland habitats within the Vale, increasing the landscape’s ability to manage flood and drought risk and provide other ecosystem services such as improving water quality while recognising the needs of individual species and habitats and increasing the resilience of wildlife to climate change naturally and sustainably.
- Increase the network of species-rich meadows, pastures, flower-rich field margins and hedgerows, ensuring that they and the wider farmed environment are managed to reduce rates of diffuse pollution and improve water quality.
- Extend and enhance lowland heathland sites on areas of sandy soil for the benefit of biodiversity, as well as enhancing the sense of place. Create and keep open sandy areas and banks on lowland heath (through disturbance by cattle and large herbivores) to provide habitat for their associated unique flora and fauna, which have been lost.

10. Howardian Hills

A clearly defined belt of irregular, rounded ridges of Lower, Middle and Upper Jurassic rocks with intervening sheltered valleys, a diverse landscape of woodlands, historic buildings, designed parkland (notably Castle Howard), and rolling arable land on ridges and open plateaux. The area has a relatively high proportion of woodland, often within historic designed parkland associated with large country houses, as well as native woods and conifer plantations. It has a highly fragmented network of important grassland and wetland sites (including road verges), supporting rare species such as knapweed broomrape.

Key habitats – rivers, floodplain grazing marsh, fens, reedbed, deciduous woodland (including ash woodland, upland oak woodland and alder woodland), wood pasture and parkland, hedgerows, Species-rich grassland.

Key species –wading birds, farmland birds, bat species, Brown Hare, Water Vole, Otter, White-clawed Crayfish, Irish Major soldierfly, Scarce Dusky Yellowstreak mayfly, Baneberry, Knapweed Broomrape, rare arable flowers.

Statements of Environmental Opportunity

- Manage the wooded character of the sub area and its important historic parklands to strengthen habitat networks, optimise carbon storage, water quality and regulation of peak flow events, enhance sense of place and history, and provide timber, fuel and recreational opportunities
- Support sustainable management of the agricultural landscape to retain important rates of food provision, while enhancing the network of semi-natural habitats within pastoral and arable landscapes, protecting the wildlife and water quality of the River Derwent, optimising carbon storage, soil quality and regulation of peak flow events, and strengthening the sense of place.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Protect the geological and historic landscape features that are characteristic of the area, including its distinct landform, prehistoric earthworks, medieval monasteries, grand houses with designed parkland, and settlement pattern. Manage these features to provide diverse public benefits, enhancing the sense of place and history, and protecting natural resources.
- Promote enhanced access to and enjoyment of the Howardian Hills in ways that will maintain and enhance the area's special qualities and character, and its tranquillity, and that will support the essential underpinning ecosystem services, the quality of soils and water, and carbon storage.

11. Vale of Pickering

A low-lying basin of flat or gently undulating topography the landscape contains rivers and wetlands which have been artificially drained and heavily modified for productive farming. The east end has a significant area of lowland peat, containing internationally important archaeology of Star Carr, as evidence of human habitation around former Lake Pickering. Sparse woodland and tree cover. Dominated by major rivers, the Rye in the west and the Derwent in the east and middle.

Key habitats – rivers, drains and ditches, floodplain grazing marsh, fens, reedbed, hedgerows and hedge trees, wet woodland

Key species – Wildfowl and wading birds (e.g. Lapwing, Curlew, Redshank, Oystercatcher), Willow Tit, Water Violet, River Lamprey, Otter, Water Vole, Scarce Dusky Yellowstreak mayfly.

Statements of Environmental Opportunity

- Enhance the network of in-river and riparian habitats, and wetlands in the Vale to provide public benefits in improved flood mitigation and improved water quality, and to reduce habitat fragmentation and increase the resilience of habitats and species to environmental change.
- Re-wet areas of peat by raising and stabilising the water table to reduce carbon emissions and prevent further shrinkage.
- Protect and enhance the historic landscape and geodiversity of the Vale, promoting greater understanding of these and their sensitivities to inform current and future decisions on how the landscape is used.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Ensure that developments are successfully integrated into the landscape, making a contribution to biodiversity and habitat networks, and that they do not compromise the sense of tranquillity and openness of the rural landscape, or delivery of other important ecosystem services, including mitigating and adapting to climate change.

