Header to please contain interactive headings for different sections of the doc so you can click and move to those sections from any page. (e.g. Introduction/Where are we now/ LNRS vision/ How to deliver the LNRS etc). During design.

Oxfordshire's Local Nature Recovery Strategy

October 2025.

Statement by Oxfordshire County Council

In August 2023, Oxfordshire County Council (OCC) was appointed as the 'Responsible Authority' to lead the preparation of our Local Nature Recovery Strategy (LNRS).

OCC developed a partnership approach to this, working closely with our Supporting Authorities (Cherwell District Council, Oxford City Council, South Oxfordshire District Council, Vale of White Horse District Council, West Oxfordshire District Council and Natural England) and a partnership of local nature recovery organisations. This partnership, led by OCC, engaged widely with local communities, environmental bodies, and other stakeholders to ensure that the strategy was shaped by local insights, expertise, and knowledge.

Local contributions have been invaluable in identifying priority areas for nature recovery, important species who need bespoke actions, and recommending which practical actions could have the greatest impact.

In addition, this strategy directly contributes to the national effort by the UK Government to deliver the 25 Year Environment Plan and the Environment Act 2021.

Our vision is clear: to achieve a well-connected, biodiversity-rich, network of nature that is resilient into the future, restored for the health and wellbeing of future generations, and for nature's own sake.

The Council has long recognised that the success of our natural environment is fundamental to the wellbeing of people and communities within the county. Protecting and enhancing biodiversity is not just an environmental imperative but a social and economic one as well.

In alignment with this vision, OCC, the Supporting Authorities, and the partnership of organisations who contributed to the LNRS creation have committed significant resources and effort to ensuring that our strategy is robust, evidence-based, and responds to the priorities identified by local people.

It is now crucial that people and organisations across Oxfordshire work together to produce tangible improvements for nature in the county. Actions may include creating or enhancing habitats, improving connectivity between habitats and green spaces, and undertaking projects focused on species recovery.

This strategy aligns with key County Council policies and initiatives including our nationally-recognised programme of climate action work, our flood risk mitigation work, and contributes towards wider objectives in our county.

In future, the strategy will be reviewed and republished to adapt its recommendations to changes in the local environment. Over time, we and other organisations and individuals will be delivering meaningful changes on the ground in Oxfordshire and this County Council is committed to leading by example.

As we all move forwards into collaborative delivery of this strategy, it will be crucial to continue working closely with our communities, farmers, land managers, local businesses, and nature recovery organisations.

Together, we can achieve a resilient network of nature in Oxfordshire that supports wildlife, reverses the loss of local biodiversity, contribute towards national and global commitments, and produces tangible improvements to nature and to the quality of life for people in Oxfordshire. We know what needs to be done, let us not miss this opportunity to invest in nature, restore biodiversity, and meaningfully benefit all future generations to come.

Councillor Judy Roberts
Cabinet Member for Place, Environment and Climate Action – Oxfordshire County Council

Foreword

Richard Benwell (left) is chair of Oxfordshire Local Nature Partnership and chief executive of Wildlife and Countryside Link. Previously he has been policy adviser to the Secretary of State at Defra, and worked on policy and advocacy at WWT and RSPB. Matt Whitney (right) is the Manager of Oxfordshire Local Nature Partnership and has worked closely with the Local Nature Recovery Strategy whilst developing initiatives across Oxfordshire focusing on delivering nature's recovery.

Chalk and limestone grasslands, extensive open wetlands, and scrubby wet woodland are some of the many fragile, fantastic habitats found in Oxfordshire. Brush through a flower-packed grassland on a sunny summer's day and you might be lucky enough to see an Adonis Blue or a Duke of Burgundy butterfly rise into the air.

Restoring, linking, and expanding these now-rare habitats are just some of the priorities in this Local Nature Recovery Strategy. If we're successful, Oxfordshire will have more wonderful wildflower meadows, clean freshwater habitats, and other habitats which, with luck, will enable the wildlife that depend on them to thrive across our County.

Successfully restoring populations of species, like these butterflies and the habitats that support them can be our Butterfly Effect — a series of actions, that together, add up to significant worldwide change.

Oxfordshire's Local Nature Recovery Strategy (LNRS) is part of an LNRS latticework across England, which aims to halt the decline of wildlife in this country by 2030. That target, in turn, is Westminster's contribution towards a global mission to stop biodiversity loss. The worldwide decline of biodiversity is the story of a billion local losses every day. Turning round the fate of our animals, plants, and fungi, including the 800-900 species which are known to be at risk from local extinction here in Oxfordshire is our responsibility to the world.

To improve the state of nature in Oxfordshire, the county needs to restore around thousands of hectares of "priority habitat" and create around tens of thousands of hectares of semi natural habitat by 2030. The types of habitat and their suitable locations are driven by the priorities set by those who have engaged with the LNRS, overseen by ecologists, and using evidence from an understanding of soil data and geology. This combination of knowledge has helped the LNRS to create a focused set of priorities and, where particularly suitable, a map of focused opportunity areas showing a county-wide route that could create resilient, connected ecosystems and save threatened wildlife. It is also driven by common sense and pragmatism, identifying priorities that work for communities, businesses, and local people as well as nature.

After the final version of the strategy is published in 2025, delivering that much environmental change in Oxfordshire by 2030 will be a huge challenge.

Oxfordshire's Local Nature Partnership has identified a funding gap of at least £800million to recover nature in Oxfordshire. Closing that gap will need much more public investment in nature-recovery as well as private investment. The ONLP and the LNRS hope that the Government will see the overwhelming case

for investment in those who are delivering Local Nature Recovery Strategy priorities as a great way to rebuild natural infrastructure with the support of local communities. There's also a huge need for more Government support to develop people and groups who can provide green skills and nature-positive planning, so that areas across England can plan ahead intelligently and make space for nature alongside the need for development and wildlife-friendly food production.

Even with the most ambitious Government action, delivering the LNRS priorities will need collaborative action from individuals, communities, and businesses across Oxfordshire. Nature's recovery simply cannot succeed without farmers being supported to lead the charge towards regenerative, nature-friendly land management. Similarly, recovery will never get there without investment from local businesses or without action by local communities and individuals engaging with and doing their bit for nature where they live and work.

Whether you're reading this as a home-owner wondering whether to rewild your garden, as a landowner considering the shift to regenerative management, or as a business owner considering how to create a legacy, we must all work together to deliver the LNRS's biodiversity priorities.

It's called a "Local Nature Recovery Strategy", but that's really just the beginning. If we deliver the priorities in these pages, the results won't just be for nature, they'll strengthen our economy, help mitigate and improve Oxfordshire's resilience to climate change, boost public health, and secure an improved, healthy, and functioning environment to support future generations. If we succeed, the benefits won't just be local, they'll be Oxfordshire's answer to international environmental action. Please join us in taking rapid, decisive action for nature in Oxfordshire. Let's bring our County to life.

Richard Benwell, Chair of Oxfordshire Local Nature Partnership (OLNP) Matt Whitney, Manager of Oxfordshire Local Nature Partnership (OLNP)

1. Executive summary

The truth is: the natural world is changing. And we are totally dependent on that world. It provides our food, water and air. It is the most precious thing we have and we need to defend it - Sir David Attenborough.

Oxfordshire's LNRS identifies local areas that need targeted resource driven towards them in order to create a resilient network of nature. Currently, the most important habitats are fragmented and are negatively impacted by pollution, agricultural intensification, and development, leading to a decline in the local environment and species. Additionally, many are falling out of management which will worsen the situation for local biodiversity. This LNRS proposes that Oxfordshire needs to target local resources towards the delivery of a well-connected, biodiversity-rich network of nature that is resilient to benefit future generations and for nature's own sake. The LNRS identifies key locations to deliver various nature recovery actions on a map of Oxfordshire and also lists countywide actions that need to be delivered all across the county. There are actions for everyone to contribute towards, whether you have a house, garden, local park, or farm.

What's in this document?

This document gives context to the strategy, describes biodiversity in Oxfordshire, introduces what LNRSs are and why they are needed. The document then describes key pressures that threaten biodiversity, actions needed to recover nature and wildlife, and points to the full list of LNRS-recommended actions. This document should be read alongside the other three parts of the LNRS which, together, make up the LNRS. The other three parts of the LNRS are the 'Statement of Biodiversity Priorities', the 'Species Priorities List', and the 'Local Habitat Map'.

These actions are fundamental to human health and wellbeing, providing air, water, food, and shelter, mitigating extreme weather, storing carbon, pollinating crops, regulating pests, and offering space for nature and exercise. To halt and reverse declines, we must work together to create a connected, resilient mosaic of quality habitats. These actions will not only help the environment and wildlife to flourish for nature's own sake; they are also fundamental to human health and wellbeing. A healthy natural environment provides the air, water, food and shelter that humans are dependent on. It also mitigates the impacts of extreme weather events, stores carbon, pollinates crops, regulates pests, and offers space for people to enjoy nature and exercise. Many of these benefits have been lost and are still being lost as the environment continues to degrade. To halt and reverse these declines, we must work together to create a more connected, resilient mosaic of quality habitats. Those who deliver these actions are not just helping nature but simultaneously providing a public good for us all.

Oxfordshire is fortunate to have many people and organisations who care deeply for nature and understand the wider benefits of a healthy environment. Over 200 nature recovery groups and organisations, as well as many landowners and farmers, are making a difference daily and have been leading the way to recover species populations and to improve habitats for wildlife. The LNRS is designed to empower those who are already taking action as well as to help inform project creation and funding opportunities for those who are getting ready to take action.

Call to action - Use this LNRS to identify which actions you can take, and together through collaborative action, Oxfordshire can create a resilient, connected, and functioning network of nature, restoring biodiversity for the health of nature, people, and future generations.

Acknowledgements,

This page shows the 'LNRS partnership' who, led by Oxfordshire County Council, prepared the LNRS for Oxfordshire.

Each and all of these organisations contributed time, expertise, and enthusiasm regularly throughout the development of Oxfordshire's draft Local Nature Recovery Strategy since 2023. This document refers to the collective group as the 'LNRS partnership' and refers to all the authorities and organisations represented here.

The LNRS could not have been created without them and their support.

Oxfordshire County Council would also like to thank the thousands of additional people and organisations across Oxfordshire, not displayed here, who also contributed significant time and energy into the LNRS through engagement, contributions to the project, data-sharing, and more.

Table of Contents

This page aims to help you navigate this document to find the key information that is relevant for you. You can either scroll to the relevant page(s) or you can click directly on these headings and the document should take you to that section.

Biodiversity in the UK and Local Nature Recovery Strategies (LNRS)

Introduction

'Biodiversity' refers to the variety of all life forms, including plants, animals, fungi, and micro-organisms. A landscape that is rich in healthy biodiversity provides the essential necessities for the survival of humans and wildlife, from fresh water, clean air and climate regulation to food, medicines and more. These benefits do not come from individual species but from a rich variety of species and functioning habitats working together.