12. Yorkshire Wolds

Chalk-influenced open downland landscape and network of dry valleys, dominated by arable and pastureland. Chalk reaches its northern limit in Britain here at Muston. Chalk grasslands are important homes for wildlife, and grade into neutral grasslands where leaching has reduced the lime in the soil. Woodlands and hedges, although present, tend to be relatively recent in origin and of limited wildlife interest. Wetlands are very limited but where they do occur, can be of great interest. Usually these are as flushes and springs at the foot of the scarp slope along the edge of the Vale of Pickering. Ponds, and particularly dewponds, are few in number but can be of interest, particularly for beetles and other invertebrates.

Key habitats – chalk rivers, lowland calcareous grasslands (including road verges), deciduous woodland, dew ponds, arable field margins, hedgerows, scrub.

Key species – farmland birds (Corn Bunting, Skylark, Yellowhammer, Turtle Dove), Barn Owl, Lapwing, Brown Hare, Tassel Stonewort, Dropwort, Carline Thistle, Northern Brown Argus, Marbled White.

Statements of Environmental Opportunity

- Enhance, extend and manage the unique assemblage of chalk-based habitats (lowland chalk grasslands, streams) and broadleaved woodland, while protecting the provision and quality of water via the restoration and creation of wetland habitats including dew ponds.
- Improve opportunities to enhance people's enjoyment of the area while protecting high levels of tranquillity by conserving extensive views and intimate, steep-sided valleys which contribute to sense of place, and by protecting and promoting the extensive historic evidence of past human settlement, landscape change and designed landscapes.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.

13. Esk catchment

This landscape holds the source of the River Leven that flows west, and the source of the river Esk and associated habitats flowing east down into Whitby. This is a wider valley, with an upland landscape of walled and hedged pastures alongside moorland, with patches of conifer and broadleaf woodland along its lower reaches. An important catchment for euryhaline migratory fish species, such as Sea/Brown Trout and Atlantic Salmon, and the associated critically endangered Freshwater Pearl Mussel.

Key habitats – upland heathland, blanket bog, lowland dry acid grassland, river, deciduous woodland, scrub, species-rich grassland.

Key species – Merlin, Ring Ouzel, Golden Plover, Curlew, Freshwater Pearl Mussel, Atlantic Salmon, Sea/Brown Trout, Petty Whin.

Statements of Environmental Opportunity

- Protect and positively manage the large areas of open, expansive moorland for the internationally important habitats and species that they support, for the sense of wildness and strong character of the areas, for their ability to sequester carbon, and for the benefits that well managed moorland brings for water quality and flood control. Develop and implement wildfire management plans to support this.
- Seek opportunities to restore the network of in-river and riparian habitats, lowland fens, reedbeds, floodplain grazing marsh, flushes, and riparian woodland to enhance biodiversity and contribute to regulating flood flows, enhancing water quality, aquifer recharge, carbon sequestration and storage, leading to benefits being experienced within the sub-area.
- Positively manage woodlands, trees, wood pasture and historic parklands for their contribution to the characteristic landscapes of the area, their priority habitats and the species that they support, as well as their potential for carbon storage, regulation of peak flood flows and provision of timber and fuel.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.
- Remove barriers to fish migration and reduce sources of water pollution into the River Esk, to support the return of species into the river.

14. Upland Plateau

Extensive areas of open moorland, dissected by a series of dales, some broad and sweeping, others narrow, steep sided and wooded. The beck valleys that feed into the Esk, Rye and Derwent contain corridors of species-rich grassland, wetland, mature and veteran landscape trees and woodland habitats amongst the farmed landscapes.

Key habitats – upland heathland, blanket bog, purple moor grass rush pasture, lowland dry acid grassland, species-rich grasslands, deciduous woodland, scrub, acid and calcareous flushes, river.

Key species – Merlin, Ring Ouzel, Golden Plover, Curlew, Wild Daffodil, Large Heath butterfly, Bilberry Bumblebee, Tormentil Mining Bee, Geyer's Whorl Snail, *Anabolia brevipennis* (a caddisfly), Water Vole.

Statements of Environmental Opportunity

- Protect and positively manage the large areas of open, expansive moorland for the internationally important habitats and species that they support, for the sense of wildness and strong character of the areas, for their ability to sequester carbon, and for the benefits that well managed moorland brings for water quality and flood control. Develop and implement wildfire management plans to support this.
- Seek opportunities to restore lowland fens, reedbeds, floodplain grazing marsh, flushes, riparian woodland and other riparian habitat to enhance biodiversity and contribute to regulating flood flows, enhancing water quality, aquifer recharge, carbon sequestration and storage, leading to benefits being experienced within the sub area and beyond to downstream sub areas.
- Positively manage woodlands, trees, wood pasture and historic parklands for their contribution to the characteristic landscapes of the area, their priority habitats and the species that they support, as well as their potential for carbon storage, regulation of peak flood flows and provision of timber and fuel.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.

15. Tabular Hills/Southern Fringe

Arable and pasture fields are more present, with remnants of species-rich calcareous grasslands, and wetlands. Strong woodland presence the tabular hills, including substantial conifer and mixed plantations. Important parkland sites such as Duncombe Park with notable veteran tree assemblages. Arable Farmland and historic quarries contain rare arable flower species. The Ryedale Windypits are archaeologically significant natural underground features, used as an amenity for cavers and potholers, and are also nationally important swarming and roosting sites for seven species of bats.

Key habitats – deciduous woodland, conifer plantations, wood pasture, parkland and veteran trees, lowland meadow, lowland calcareous grassland, rivers, hedgerows, scrub.

Key species – Duke of Burgundy butterfly, Pearl-bordered Fritillary, Green Barred Colonel soldier fly, Irish Major soldier fly, Geyer's Whorl Snail, 6-spotted Longhorn Beetle, Norfolk Hawker, Turtle Dove, Goshawk, Nightjar, Beaver, Pine Marten, rare arable flowers, Dropwort, Whiskered Bat, Daubenton's Bat, Natterer's Bat, Brown Long-eared Bat.

Statements of Environmental Opportunity

- Seek opportunities to restore lowland fens, reedbeds, flood plain grazing marsh, flushes, riparian woodland and other riparian habitat to enhance biodiversity and contribute to regulating flood flows, enhancing water quality, aquifer recharge, carbon sequestration and storage, leading to benefits being experienced within the NCA and beyond to NCAs downstream.
- Positively manage woodlands, trees, wood pasture and historic parklands for their contribution to the characteristic landscapes of the area, their priority habitats and the species that they support, as well as their potential for carbon storage, regulation of peak flood flows and provision of timber and fuel.
- Protect and promote sustainable management of species-rich grasslands, former quarries and other rich floral habitats, enhancing their biodiversity and pollination values.
- Promote sustainable farming practices that enhance landscape character and create a functioning ecological network to safeguard future food provision, retain soil quality, reduce soil erosion, improve water quality and deliver benefits for biodiversity, carbon storage, natural flood management and climate regulation.

16. North Yorkshire Coast

The coast is a mix of hard cliffs that support breeding seabirds and soft coastal slopes made of calcareous clays, with the variety of exposures and slip features enabling a complex mosaic of habitat types with a strong maritime influence. The lack of interference on the slope itself has enabled species associated with old, unimproved habitats to survive. Grasslands range from acid, almost heath conditions to neutral or calcareous. These grasslands grade into dense scrub and woodland. In places there are ponds, flushes and wetlands established on slip back slopes and these too are diverse. Of particular interest are the numerous slip planes that provide bare clay for a number of rare and unusual invertebrates. There are extensive stretches of sand and rocky shores. In the Esk estuary saltmarsh and brackish wet meadows are present in small amounts.

The marine area is equally diverse with large swathes of kelp forest in the inshore area providing habitat and food for a wide variety of wildlife. Further offshore, cobble and boulder fields are interspersed with sandy sediments, creating important habitat for commercial fish species. Migratory fish, including salmon and sea trout, travel northwards along the coast and to inland breeding locations via the Esk estuary, Staithes Beck and other coastal streams. Dolphins and minke whales follow the shoals of North Sea mackerel and herring swimming south from the Arctic, joining the resident populations of porpoise and seals. Internationally important populations of Kittiwakes, Puffins and Razorbills arrive to breed each summer, whilst wading and diving birds spend winter along the shoreline.