Global Biodiversity status

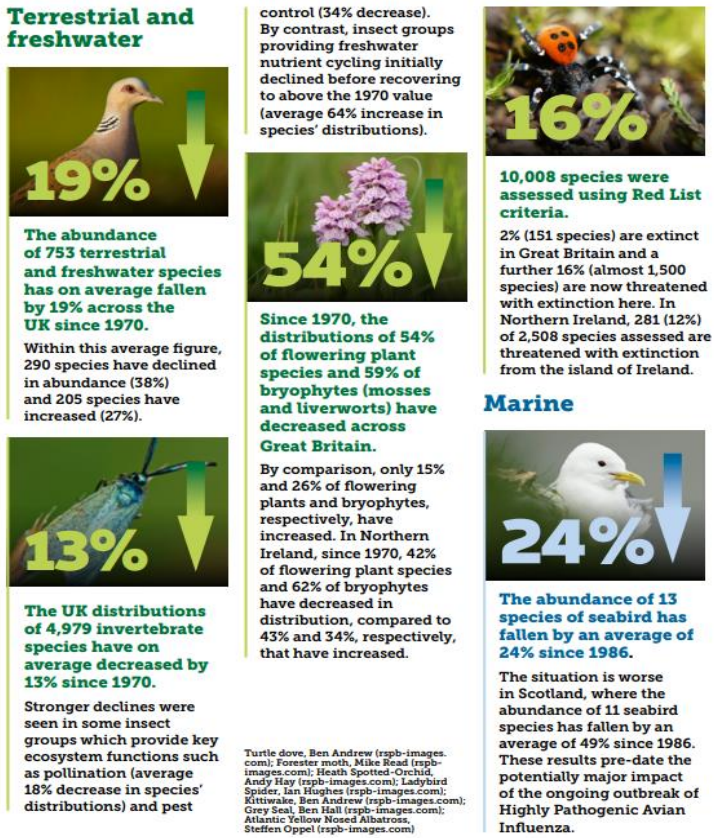
On average, countries across the world only have an average of 75% of their biodiversity remaining since recording began. Unfortunately, the UK ranks in the bottom 10% of countries meaning that we are among the world's most nature depleted countries.

UK biodiversity decline

According to the State of Nature 2023 report, nearly one in six of the UK's species are at risk of extinction (of those which are sufficiently well recorded) and since 1970, the UK has experienced a 19% decline in the abundance of species. England itself has experienced a 32% decline in species numbers. This decline in biodiversity is primarily due to habitat loss and fragmentation resulting from human land use competing with nature including intensive agriculture and development. The report recognizes the need for a different approach, one that enables people and nature to live well together.

Government initiatives

The government's message is becoming louder, that the UK must act to reverse biodiversity losses. This means that the LNRSs are being created across England at an exciting time, a time where policy and funding are beginning to come together at a national level in recognition of the biodiversity crisis, alongside commitments and targets for positive change. This presents an exciting opportunity for nature and wildlife in the UK. For example, projects in England have recently been funded by Defra and Natural England to deliver landscape-scale change including restoring biodiversity across 99,000 hectares of landscape including the West Midlands, Cambridgeshire, the Peak District, Norfolk, and Somerset. Projects in Oxfordshire have also had two recent successes in their bids for funding to deliver Landscape



State of Nature 2023, p4. A description of trends in biodiversity over time.

19%
Across the UK species studied have declined on average by 19% since 1970.

16%
Nearly one in six species are threatened with extinction from Great Britain

Recovery projects. The two Landscape Recovery projects in Oxfordshire include the Evenlode landscape recovery project along the Evenlode river, and the second is the Ock and Thame landscape recovery project. These projects will focus on a range of benefits including delivering high quality habitat networks with high carbon storage on low productivity land helping to create financially and environmentally sustainable farming systems and local environment. The projects will be delivered by local farmers and land managers in partnership with local people and conservation organisations to focus on outcomes such as clean and plentiful water, healthy soils, and thriving plants and wildlife.

Legislation and Implementation

Local Nature Recovery Strategies (LNRS) were introduced by the UK government through the Environment Act 2021. Authorities in England were tasked to start developing these in June 2023 with an expectation to publish these online in 2025. The statutory guidance requires authorities all across England to create a list of biodiversity priorities to achieve in each area and to develop these priorities and actions through engagement and consultation activities with local people and organisations. Alongside the list of priorities to achieve for both habitats and species, LNRSs are asked to create a map of their area to highlight which local areas are already important for biodiversity, and which could become particularly important in the future. This map suggests where habitat creation and enhancement work should be prioritised in the county to benefit biodiversity.

State of Nature 2023 p65

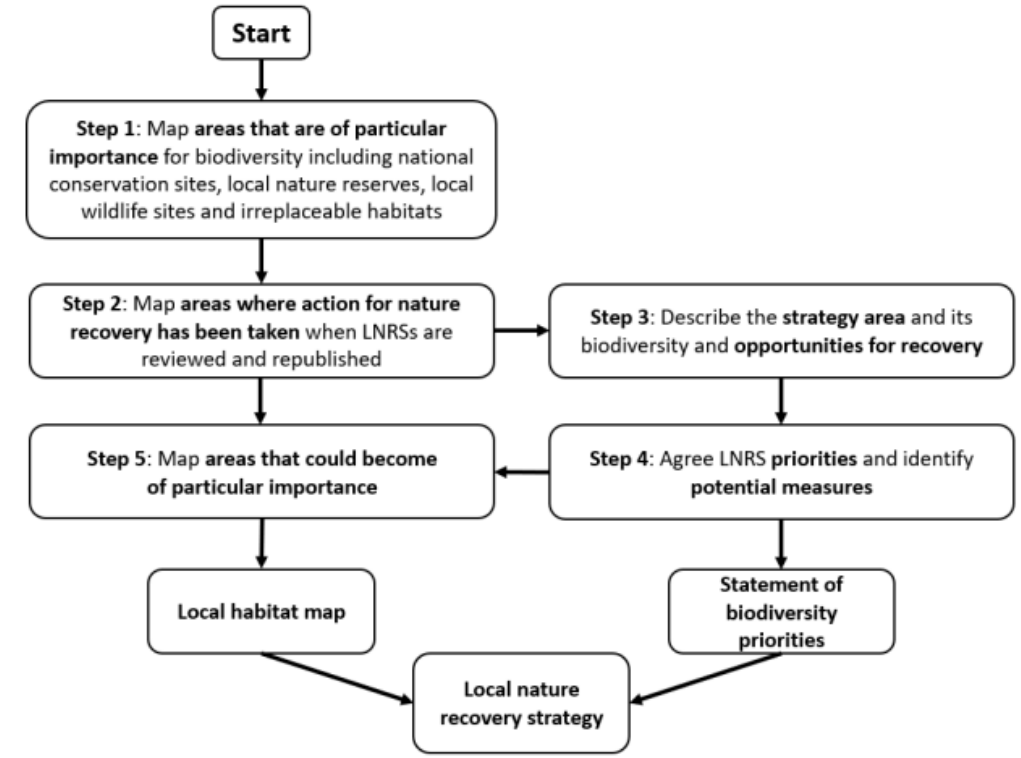
Nature Recovery

The term ‘nature recovery’ can be interpreted in a range of ways. For the LNRS, ‘nature recovery’ refers to the process of enhancing or creating habitats through actions on the ground. These actions, if delivered, would enable wildlife to recover in number and abundance and would deliver benefits for local people like helping to mitigate flood risk. This is what the LNRS means by nature recovery work. The LNRS has a certain level of ‘scope’ (things that it has the legal power to achieve) and LNRSs are expected to contribute towards nature recovery by creating a list of focused priorities and actions to achieve in the local area, and to map where those actions should be taken in the county to provide the greatest benefits for biodiversity and the wider environment.

Oxfordshire County Council's Role

In June 2023, Oxfordshire County Council was appointed by Defra as the 'Responsible Authority' for leading the production of the first LNRS for Oxfordshire and were tasked with leading the preparation of the strategy. Oxfordshire County Council then set up the 'LNRS Partnership', a set of organisations shown on page 6 who closely supported and shaped the development of the strategy and gave oversight throughout its preparation. Defra and Natural England provided statutory guidance to re sponsible authorities showing the steps that they expect LNRS production to follow (see Figure 1).

Figure 1 Order of steps to be followed in preparing contents of a local nature recovery strategy



What is the Local Nature Recovery Strategy?

The LNRS is expected to help people and organisations across the county to co-ordinate nature recovery efforts and funding opportunities. The purpose of the LNRS is to indicate which areas of the county need which targeted actions to create a create a bigger, better, and more joined up network for biodiversity to recover. The Local Nature Recovery Strategy (LNRS) has created four key elements which, together, make up the strategy. These are:

- **A Description of the Strategy Area** (this document)
    - A written description of biodiversity in Oxfordshire, the opportunities, and the pressures on biodiversity with a summary of what needs to be done.
- **A Statement of Biodiversity Priorities**
    - A written list of the most important outcomes (priorities) to achieve for biodiversity in Oxfordshire and a list of actions (potential measures) that would need be taken to achieve the priorities.
- **A Species Priorities List**
    - A written list of species which need additional, bespoke actions above and beyond the general habitat improvements on the Statement of Biodiversity Priorities (above). This species priorities list states the specific actions needed to recover particular individual species or groups of species.
- **A Local Habitat Map** –an online and interactive map tool which shows:
    - The existing areas of Oxfordshire that are particularly important for biodiversity
    - Areas that could become particularly important for biodiversity. These are priority locations for creating a nature recovery network in Oxfordshire and the LNRS has mapped a range of habitat creation and enhancement priorities as well as some species-specific actions to deliver in these locations.
    - Some select, wider biodiversity information about Oxfordshire to support people and organisations to develop nature recovery projects that can maximise wider benefits too, such as natural flood management.

The LNRS is expected to help people and organisations across the county co-ordinate effort and funding opportunities towards the delivery of a bigger, better, and more joined up network for nature. Some actions will be spatially targeted to key areas in the county whereas other actions will be important for as many people as possible to deliver across the county to improve the landscape and environment as a whole.

Can LNRSs be changed in future?

Defra have outlined a process of preparation and publication for Local Nature Recovery Strategies. They have also outlined a review and republication process to update these strategies in the future (see Figure 2). Once a strategy is published, the authority has a period of between 3 – 10 years before the Secretary of State is expected to ask all authorities to review and republish the strategy as part of a national review and update. During the 3 – 10 year interim period, the maps and documents are not typically allowed to be changed.

Figure 2 Local nature recovery strategy review and republication cycle

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Biodiversity in Oxfordshire

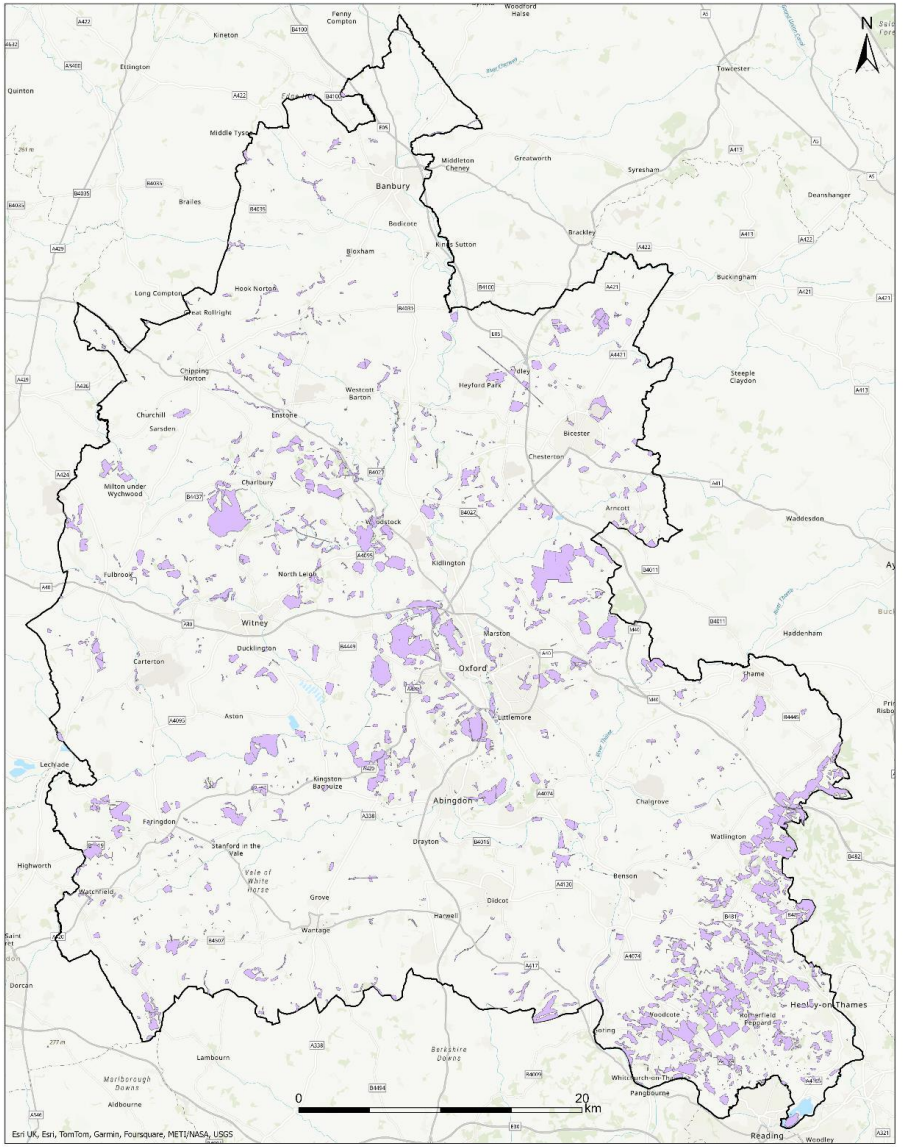
Oxfordshire's biodiversity: a summary.

Oxfordshire covers 260,595 hectares of southern England and is the most rural county in the South East (Oxfordshire Joint Strategic Needs Assessment 2023). The State of Nature in Oxfordshire report (2017) describes the county as having "a diverse and interesting geology, criss-crossed by eight river systems, that create a gentle yet complex landscape. As such, it supports a variety of habitats, from fragrant chalk grasslands scented with wild thyme, to fungi-strewn beech woods; from pockets of damp, reedy fen and acid grassland to marshy meadows full of birds." Throughout the document this variety of habitats and species and the landscape in which they are found is referred to as 'nature' and the collective variety of our animals, plants, fungi, and microorganisms is often referred to as 'biodiversity'.

However, when we map out the locations in Oxfordshire that Government consider to be 'of particular importance for biodiversity' a fragmented picture can be seen. The existing habitats in the county are small, separated, not necessarily in good condition, and show that some areas contain far more space dedicated to nature and biodiversity than others. In total, only 6.5% of Oxfordshire (16,866 hectares) currently meets the criteria for 'areas of particular importance to biodiversity'. See Appendix A to see detail about how this map was made.

You can read full details about how the areas of particular importance were mapped by Thames Valley Environmental Records Centre (TVERC) on the LNRS webpage. Sites which could be mapped included National Nature Reserves (NNRs), Local Nature Reserves (LNRs), Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Local Wildlife Sites (LWS) and areas of 'irreplaceable habitat' (defined in the National Planning Policy Framework) including lowland fen, ancient woodland, and ancient and veteran trees. Some of these types of sites overlap with

Oxfordshire LNRS Baseline Map



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Legend
All Baseline Sites & Habitats

each other (i.e. there may be ancient woodland or fen sites within Local Wildlife Sites or SSSIs).

Of the total areas mapped, the table below shows that 4.3% (11,197.4 hectares) of the county consists of local and national conservation sites (NNRs, SACs, SSSIs, LNRs, and LWSs). 3.7% (9,624.3 hectares) classifies as irreplaceable Ancient Woodland & Lowland Fen habitat, much of which is contained within existing local or national conservation sites. In addition, 0.3% (894.5 hectares) of the county is covered by patches of Wood Pasture and Parkland which contain ancient or veteran trees and there are also an additional 1,700 ancient and veteran trees recorded outside of wood pasture and parkland which cover a further 0.06% (148.4 hectares) of the county, However ancient and veteran tree records are not yet comprehensive across the country and are regularly being updated across England as more trees are being recorded.

SITE TYPE	AREA (ha)	% OXFORDSHIRE
Local & National Conservation Sites	11,197.4	4.3%
Irreplaceable Habitat: Ancient Woodland & Lowland Fen	9,624.3	3.7%
Irreplaceable Habitat: Ancient & Veteran Trees	148.4	0.06%
Irreplaceable Habitat: Wood Pasture & Parkland with Ancient & Veteran Trees	894.5	0.34%
Total Area (without overlaps)	**16,866.1**	**6.5%**

Table 1. The values in this table represent the total area of each site or habitat type, and the total area is presented without overlapping site or habitat types.

Of all of the 6.5% of mapped areas that are particularly important for biodiversity, a third of the total area (5,693 hectares) is currently not protected by any national or local designation and exists outside of a conservation reserve or area. This map of the areas of particular importance presents an updated view of the core biodiversity-rich locations in Oxfordshire and was specifically requested by Defra to act as a starting point from which LNRSs were expected to plan a bigger, better, and more joined up network of nature in Oxfordshire.

There are many further areas across Oxfordshire which experts also consider to be important or irreplaceable which don't currently meet government criteria to be mapped as an 'area of particular importance for biodiversity', and experts were invited to share their knowledge to be incorporated into the LNRS's vision for the bigger, better, more joined-up network.

Oxfordshire's Land use and Natural Resources

In addition to those core sites that are particularly important for biodiversity, there are many habitats and types of land cover such as farmland, buildings, gardens, golf courses, woodland, standing water, orchards, and more which can be found throughout the rest of the county. This section describes the types of habitats and land cover which can be found across Oxfordshire. (Source: Agile Nature Recovery Map of Oxfordshire, University of Oxford)

[Design team to insert pie chart to surpass the table Table below – see comment to see how pie chart will look]

Summary categories	Hectares	Percentage	
Arable (42%)	110,683	42%	
Improved grassland (27%)	71,491	27%	
Plantation woodland (3%)	9,063	3%	
Semi-natural woodland* (6%)	15,412	6%	Semi-natural*
Traditional orchards* (<1%)	256	0.1%	Semi-natural*
Wood pasture and parkland* (1%)	2,246	1%	Semi-natural*
Semi-natural grassland* (5%)	12,871	5%	Semi-natural*
Scrub, heath, wetland* (1%)	1,747	1%	Semi-natural*
Water* (1%)	3,136	1%	Semi-natural*
Green space & gardens (7%)	17,318	7%	
Manmade (6%)	16,371	6%	
Oxfordshire total area	260,595	100%	All landcover types
Sub-total of area that is semi-natural*	35,668.29	14%	*semi-natural habitat types

Agricultural Land

The majority of Oxfordshire's land (73%) is used for agriculture and much of that area is, and has been, intensively farmed using a significant amount of chemical inputs to produce crops and food. Of the 73%, 43% is arable, 27% as improved grassland, with 3% under other classifications. However, both arable and grassland fields can make space for nature, arable by creating margins, buffer strips, or permanent areas that are set-aside for nature, and grassland by managing grazing and creating areas of habitat like in-field trees and ponds in addition to enhancing the species diversity of the grassland. In this way, farmland can contain space for nature that complements their main purpose of food production, and there have been changes in farming practices with large numbers of farmers moving towards schemes that benefit nature alongside food production as part of their business.

Managed sensitively, productive farmland can support a wide range of wildlife and offer corridors that connect habitats across the county. Agricultural practices to improve soil organic matter can both increase the biodiversity of the soil and store additional carbon. Additionally, having wildlife and habitats on farms can provide pollinators, integrated pest control, wind-breaks, and shade which can all benefit the production of food.

Urban and settlements

About 6% of Oxfordshire is covered by manmade 'built development' including houses, buildings, bridges, roads, railways, sealed surfaces and so on. A further 7% is domestic gardens and urban greenspace such as playing fields and allotments. Together this means 13% of the county is currently used as homes, gardens, places of work, and other buildings and infrastructure.

The area used for homes is expected to grow in Oxfordshire. In the 6-years between 2014 and 2020, 2,710 hectares of sealed surfaces (e.g. paved areas, car parks, driveways) were created. In comparison, in the 6-years between 2017 and 2023, just 0.4 hectares of lowland heathland were restored, 2.3 additional hectares of reedbed were created, 7.4 hectares of traditional orchards were created, and woodland cover increased by 0.2% (about 520 hectares).

Semi-natural habitats

'Semi-natural habitats' are those which have most of their ecological processes and biodiversity intact, although many of these have still been altered by human activity and may be dependent on ongoing management. 14% (about 36,500 hectares) of Oxfordshire is classified as semi-natural habitat. Of that 14%, 6% (about 15,500 hectares) is semi-natural woodland, and 8% (about 20,800 hectares) is other semi-natural habitats including flood plain meadows, chalk grassland, parkland with scattered trees, wetland, scrub, heath, and a tiny area of traditional orchards (see a more detailed chart on the next pages). There are also around 17,000km of hedgerows and lines of trees along field boundaries.

Woodland

As of 2020, woodland covered 9.2% (about 24,000 hectares) of Oxfordshire, just under the average 9.9% woodland cover for England (data from TVERC). Approximately one third of Oxfordshire's woodland is plantation (woods which have been planted to grow timber and so are not 'semi-natural habitat'). Many of Oxfordshire's woodlands are small – 38% are less than 10 hectares in size, indicating a scattered and fragmented habitat type. 3.4% of all woodland in Oxfordshire is ancient (about 11,500 hectares). Of that ancient woodland area, just over 2,500 hectares are plantations on ancient woodland sites (PAWS).