Note: The LNRS will focus its priorities and measures on species and habitats out to mean low water. Nature recovery work further out to sea will be led by the Yorkshire Marine Nature Partnership.

Key habitats – species-rich grasslands (calcareous, acid, neutral), scrub, kelp forest, coastal cliff slope mosaics, rocky shore mosaic of subtidal sediment habitats from sand and gravel to mud.

Key species - whales (Minke, with occasional other species like Humpback), Harbour Porpoise, Bottlenose Dolphin, White-beaked Dolphin, Grey Seal, Kittiwake, Fulmar, auks (Razorbill, Guillemot, Puffin), Atlantic Salmon, Sea/Brown Trout, Strawberry Clover, Kidney Vetch, Thrift, Sea Lavender, red and brown seaweeds, Blue Mussel.

Statements of Environmental Opportunity

- Manage the coastal marine protected areas for the benefit of wildlife.
- Allow essential coastal processes to occur, including erosion of the soft clay cliffs, while respecting policies that reduce erosion and flood risk in relation to key coastal settlements.
- Improve intertidal biodiversity, such as adding ecological enhancements to 'hard' infrastructure.
- Increase our understanding of the coastal and marine ecosystem to better determine nature recovery, long term trends and ecosystem service opportunities (e.g. kelp mapping, sediment surveys, cetacean surveys, rocky shore ecology surveys).
- Explore opportunities to work with recreational sea users to capture data and promote sustainable behaviours (e.g. recreational angling sector, watercraft users through development of codes of conduct for example).
- Explore the connectivity between the sea and in-land habitats via coastal streams.
- Enhance people's understanding and enjoyment of the geodiversity, historic sites, seaside character and remoteness that contribute to the varied sense of place and valuable recreational assets that the area provides.

Glossary

Acid Grassland: Grassland that grows on nutrient-poor, free-draining soils with a low pH of approximately 4 to 5.5. It often occurs on acidic rocks or superficial deposits such as sands and gravel.

Agroforestry: The practice of integrating trees and shrubs into farming systems, combining agriculture and forestry on the same land, whilst maintaining or enhancing agricultural outputs.

Ancient Woodland: Woodland that has existed continuously since at least 1600 CE (common era), supporting unique biodiversity and ecosystems.

Ancient Trees: A tree that has reached full maturity and is old, or aged, in comparison with other trees of the same species. In this ancient stage the tree may remain alive and healthy for many decades and often centuries.

Areas of Particular Importance for Biodiversity (APIBs): An LNRS category used to refer to all existing nationally and internationally designated conservation sites (such as Sites of Special Scientific Interest), Local Nature Reserves, Local Wildlife Sites, and areas of irreplaceable habitat. APIBs form the core of the LNRS's strategic nature network.

Areas that Could Become of Particular Importance for Biodiversity (ACBs): An LNRS category used to refer to areas identified within the LNRS where nature recovery efforts should be focused to achieve the greatest benefits for biodiversity and the wider environment. ACBs form the remainder of the LNRS's strategic nature network (outside of APIB areas).

Biodiversity: The variety of plant, animal, and microbial life within a specific habitat or ecosystem.

Biodiversity Net Gain (BNG): A legislative requirement for development to leave biodiversity in a measurably better state than before development took place. Achieved through habitat creation, restoration, or enhancement.

Blanket Bog: A type of peatland found in cool, wet climates, characterised by layers of peat that cover large, undulating areas of ground. Generally an upland habitat, it can be found where peat has accumulated to a depth of at least 0.5 metres, typically on flat or gently sloping ground where drainage is poor.

Citizen Science: Research that is undertaken by members of the public, often in collaboration with a research organisation or a non-governmental organisation (NGO), and often utilising modern recording technologies such as smartphone apps.

Climate Resilience: The ability of habitats or species to adapt to, and recover from, the impacts of climate change, such as increases in extreme weather events over time.