Carbon Storage

It is estimated that 23 million tonnes of carbon is stored in Oxfordshire's soils and vegetation, and that in addition 115,000 tonnes of carbon is sequestered each year by healthy soils and vegetation. A further 3.5 million tonnes of carbon would be sequestered between 2020 and 2050 if there was no further

change in land-use or ecosystem condition (Pathways to Zero Carbon Oxfordshire). By creating more habitat, there is opportunity to store even more carbon.

Minerals

The geology of the County has enabled a thriving minerals industry to develop, providing sand and gravel from the river valleys, soft sand in the south west of the County, and limestone and ironstone in the north and west. A survey in 2009 found that 78% of sand and gravel and 51% of crushed rock produced in the county is used in Oxfordshire. Many large areas of habitat creation have or will be delivered through the restoration of minerals sites in the County, including through the Lower Windrush Valley Project.

Definitions relevant to pie chart and the above section:

- Arable: land used for growing and producing crops, also includes intensive orchards.
- Improved grassland: grasslands for pasture that have been highly modified through reseeding and frequent fertiliser application. Typically over 50% perennial ryegrass, white clover and other high-productivity agricultural species. Also includes unidentified natural surface.
- Plantation woodland: coniferous, mixed and broadleaved plantations, unknown woodland and felled woodland
- Semi-natural grassland: acid, calcareous and neutral grassland, purple moor grass and rush pastures, unidentified semi-improved grassland (including 'rough grassland' from OS Mastermap), 'marshy grassland' (some of which is just improved grassland on the floodplain), poor semi-improved grassland, tall herb and fern, bracken, and ephemeral vegetation
- Scrub, heath and wetland also includes a few hedgerows which are on the TVERC habitat map (typically because this has been provided by a restoration project; most hedgerows are not included)
- Water: rivers, streams, canals, drainage ditches, lakes, ponds and reservoirs
- Greenspace and gardens: domestic gardens, parks, cemeteries, churchyards, playing fields, allotments, amenity grass, grassed roundabouts and verges
- Man-made: buildings, sealed surfaces, roads, rail, tracks, bare ground, landfill, quarry, Open Mosaic Habitat on Previously Developed Land (a priority habitat comprised of a mosaic of early successional habitats), sand, and new development

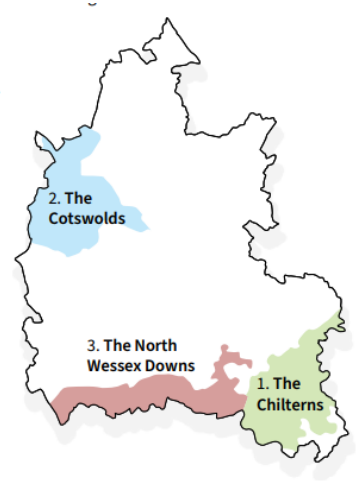
Important Habitats, Species and Designated Sites in Oxfordshire

The value of some habitats in Oxfordshire are recognised with a range of statutory and non-statutory designations which aim to protect the county's best and exemplar spaces for nature.

National Landscapes

Oxfordshire contains parts of three National Landscapes which cover about 25% of the county and are designated to conserve and enhance their outstanding natural beauty. Oxfordshire's three National Landscapes are:

1. **The Chilterns** National Landscape. Oxfordshire is home to 28% of the Chilterns National Landscape (233km2 which covers 8.9% of Oxfordshire). This area is well known for its ancient woodlands, chalk downland, chalk streams and scrub communities (including important juniper scrub).
2. **The Cotswolds** National Landscape. Oxfordshire is home to 12% of the Cotswolds National Landscape (248km2 which covers 9.5% of Oxfordshire). This area is well known for areas of open High Wold, the Evenlode and Windrush river valleys, the Wychwood Forest, areas of unimproved limestone grassland and floodplain meadows. A good population of farmland birds still exists on arable land in this area.
3. **The North Wessex Downs** National Landscape. Oxfordshire is home to 186km2 of the North Wessex Downs National Landscape (covering 7.2% of Oxfordshire). This area is well known for chalk grassland, chalk streams, populations of farmland birds and veteran trees.



World Heritage Sites

Blenheim Palace and Park was awarded World Heritage Site status in 1987 and is one of only 17 registered sites in England (one of 30 in the UK). Blenheim Park also contains an important SSSI, containing one of the finest areas of ancient oak-dominated pasture woodland in the country with lakes of regional importance for breeding and wintering birds.

Special Areas of Conservation (SAC)

Oxfordshire has seven internationally designated Special Areas of Conservation (SAC) which fall partly or entirely within the county. SACs are designated where they support internationally important habitats and/or species and the sites receive strict legal protection.

- **Aston Rowant**: One of the best remaining examples in the UK of lowland juniper scrub on chalk.
- **Chilterns Beechwoods:** Beech forests on neutral to rich soils, stag beetle *Lucanus cervus*, dry grassland and scrublands on chalk.

- **Cothill Fen:** Largest surviving example of alkaline fen in central England, alder woodland on floodplains.
- **Hackpen Hill:** Dry grasslands and scrubland on chalk with a significant population of early gentian *Gentianella anglica.*
- **Hartslock Wood:** Yew woodland and chalk grassland supporting one of only three UK populations of monkey orchid *Orchis simia.*
- **Little Wittenham:** One of the best studied great crested newt *Triturus cristatus* sites in the UK.
- **Oxford Meadows:** Lowland hay meadows including the larger of only two known sites in the UK for creeping marshwort *Helosciadium repens*.

Sites of Special Scientific Interest (SSSIs)

There are 113 Sites of Special Scientific Interest (SSSI) in Oxfordshire that cover a total of 4475.7 hectares (which is 1.17% of Oxfordshire). These SSSI sites are designated as important nationally for their wildlife or geology. 50.48% of Oxfordshire's SSSIs are in favourable condition (by area), with 47.45% in favourable recovering condition. 0.99% SSSIs by area are considered to show no change, with 0.76% declining and 0.19% destroyed (Natural England 2024). A list of the 113 SSSIs can be viewed in the TVERC reports on the County Council LNRS webpage.

Local Wildlife Sites (LWS)

Local Wildlife Sites (LWS) are sites identified at a County-wide level for their wildlife-rich habitats, or particularly important species. All Local Wildlife Sites that meet the necessary criteria are designated; this differs significantly from the process of identifying SSSIs, as the latter are a representative sample of sites. Local Wildlife Sites don't receive legal protection but are identified and protected through the planning process. Like SSSIs, LWS are surveyed on a rolling programme, with most sites being reassessed approximately every 10 years. Between 2005 and November 2024, 36 sites were removed and 94 sites were added to the total number of Local Wildlife Sites. At the latest update in 2024, Oxfordshire had 399 Local Wildlife Sites (6670.4 hectares which is 2.5% of Oxfordshire) with a further 71 proposed new or proposed extensions to LWS (1195.8 hectares in total) under assessment (TVERC, 2023). Currently the percentage of the county covered by LWS is 2.5%, much lower than in some neighbouring counties such as Berkshire (8%), and much lower than the English average (5%) (The Wildlife Trusts, 2016).

In Oxfordshire, 45% of Local Wildlife Sites were recorded to be in positive conservation management in 2023 - 2024. For context, the equivalent figure across England in 2023 -2024 was 35%. There has been a gradual improvement in the proportion of Local Wildlife Sites in positive management in the County from 34% in 2016- 2017.

Road Verge Nature Reserves

Road Verge Nature Reserves (RVNRs) are verges rich in biodiversity, often including a number of scarce and threatened plants and habitats. RVNRs provide connectivity between wildlife areas, helping to maintain and restore a green network through which wildlife can move and survive. Green verges provide a vital link between what can otherwise be inhospitable landscapes, providing benefits for both wildlife and

people. There are currently 52 RVNRs located across the county, including examples of limestone and chalk grassland, acid grassland and neutral grassland.

Habitats of Principal Importance

The Natural Environment and Rural Communities Act 2006 identifies 56 types of habitat in England that it calls 'habitats of principal importance' for the conservation of biodiversity. The list is intended to help public bodies be aware of biodiversity conservation in their policy or decision making, to inform landowners planning nature recovery and to help funding bodies support suitable nature recovery. Oxfordshire is home to 20 types of 'habitats of principal importance', which are described in the table below:

Lowland Meadows: a key habitat in Oxfordshire, dependent on low fertility soils and traditional management methods. Flower rich, important for invertebrates and ground nesting birds such as skylark. The county holds 25% of all of UK's floodplain lowland meadows (a rare community of the NVC 'MG4' plant assemblage).

Lowland calcareous grassland: a key habitat in Oxfordshire, associated with areas of chalk and limestone geology, found particularly in the North Wessex Downs, Chilterns and Cotswolds. Flower rich, important for invertebrates (particularly butterflies).

Acid grassland: of restricted distribution in Oxfordshire, associated with sandy soils such as those on the Mid-vale Ridge. Generally, not flower rich but important for rare plants and invertebrates.

Floodplain Grazing Marsh: a key habitat in Oxfordshire, associated with river floodplains. Sometimes flower rich, important for wading birds.

Lowland Fens: a key habitat in Oxfordshire, particularly in the Cothill area. Important for rare invertebrates and plants. May support water vole and safe resting sites for otter.

Eutrophic Standing Waters: likely to be found in old gravel pits and reservoirs, often important for waterfowl.

Mesotrophic Lakes: these have lower levels of nutrients than Eutrophic Standing Waters, and can be particularly rich in plant and invertebrate species. There are only a few examples in Oxfordshire, to be found mainly amongst the old gravel pits of the Lower Windrush Valley.

Ponds: found throughout Oxfordshire, may be rich in plants and invertebrates. Likely to be the most important breeding sites for amphibians, including great crested newt, as well as many dragonfly species.

Reedbeds: of restricted distribution in Oxfordshire, important for birds including the Bittern, may support water voles or rare plants.

Rivers: found throughout Oxfordshire, provide important wildlife corridors. Likely to support water vole, otter, and a variety of invertebrates. All of Oxfordshire's river catchments fall into a number of catchment partnerships, set up by the Environment Agency and hosted and run by local groups to oversee the implementation of actions to address pressures on the water environment. Chalk streams in the Chilterns and North Wessex Downs are a local and special habitat type which is rare globally with the majority of all the world's chalk streams found within England.

Purple Moor Grass and Rush Pastures: these wet pastures are of restricted distribution in Oxfordshire, found mainly around Otmoor and the Shill Brook in West Oxfordshire.

Lowland Wood Pasture and Parkland: important for veteran trees, invertebrates and bats. Found mainly on Oxfordshire's old estates.

Lowland Beech and Yew Woodland: a key habitat in Oxfordshire, found mainly in the Chilterns.

Lowland Mixed Deciduous Woodland: found across Oxfordshire, those with rich ground flora are of particular biodiversity interest. Also important for bats, woodland birds and butterflies, occasionally support dormice.

Wet woodland: of restricted distribution in Oxfordshire, likely to be adjacent to waterbodies or part of a mosaic of wetland habitats. Supports birds and rare invertebrates.

Traditional orchards: of restricted distribution in Oxfordshire, dependent on traditional management methods. Important for bats, rare invertebrates, mosses, lichens.

Arable Field Margins: strips around field edges managed to provide benefits for wildlife – can provide important food sources for birds and invertebrates.

Hedgerows: an important linking habitat found throughout Oxfordshire, of particular biodiversity value when they consist of a large proportion of native woody species. Used by foraging birds and bats, dormice and a range of invertebrates.

Lowland Heathland: of restricted distribution, important for reptiles and invertebrates

Open Mosaic Habitats on Previously Developed Land (OMHPDL): examples in Oxfordshire include former quarries and ash lagoons – can be particularly important for birds, invertebrates and specialist plants.

Wildlife rich habitats that do not meet the current criteria for priority habitats

In addition to the above list of Habitats of Principal Importance, there are numerous other habitats that are wildlife-rich but do not meet the strict criteria to become a Habitat of Principal Importance. These habitats include scrub; wildflower grassland that is species-rich but that does not meet the criteria of the three grassland priority habitats; and mosaics of habitats made up of a mixture of any or all of scrub, grassland, woodland, and ponds and other wetland habitats. The importance of these other habitats is reflected in the LNRS 'Statement of Biodiversity Priorities', which includes numerous measures dedicated to the enhancement and creation of these habitats.

Species trends in Oxfordshire

Species trends in Oxfordshire generally reflect patterns seen across England. For some species we have local data sets and can understand local trends in more detail. The following trends mostly come from the State of Nature in Oxfordshire Report (2017).

Species 'on the brink' (at risk of being lost) in Oxfordshire

Whilst there have been significant historical losses of a wide range of species, the species below represent some of the species that have been declining particularly fast in recent years (many since 1998) to the point that species are now considered extinct or near extinct in Oxfordshire. This is not an exhaustive or definitive list, there may be other species which meet this categorisation which we do not yet have sufficient information about.

Wall butterflies, grassland specialists. Previously widespread, now considered extinct in the County having not been recorded since 2009

The marsh fritillary which was rapidly declining in 1998 is now considered near extinct in Oxfordshire

Hazel Dormouse: there are very few records for Dormice in the County. It is unclear whether this is partially due to under-recording of this species.

We have recently lost the Wood white butterfly which was last recorded in 2008

Nightingale had disappeared from Oxfordshire with the last confirmed breeding records in the County from 1998 and only 2 sightings in 2020 and in 2021. However, a land manager has recently recorded the first breeding pairs in the county in the past 4 years after dedicated habitat management work and their range could expand with the creation of suitable habitat

Following recent significant declines, the only Native crayfish, the white clawed crayfish is now extremely rare in Oxfordshire and has been particularly damaged by the introduction of American Signal Crayfish.

The Adder is typically found in heathland habitats but is now very rare (all but extinct) in Oxfordshire. Whilst it was considered to have a stable population in 1998, there are only a handful of records in the county since 2010.

In 2017, Otmoor was the only reliable site in Oxfordshire where Turtle doves still bred, they have not been recorded breeding there since 2020. Through the work of Operation Turtle Dove there is potential for this species to recover

Declining Species

Apart from at the RSPB's Otmoor reserve, curlew numbers decreased by 51%, lapwing by 21%, snipe by 88% and redshank by 50% in Oxfordshire between 2005 and 2015. These declines are attributed to loss of wet grassland habitat and predation impacts. More recently, the Curlew Recovery Project estimates that there is currently a total population of 60 pairs of Curlew in the Upper Thames (including a few in Buckinghamshire), with strong recovery continuing at Otmoor, but there is also evidence of declines in many of the smaller populations.

The Upper Thames Butterfly Atlas 2016 data (Asher et al., 2016) shows declining trends of the wider countryside butterfly species, which are now experiencing the same sort of drop in abundance that the habitat specialists suffered 30 years ago. The black hairstreak butterfly, found only in hedgerows and thickets of blackthorn in woodlands on the heavy clay soils between Oxford and Peterborough, has suffered a dramatic decline nationally (losing 43% of its population since the 1970's) but the Buckinghamshire and Oxfordshire colonies seem stable due to targeted conservation efforts to maintain habitats for these species in certain locations.

Willow tits, which like scrub and wet woodland, are the most rapidly declining woodland bird species locally. Several other woodland bird species in Oxfordshire have been in long term decline and on the Red List for Birds for some time (BoCC4, 2015) include lesser spotted woodpecker, marsh tit and hawfinch.

Banbury Ornithological Society (BOS) "Winter Random Square Survey" has shown that several resident farmland birds, including yellowhammer and linnet, declined greatly in the 70s and 80s, before stabilising somewhat in the late 90s and 2000s. For a few, the declines are continuing, notably corn bunting and tree sparrow (ed. Easterbrook, 2013).

Increasing Species

The Adonis Blue, silver washed fritillary, purple emperor and brown argus are all butterfly species which have expanded in range, if not abundance (Upper Thames Butterfly Conservation, 2016).

Between 1900 and 1998, water voles (*Arvicola amphibius)* suffered a 95% reduction in their range in the UK. During the period 2009 to 2024, against the backdrop of a national decline, the total spatial coverage of water vole 'Local Key Areas' in Oxfordshire increased by 85% as a result of co-ordinated water vole conservation and mink control activities; this can be interpreted as an overall improvement in the fortunes of this species in the county.

In the first three national otter surveys of England (late 1970s to early 1990s), otters were just starting to recover from their extensive national declines and were almost entirely absent from the Thames catchment and Oxfordshire. However, the banning of toxic chemicals, improvements in water quality and legal protection have all helped to bring otters back to the Thames catchment, augmented by a small independent re-introduction of captive-bred animals by the Otter Trust in 1999. The first few positive sites in Oxfordshire came in the 1991-94 survey and now otters are widespread across the county both in urban and rural areas, reflecting their gradual but continued national recovery.

After an absence from the county of about 200 years, bittern, marsh harrier and common crane have returned to breed in the new reedbed at RSPB's Otmoor reserve.

Re-introductions

This section focuses on some key species which have either been introduced to Oxfordshire, or could, in future be reintroduced to Oxfordshire.

Natterjack toad. With its specialist habitat requirements, the natterjack toad has always been rare in the county. This species went extinct from the county in the twentieth century but was more recently re-introduced to a sandy-heathland site on a farm in Oxfordshire where a breeding population has become established.

Red kites became extinct in England as a result of persecution. In 1990 they were successfully re-introduced at a site on the Oxfordshire/Buckinghamshire border in the Chilterns, establishing a self-sustaining and expanding population.

Eurasian Beavers have begun to be reintroduced in England. Local Nature Recovery Strategies are asked to consider species which could be suitable for reintroduction to their relevant counties and people and organisations across Oxfordshire have repeatedly mentioned the opportunity to reintroduce beavers. It would be crucial to plan this reintroduction carefully with the support from relevant landowners and with management plans for future populations.

Nationally important populations of species and their habitats which can be found within Oxfordshire

Oxfordshire is home to a number of species and habitats which are important at a national level. This is often because they are found in few (or no) other locations in the country.

Plants

- Oxfordshire's calcareous grasslands support nationally important rare plants, including the bulk of the UK populations of downy woundwort, meadow clary, early gentian and Chiltern gentian and all of these species are in decline. Downy woundwort is found nowhere else in the UK but the Oxfordshire population has been struggling and would benefit from targeted recovery work.
- Oxfordshire has one of the largest UK populations of the nationally rare downy-fruited sedge *Carex filiformis*. Our wet grasslands and fens support the vast majority of the UK's population of creeping marshwort *Helosciadium repens* and fen violet *Viola persicifolia.*
- The River Ray floodplain is a stronghold for the rare true foxsedge *Carex vulpina* (Feber, 2013).
- One of only three UK populations of monkey orchid is found at Hartslock nature reserve.
- Bluebells *Hyacinthoides nonscripta* are widespread in Oxfordshire woodlands but under threat globally.
- One of Britain's rarest trees, the native black poplar is a tree of wet woodland and forested floodplain. Thought to be declining over the long-term in Oxfordshire, more information is needed about this species using DNA-testing to confirm the identity of the true native trees. Planting projects could enable recovery.
- Box woodland is extremely limited in the UK, localised to only about 10 sites in the country. There is a location in Chinnor where an example of mature box woodland can still be found.

Breeding curlew

- The Eurasian Curlew is identified as Near Threatened at a global scale by the IUCN. With 58,000 pairs reported in the UK in 2020, the UK holds 40% of the European curlew population and 25% of the global population. With an estimated 60 breeding pairs, the Upper Thames is one of the important lowland breeding sites with an active partnership working on The Curlew Recovery Project.

Lowland Meadows

- Oxford Meadows Special Area of Conservation (SAC) is considered to be one of the best lowland hay meadow areas in the UK, with vegetation communities that are perhaps entirely unique which reflects the influence of long-term grazing and hay-cutting on lowland hay meadows. Other good examples of this habitat are found in the floodplains of the Thames, Cherwell and Ray. One example includes the Thames at Swinford, landscape-scale community restoration plans are well underway led by the Nature Recovery Network to restore over 210 hectares of ancient, restored, and recreated meadow. This area includes the internationally rare ancient floodplain meadows (MG4). There are only 1200 hectares of MG4 lowland floodplain meadows remaining in the UK, 25% is in Oxfordshire and reconnecting these will support their survival.

Calcareous fens

- Oxfordshire hosts a complex of calcareous species-rich fens that form the largest remaining group of such habitats outside East Anglia and North Wales. Cothill Fen SAC (JNCC, 2016) is the largest surviving example of alkaline fen in central England, which supports the Clubbed General Soldierfly, Southern Damselfly, rare horseflies as well as endangered Black Bog Rush and Broad-leaved Cotton Grass (indicative of the rare M13 plant assemblage).

Chalk Streams

- Streams arising from chalk aquifers such as the Letcombe Brook, Chalgrove Brook and Ewelme Stream support characteristic species such as brown trout, bullhead and other species dependant on clear, fast flowing water and gravel substrates. Chalk streams are a globally rare habitat, with only 224 in England (TVERC data).