Connectivity: The degree to which different habitats are linked to allow the movement of species and the flow of ecological processes, essential for maintaining biodiversity and ecosystem health.

Corridors: Linear features (e.g. hedgerows and rivers) that can connect fragmented habitats, allowing species movement between them.

Countryside Stewardship Scheme:

Countryside Stewardship (CS) sits under ELMs (see below) and provides financial incentives for farmers, foresters and land managers to look after and improve the environment, including setting aside part of their land for nature.

ELMs (Environmental Land Management Schemes): Environmental land management schemes pay farmers and landowners to deliver environmental benefits and is an umbrella term covering the following schemes: Sustainable Farming Incentive (SFI), Countryside Stewardship (CS) schemes and Landscape Recovery (LR) schemes.

ELMs replace the Basic Payment Scheme (BPS) which existed under the Common Agricultural Policy (CAP).

Fen: A wetland, groundwater-fed habitat that supports a wide range of plant and animal life. Fens are usually peat-forming habitats and the water table is near the ground surface for much of the year.

Floodplain Meadow: Wet grassland in lowland floodplains, crucial for flood management, biodiversity, and pollinators.

Flush: A wetland habitat where groundwater emerges at the surface and is held up by impermeable soils and rock, creating a linear flow of water across the ground.

Focus Species: A condensed list of species that have been identified as top priorities for nature recovery action within the LNRS. The species have been selected for their strategic importance for nature recovery and can be used to help monitor changes and engage land managers and the public.

Green Infrastructure: A network of multi-functional green and blue spaces and other natural features, both urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and their prosperity.¹⁵

Hedgerow: Lines of shrubs or small trees often used as field boundaries, essential for wildlife corridors, shelter, and pollination.

Invasive Non-Native Species (INNS): Species introduced to an area that are not native to that area, such as Signal Crayfish or Himalayan Balsam, that harm local ecosystems.

Landscape Recovery (LR): A scheme that sits under ELMs (see above) and aims, through financial incentives, to support large-scale projects that deliver landscape-scale environmental benefits. This could include actions such as flood management, natural flood alleviation, and improving water quality.

Local Habitat Map: An online map developed as part of the North Yorkshire and York LNRS that shows existing Areas of Particular Importance for Biodiversity (APIBs) and a strategic network of Areas that Could Become of Particular Importance for Biodiversity (ACBs).

¹⁵ Revised National Planning Policy Framework 20 July 2021 – Annex 2: Glossary

Local Nature Recovery Strategy (LNRS): A strategic plan developed at a local level to guide actions for nature recovery, enhancements to biodiversity, and improvements to ecosystem services, involving collaboration among various stakeholders. LNRS are a statutory requirement, introduced by the Environment Act 2021.

Long established Woodland: Woodlands that have been present for a significant period, typically since at least 1893.

Lowland Calcareous Grassland: Grasslands on lowland limestone or chalk soils, known for their rich plant diversity, including rare orchids.

Lowland Heath: Heathlands typically found below 300m above sea level and characterised by infertile soils, heathers, and gorses.

Lowland Meadow: Grasslands traditionally used for hay production, rich in wildflowers and supporting pollinators and ground-nesting birds.

Magnesian Limestone Grassland: Grasslands that are unique, species-rich habitats that grow on outcrops of Magnesian Limestone.

Measures: Practical ‘on the ground’ actions that will help to deliver the aims of an LNRS priority.

National Landscape: A designated area of land in the UK, previously known as an Area of Outstanding Natural Beauty (AONB), that is of national importance for its natural beauty and is protected in the national interest. The Nidderdale National Landscape and the Howardian Hills National Landscape both sit within North Yorkshire.

National Park: An area of the UK countryside that is protected by law to conserve and enhance the natural beauty, wildlife and cultural heritage of an area and to promote public understanding and enjoyment of these qualities. Both the North York Moors National Park and the Yorkshire Dales National Park are primarily located within North Yorkshire.

Nature Recovery Network (NRN): A strategic network of ACBs where nature recovery activity should be focused to create bigger, better, and more joined up natural habitats.

Natural Capital: Elements of nature (e.g. rivers, woodlands, soil) that provide goods and services essential for human life and well-being.