Veteran Trees and Wood Pasture

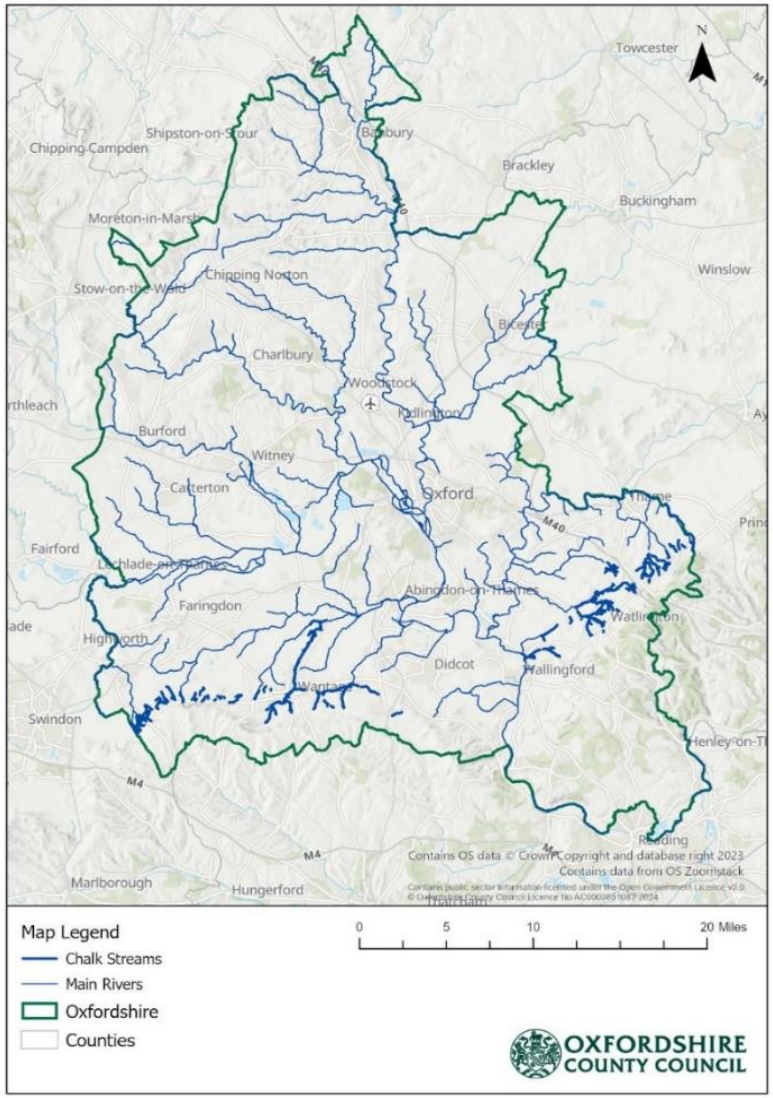
- Blenheim Palace in Woodstock hosts one of the greatest collections of ancient oak trees in Europe, including one that is 1,000 years old. There are a range of other sites of importance for veteran trees and wood pasture; an English Nature report of 2005 concluded that the many parklands and long history of wood pasture management in the Thames & Chilterns region highlights its national and international importance for habitats and species associated with veteran trees.

Research Sites

- Wytham Wood, owned by the University of Oxford, is one of the most well-studied woodlands in the world.
- Oxford has a long-standing cultural and scientific association with swifts – the colony at the Oxford University Museum of Natural History has been the subject of the Oxford Swift Research Project, started by David and Elizabeth Lack in 1947. This is one of the longest running studies of any species of bird, and has contributed greatly to our knowledge of the species.
- Little Wittenham Special Area of Conservation is one of the best-studied great crested newt sites in the UK.

Water Environment

- Oxfordshire is home to several rivers and river catchment areas. The county contains freshwater features like chalk streams, ponds, temporary pools, fens, and is classified as one of Freshwater Habitat Trust's (FHT) 'Important Freshwater Areas' which you can read more about in their Freshwater Network brochure. FHT state that these areas, including a large part of Oxfordshire have "nationally significant concentrations of freshwater biodiversity, rich in threatened plants and animals. These places, from upland river landscapes to lush lowland pondscapes, are under threat, but they are also our biggest hope for freshwater biodiversity recovery." As one of the 24 Important Freshwater Areas in England, Oxfordshire has a significant opportunity as one of the most important areas in the UK for freshwater life, to target action to recognise and restore all freshwater habitat types across the county at a landscape scale. In the long-term, Oxfordshire could restore naturally functioning, self-sustaining populations of freshwater plant and animal species.



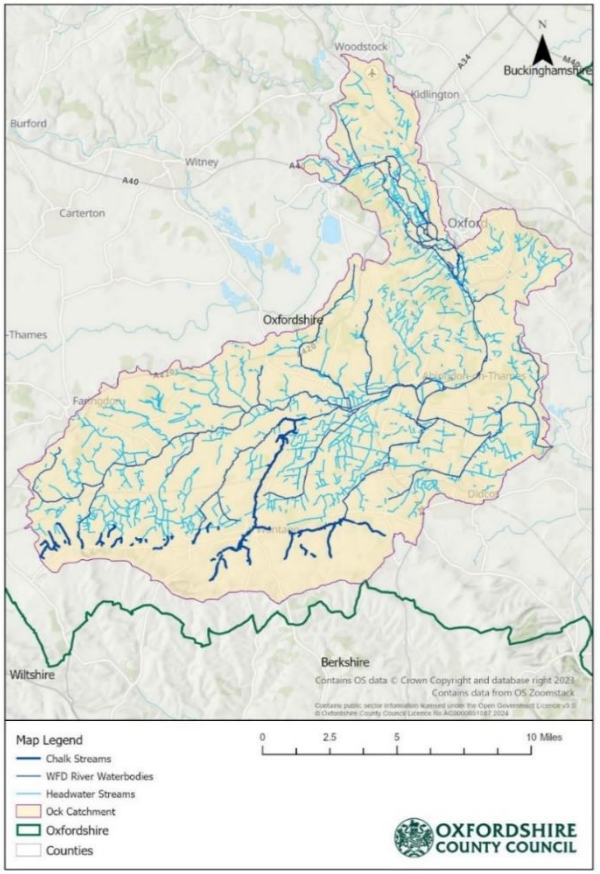
Rivers and River catchments in Oxfordshire

Oxfordshire is largely situated in the Thames River basin, with just small parts of the county draining to the Warwickshire Avon and the Great Ouse. The county contains over 3670 kilometres of watercouse including the designated main rivers (1015km) and their smaller tributary streams and headwaters (2660km).

Through the LNRS engagement process with people and organisations across Oxfordshire it has been clear that improving the quality of freshwater habitats such as rivers, streams, and their catchments is a top priority. Watercourses act as opportunities to connect people and nature in a continuous pathway even amidst densely populated urban areas and intensively farmed landscapes. However, barriers such as weirs and locks do block natural fish migration. Rivers and their connected environments have key roles as crucial habitats for wildlife and provide an array of eco-system services, and therefore, warrant a high level of focus for restoration.

For those looking for more detail about the history, character, and biodiversity recovery opportunities of each river and catchment in Oxfordshire, Appendix B gives a comprehensive overview of the key challenges and opportunities for biodiversity in each catchment and provides information about each Catchment Partnership (groups of organisations working together to improve water quality and habitats in the catchment area of each river). Appendix B is organised by catchment and river, and readers can navigate to the page or pages that relate to the specific catchment/river they are most interested in. The order of the document starts with an introduction to Oxfordshire's rivers and catchments, followed by sections on the River Thames, River Windrush, River Evenlode, River Cherwell (including the River Ray), River Ock, and River Thame. Each section discusses the unique characteristics, ecological importance, challenges, and opportunities for biodiversity within that catchment.

Rivers in the Ock Operational Catchment



Oxfordshire's national and landscape character types

Biodiversity varies across the UK and variations in the type of landscape, geology, and how people have used the land does influence the type of wildlife and habitats found in different parts of the country. The government's environmental advisory body Natural England categorizes England into 159 National Character Areas (NCAs), each with distinct geological, cultural, and biodiversity characteristics. Eight of these NCAs are present in Oxfordshire and each area is associated with a particular set of landscapes, geology, and particualr recreational or cultural associations with the area including heritage sites and certain types of businesses.

The map illustrates the 'National Character Areas' which run across Oxfordshire's landscape. Each coloured area represents a unique type of landscape distinguished by different geology, soil types, biodiversity, history, or land-use. These differences give rise to different types of habitats, wildlife, and features in the landscape that also shape our sense of place within Oxfordshire. Historic towns, open farm fields, and woodlands, are all integral parts of the character of these areas.

Appendix C provides an overview of the distinct NCAs in Oxfordshire, detailing their geology, biodiversity, cultural land-use, and notable species in the area. Each section emphasizes what could be done to maintain and enhance habitats relevant to that area and describes how nature benefits both wildlife and people in the NCA.If you'd like to delve into further detail for any of the particular National Character Areas of Oxfordshire and see which nature recovery actions might be most suitable for the specific landscapes local to you, you can find a 1-2 page description of each area within Appendix C. Many of the details in Appendix C have been collated from Natural England's National Character Area profiles, the Oxfordshire Wildlife and Landscape Study and Wild Oxfordshire's website.

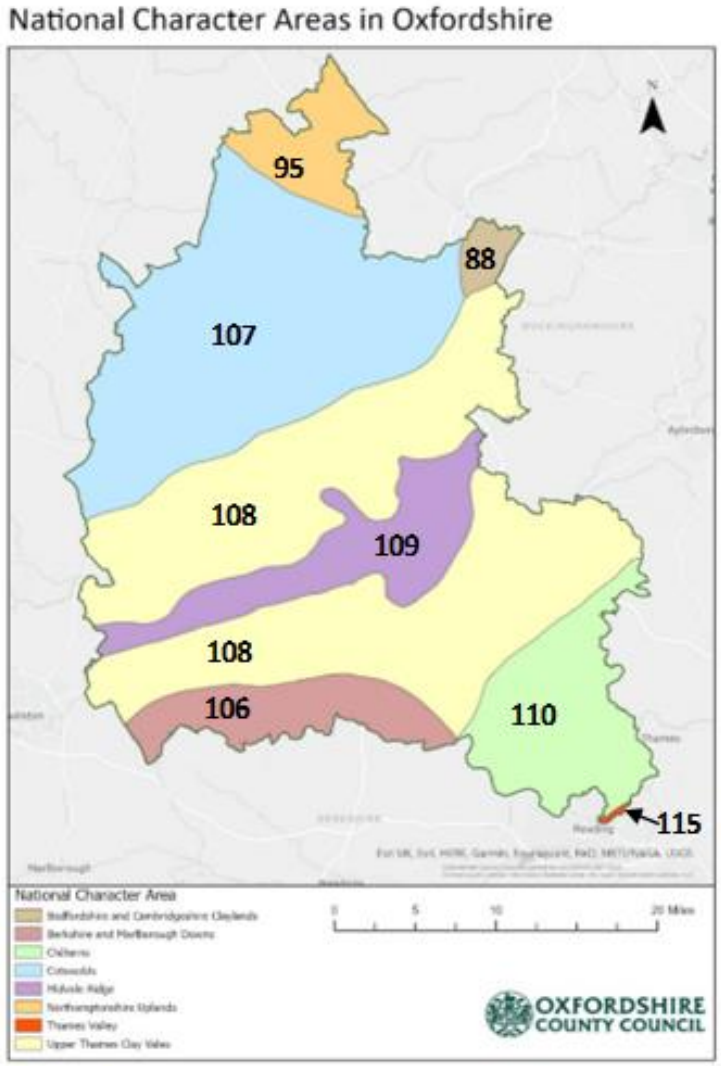


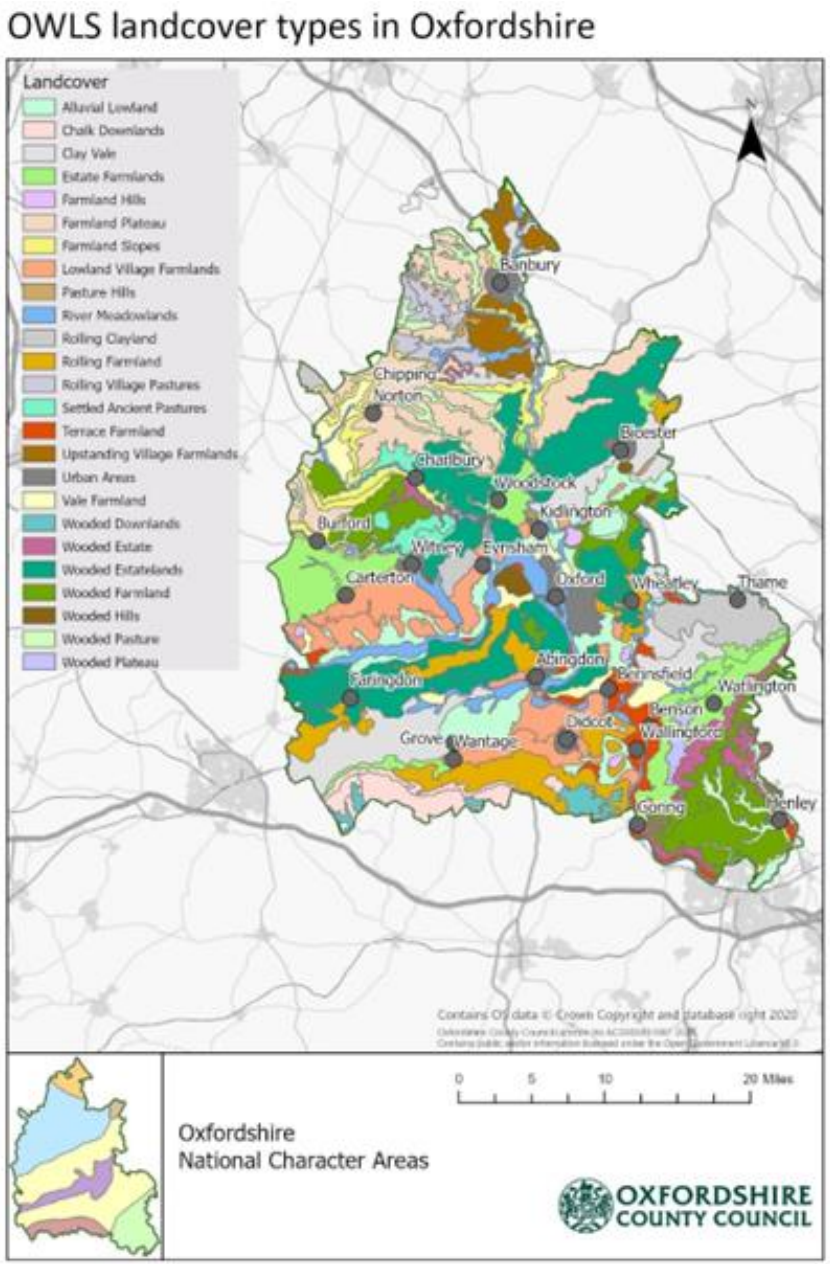
Figure X: Oxfordshire's National Character Area (NCA) map.

Oxfordshire Wildlife and Landscape Study

In addition to the NCA areas a previous initiative in Oxfordshire, the Oxfordshire Wildlife and Landscape Study (2004), created a breakdown of the county showing 25 different types of Landscape Character Types (LCAs) which cover Oxfordshire. Each Landscape Character Area shows the typical habitats and biodiversity for different areas of the county. To use a more interactive version of the OWLS Landscape Character Types and read about other landscape character assessments, please view the website.

These varied landscape character types can help guide biodiversity actions in each area to ensure that actions are complementary to the relevant landscape type.

The different landscapes, habitats, and soil types found in Oxfordshire shaped which nature recovery actions the LNRS's Local Habitat Map has mapped into different locations. Recent 2023/2024 data on soil types were used as well as recent data on the location and types of habitats in Oxfordshire. Despite using the latest available data, it is still important for people who are looking to take action to check their sites and consider how their nature recovery projects or actions can complement the various landscape types found across Oxfordshire. You can find more information about the OWLS Landscape Character Types in your area of Oxfordshire by looking at Appendix C which contains more detail and describes the characteristics of the different parts of Oxfordshire.

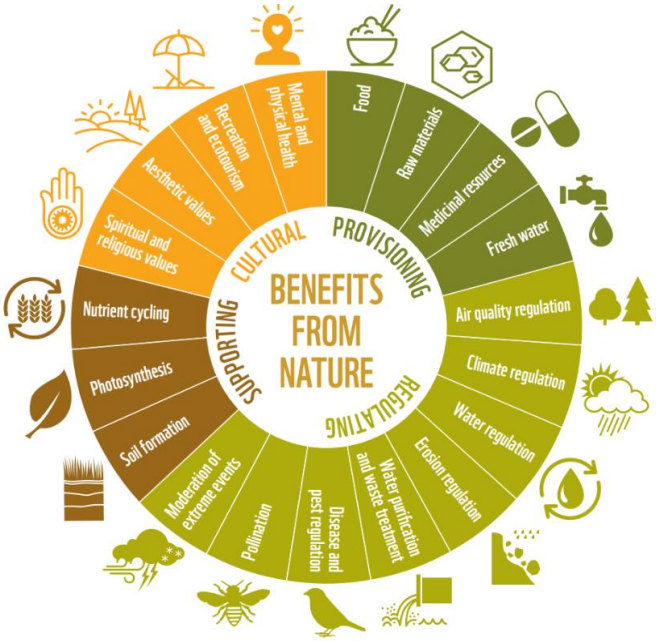


Benefits of nature

As well as being vital to human survival itself, by providing air, water, food and shelter, nature provides numerous other gifts which are touched upon in this section. Natural habitats provide essential services like water purification, flood regulation, and carbon sequestration. Accessible, outdoor spaces also offer opportunities for people to connect with nature and enjoy the outdoors, promoting both physical and mental well-being and offering key educational opportunities for people to learn about nature and biodiversity. In addition, some parts of the county have geology that has been identified as having key resources that we rely on to live well and provide building materials to produce homes and infrastructure.

Healthy ecosystems in Oxfordshire provide numerous benefits, including food production, water quality improvement, and recreational opportunities. If Oxfordshire can maintain a healthy natural environment, then the county will be in a better position to ensure the long-term provision of these services and benefits described on this page. Without effort to restore nature, the county should expect to continue to lose these gifts that nature provides. Many people in the county have already experienced challenges with growing food, managing water, a decline of species, difficulty cooling down, poorer air qualiy and other impacts.

Nature recovery actions described in the LNRS not only help our wildlife and species to thrive, but if well-coordinated across the UK, could significantly improve human health and wellbeing into the future and enhance local resilience to climate change. The image on this page illustrates the range of 'services' that a healthy landscape can provide and reminds us all of the importance of nature to our day-to-day wellbeing.



Source: Living Planet Report 2018 | Pages | WWF

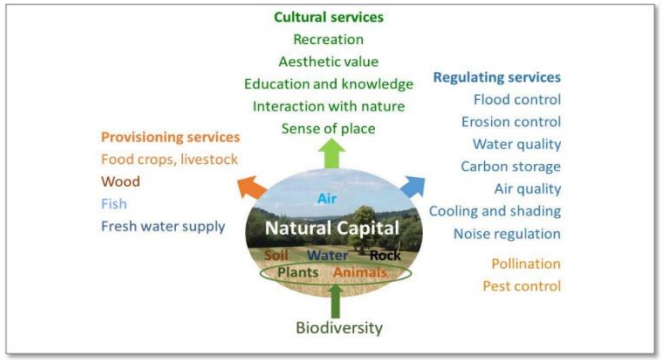


Figure 1: Natural capital stocks deliver flows of ecosystem services that underpin human health and wellbeing

Source: Natural Capital in Oxfordshire Short report, p3, Alison Smith,

Nature and people

Thriving natural systems and ways for people to connect with them are fundamental to wellbeing. The benefits or gifts that we receive from nature, such as the food we eat, outdoor spaces for physical and social activities, and mitigation of floods and heat, all rely on actions from people that enable a healthy natural environment. Undertaking environmentally positive actions help us maintain a positive relationship with the natural world.

Oxfordshire is a relatively wealthy county, but there are significant socioeconomic and health inequalities. Ten areas of Oxfordshire are ranked among the 20% most deprived areas in England, with 1 in 5 children living in poverty. The impact is profound, people in more affluent areas are expected to live around 11-12 years longer than those in poorer areas of the county. Oxfordshire also has higher than average levels of social isolation and loneliness, with a quarter of adults not meeting physical activity recommendations. Rates of depression and other types of poor mental health are also rising, especially in deprived areas, influenced by a complex range of behavioural, socioeconomic, structural, and environmental factors which all impact people's health and wellbeing.

The positive impacts of access to greenspace and connection with nature on wellbeing are well established. Physical and mental health are boosted through:

- Increased physical activity in nature-rich outdoor spaces, social contact, community connectedness, skills enhancement, and nature connection.
- Mitigation of environmental harms such as extreme heat, increased risk of flooding, and the impacts of air pollution.
- Other environmental benefits like natural flood management, soil health, food security, education, and employment.

Nature not only helps keep individuals fit and well but access to areas of nature can also help reduce inequality, e.g. by reducing common health problems that are often worse in places with lower access to nature. Improving access to areas of nature can improve health and quality of life for people in the local community by offering:

- High-quality green infrastructure to enable people to get around, exercise, and be outdoors
- Community engagement initiatives that bring people together and offer ways to boost wellbeing and reduce loneliness
- Opportunities for new types of healthcare, such as green social prescribing (which supports people to engage in nature-based activities to improve their mental and physical health)

Since the typical approach to healthcare requires a lot of resources (and is responsible for 4% of carbon emissions nationally), improving the environment and access to nature offers effective, nature-friendly ways to treat and prevent conditions and boost the quality of life amongst local communities. The evidence for incorporating nature recovery into a strategic approach to inclusive and sustainable economies is growing.

However, opportunities to connect with nature and experience its benefits are not equally distributed in Oxfordshire. Groups that consistently miss out include those from lower-income households, minoritised ethnic groups, people who have been forcibly displaced (such as refugees and people seeing asylum), and people with disabilities or long-term conditions. These groups are also disproportionately affected by climate and nature crises and are currently underrepresented in the UK environment sector.

In recent years, Oxfordshire has developed a strong commitment to environmental equity and Healthy Place Shaping, in line with the Environment Improvement Plan 2023. Our understanding of local environmental inequalities is expanding, as evidenced in the 2024 Director of Public Health Annual Report and research from the Leverhulme Centre for Nature Recovery, which highlights 16 priority areas where inadequate accessible greenspace collides with social deprivation. You can find these 16 priority areas on the LNRS Local Habitat Map too showing where nature recovery efforts could also offer great benefits to local communities.