Non-governmental organisation (NGO): An entity that is not part of government and can include non-profit or for-profit entities.

Open Mosaic Habitat: A biodiversity-rich mix of different 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.

Parkland: A mosaic habitat with grazing animals, valued for their trees, especially veteran or ancient trees, and the plants and animals they support. They have their origins in medieval hunting forests and 19th Century designed landscapes.

Priority: An objective that has been identified as being particularly important for our region and can contribute to the end results that an LNRS is seeking to achieve. In essence what we are seeking to do and why we are seeking to do it.

Priority Species: A longlist of 634 species that are in decline or suffering persecution and require some form of intervention. These species are included in the LNRS so they can be prioritised for funding and further projects to enable their recovery.

Riparian Woodland: Wooded areas along rivers and streams that support rich biodiversity, prevent erosion, and improve water quality.

Saltmarsh: A coastal wetland ecosystem regularly flooded by saltwater tides and characterised by salt-tolerant plants and fine sediments.

Species-rich Grassland: An open, grassy habitat with a high diversity of native wildflowers and grasses, maintained by traditional methods like grazing and cutting.

Stepping Stones: Small areas of habitat that provide refuge and facilitate species movement between larger habitat areas.

Sustainable Farming Incentive (SFI): A scheme that sits under ELMs (see above) and rewards farmers financially to undertake sustainable farming practices. This includes actions such as improving soil health, managing hedgerows and field margins, growing cover crops and reducing inorganic fertiliser use.

Veteran Trees: Trees that are usually in their second or mature stage of life and have developed some features found on ancient trees, such as decay or dead wood.

Upland Calcareous Grassland: Grassland habitat found at higher altitudes on shallow, lime-rich soils over underlying rock such as limestone, typically occurring at elevations of 250-300 metres above sea level.

Wet Grassland: Floodplain habitats with seasonal waterlogging that support diverse wildlife, including breeding waders and pollinators.

Wet Heath: Damp areas found within lowland and upland heathlands normally found on flat ground between dry heath and valley mires.

Wet Woodland: Waterlogged woodlands dominated by species like Willow, Alder, and Birch, providing flood control and biodiversity benefits.

Wood Pasture: A mosaic habitat with trees and grazing animals, created through traditional management like grazing and pollarding. Veteran and ancient trees can often be associated with this habitat.

Appendix 1: National Character Areas (NCA) map

North Yorkshire and York LNRs and National Character Areas

The map displays the following National Character Areas (NCAs) and LNRs:

- North Yorkshire and York LNRs (orange boundary):**
 - North York Moors & Cleveland Hills
 - Yorkshire Dales
 - Yorkshire Wolds
 - Vale of York
 - Howardian Hills
 - Pennine Dales Fringe
 - Southern Magnesian Limestone
 - Humberhead Levels
- National Character Areas (black boundary):**
 - North Pennines
 - Yorkshire Dales
 - Yorkshire Wolds
 - Vale of York
 - Howardian Hills
 - Pennine Dales Fringe
 - Southern Magnesian Limestone
 - Humberhead Levels

Other geographical features and locations shown include:

- Counties:** Cumbria, Lancashire, West Yorkshire, South Yorkshire, Nottinghamshire, Derbyshire, and Yorkshire.
- Major Towns and Cities:** York, Harrogate, Ripon, Thirsk, Easingwold, Malton, Pickering, Scarborough, Whitby, and Hull.
- Rivers:** Humber, Ouse, Ure, and Great Ouse.
- Coastal Features:** Saltburn-by-the-Sea, Robin Hood's Bay, and Bridlington.

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☐ National Character Areas

To access LNRS documents

Online: northyorks.gov.uk/lnrs-documents

A paper copy of the documentation is available to view at the North Yorkshire Council Customer Services Hub, Campus Buildings, Treadmills, East Road, Northallerton, DL6 1AU (open office hours, Monday to Friday)

Contact us

Online: northyorks.gov.uk/contact-us

By telephone: For further information call **0300 131 2131** and say ‘**nature recovery**’ when prompted

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You can request this information in another language or format at northyorks.gov.uk/accessibility