These issues are now recognised in national and local health and environmental policy, with increasing attention to high-quality green infrastructure that offers regular opportunities to connect with nature as part of your daily life, and targeted initiatives to support vulnerable groups. This includes funds through allocated towards the national Green Social Prescribing programme.

How are urban areas represented within the Local Nature Recovery Strategy?

Within the LNRS you will find actions to deliver in urban areas in the Statement of Biodiversity Priorities. These actions help to increase biodiversity and areas of nature in villages, towns, and cities in Oxfordshire and these actions can be referenced to enable local communities to make a case for nature recovery projects including projects that harness the power of nature to help mitigate heat and manage water and flood risk in urban areas. Actions that are recommended include increasing the number of street trees, creating innovative spaces for nature like green roofs, producing wildlife friendly gardens and parks, or adding spaces for nature such as bird boxes, swift bricks, hedgehog houses and more.

Gardens and greenspaces make up 7% of Oxfordshire's land, buildings make up a further 6%. This 13% of the county represents a very real opportunity for local people, parishes, and community groups to make space for nature. You will find some corridors and locations mapped out on the LNRS Local Habitat Map as being opportunity areas that could particularly contribute towards the creation of a joined-up network of nature. However, urban actions are important to deliver across the county, anywhere that people live, work, and go to school. The LNRS aims to bring greater recognition to the importance of actions in villages, towns, and cities across Oxfordshire where many people, groups, and parishes are already delivering impressive nature recovery projects and initiatives.

Pressures on Oxfordshire's environment and wildlife

What is a 'pressure'? In the context of the Local Nature Recovery Strategy (LNRS), a 'pressure' is considered to be something that threatens Oxfordshire's biodiversity (animals, plants, fungi, and soil microorganisms) and puts it at significant risk of long-term harm (for example, something that may hinder or prevent a species or type of habitat from being able to survive) or prevents its recovery. In other words, the pressures listed below are listed because they may cause (or be causing) significant damage to nature and wildlife locally. In addition to the creation and enhancement of future habitats, pressures must be managed to prevent harm to the remaining areas of nature. The current pressures in Oxfordshire include:

- **Climate change:** Climate change is accelerating at a rapid pace and significantly quicker than many climate models had previously anticipated. Changes in weather events because of this climate change threaten biodiversity in a number of ways including:
    - More regular and prolonged heatwaves of increasing intensity,
    - Increasingly dry summers periods with minimal rainfall, resulting in drought conditions,
    - More intense periods of rainfall during winter leading to increased flooding,
    - Increasing number of storms and high winds.
    - Changes in phenology (seasonal changes in plants and animals from year to year e.g. emergence of insects and flowering of plants).

    These changes are taking place at such a rapid pace and at sufficient magnitude that many species and habitats will increasingly find themselves exposed to environmental conditions that do not support their survival. Spring is now advancing by 2.5 days per decade, plants are flowering and fruiting earlier and leaf fall is delayed; this can affect food chains with some species that rely on one another falling out of sync. High genetic and species diversity in natural populations are essential to enable successful adaptation to climate change in the long term. However, it is expected that species will struggle to adapt quickly enough to climate change therefore their best chances of survival will be to have the chance to move and migrate in order to find new locations with suitable environmental conditions. This requires a joined-up network of varied habitats to enable species to move. Changes to weather patterns are expected to be a catalyst that pushes many species to need to move from their current locations into new cooler, drier, more sheltered areas. It is predicted that many species may need to move northwards to survive these changes in weather and conditions. In addition, climate change is contributing to the increasing prevalence of a range of invasive species, pests and disease that have already created a significant burden on native species and will continue to threaten biodiversity.

    Creating new habitats and improving existing habitats to create a larger network for nature which is bigger, better, and more joined up offers opportunities to improve nature's resilience to climate change, whilst offering a range of co-benefits including carbon sequestration, urban cooling, and natural flood management.

- **Insufficient resource, support, and trained professionals**: A key pressure is the lack of investment in the enablers of nature recovery. Delivery of the actions needed won't be possible without financial investment, trained and willing people, and resources and equipment suitable to improve and create habitats. For example, the delivery of nature recovery actions will rely on the availability of suitably trained professionals including (but not limited to) ecologists, foresters, arboriculturists, hydrologists, entomologists, species recorders, and many more. Without these people, we cannot expect knowledge and skills to be shared more widely with the public.

- **Managing Growth (Housing and Infrastructure Development):** Growth and development are significant pressures on nature in Oxfordshire. There is a growing requirement for development sites, mineral extraction sites, and landfill sites. This growth negatively impacts nature when habitats are damaged or destroyed, but also when they are disturbed, fragmented, and/or when development results in pollution such as light, noise or sewage. Between 2011 and 2020, an average of 3,154 houses were built **each year** in Oxfordshire (Pathways to a Zero Carbon Oxfordshire, p.29). The county's resident population is predicted to expand from the current 725,000 to 853,000 by 2030 so Oxfordshire must carefully consider how to safeguard wildlife, nature, and people. To help nature recover, growth should be carefully planned to avoid harming existing biodiversity-rich spaces and should deliver net gains in biodiversity which support local nature recovery, as well as providing space for nature within developments, including planting native species of local provenance, providing roosting and nesting features within buildings and enhancing genuine public access to nature in a way that supports local wildlife. Conserving and enhancing the natural environment should be a key consideration for new developments and infrastructure and designs should prioritise the creation of corridors that enable wildlife to move through the county unhindered. Housing and infrastructure developers, and mineral and waste operators must make space for nature and must limit damage to existing habitats and species. Managing this pressure must include timely improvements to sewage treatment infrastructure to limit pollution entering the environment as a result of development, as well as the development of sustainable supplies of natural resources that minimise the adverse impacts on the natural world. Whilst the LNRS is not intended to be used to prevent development, it recognises the clear historical impact on nature from development and supports the principle of sustainability and planning positively to support local nature recovery through future growth.

- **Recreational pressure**: While Oxfordshire does have publicly accessible greenspace, the majority of the county's greenspace is not publicly accessible and there is no single accessible site larger than 500 hectares that meets the ANGST criteria of being close to residents (Oxfordshire's green space deprived neighbourhoods, Martha Crockatt 2024). Habitats and green spaces in Oxfordshire are used by people and pets, which can impact adversely on wildlife in sensitive sites. Access to these spaces is an important asset for people's health and wellbeing, but it needs to be managed and respected to avoid damaging sensitive habitats or causing declines in species that are more sensitive to disturbance. Increased provision of multi-functional greenspaces which provide for both wildlife and people could reduce the pressure on sensitive wildlife areas, whilst also contributing towards the priorities in the LNRS by creating more habitats across the county that are bigger, better, and more connected.

Responsible use of these spaces will be key to their success at supporting nature. For example, litter must be managed and controlled to limit damage to spaces that people have access to. Such an approach should provide more space for people and nature, whilst also providing undisturbed spaces for nature recovery.

- **Dogs and Cats:** Pets are known to cause damage to wildlife. Cats can harm birds and mammals, while dogs that are not under close, effective control can either directly harm wildlife if chased or caught, or indirectly damage populations by disturbing nests and preventing ground-nesting birds from breeding (Countryside Code). This may mean that dogs should be kept on leads in certain places or at certain times of year to support wildlife. If domestic animal waste (such as dog waste) is not collected it can pollute the area and impact other animals especially if bags of waste are left in the environment. Tick and flea treatments also pollute the environment when animals are washed and water enters the environment or when they swim in ponds and rivers which builds up toxins in the water and damages a range of wildlife. Pet owners must be willing to engage responsibly with the environment and understand their responsibilities throughout the lifespan of their pets to minimize damage to nature.

- **Pollution**: A number of pollutants are described within the pressures section already but there are a range of other pollutants from various sources, including industry, agriculture, transportation, traffic and congestion, wastewater, sewage, and household activities that contaminate the air, soil, water and impact the health of wildlife and people. Reducing the diverse range of pollutants that enter the environment was a repeated, clear request from people and organisations across the county we engaged with when developing the LNRS and this action sits with every person, business, and organisation. The greatest impacts come from the largest polluters but cumulative actions by individuals also create significant change.

- **Air quality**: In Oxfordshire there have been significant improvements in air quality in recent decades, primarily due to reductions in coal burning (Director of Health Annual Report 2023/24), with reductions in nitrogen dioxides, and particulate matter between 2010 and 2021, however ammonia emissions have remained largely the same. Ammonia and Nitrogen Dioxide pollution result in increased nitrogen deposition which can affect many sensitive habitats and species which cannot tolerate raised levels of pollution. High risk areas for nitrogen deposition include habitats close to urban areas and major roads, combustion plants and intensive livestock units (apis.co.uk)

- **Agricultural Intensification:** Intensive, conventional farming practices, such as the heavy use of pesticides and fertilizers, degrade soil quality, reduce biodiversity, and harm fungi and soil life. This in turn damages the soil and soil life until the land is no longer able to support food production, wildlife, or habitats. Since more than 70% of Oxfordshire's land is farmed to produce food, there is a significant opportunity within the county to offer more space for nature if farmers can be supported to integrate sustainable farming practices, and space for habitats, into their businesses. Many farmers in the county are already taking action to increase tree cover, change cultivation practices, use cover crops and leys, and

allocate more land to support biodiversity. However, without financial support, these positive steps (and the public services they provide) are at risk. Farmers who manage their land to support nature while producing food offer very real opportunities to tackle the biodiversity crisis and create a more resilient network of nature throughout Oxfordshire.

- **Pests and Disease:** Diseases and pests change over time and we are currently experiencing significant impacts on wildlife due to disease and pest damage. It is expected that warmer average temperatures and wetter environments could further increase the prevalence of pests and diseases in the UK. Within the past 100 years, the UK has lost around 30 million Elm trees due to Dutch Elm Disease. The Elm used to be one of the common English tree species, alongside Ash and Oak. Now, Ash faces a current threat of extinction from Ash Dieback, a relatively new disease to the UK. Around 90% of Ash trees are predicted to be lost; however, research continues. These are just two examples of many other pests and diseases that are increasing the vulnerability of Oxfordshire's wildlife and habitats. Because of the increasing prevalence of pests and diseases, it is more important than ever to be ambitious in our efforts to enable nature to adapt and build resilience to pests by increasing the area of biodiverse habitat, improving management, and connecting habitats up.

- **Invasive Non-Native Species and Unsustainably High Populations of Species:**
  Introducing non-native species can threaten native flora and fauna and disrupt ecological balances (Great Britain Invasive Species Strategy). The Woodland Trust states that non-native species alone cost the UK economy a startling £4 billion per year, whilst also causing steep declines in certain native species like white-clawed crayfish, red squirrels, and water voles. In Oxfordshire, species such as the white-clawed crayfish have already been pushed to the brink of survival due to the introduction of the American Signal Crayfish. Currently, there are a number of invasive and/or non-native species present in Oxfordshire, as well as native species that have reached unsustainably large population sizes, causing excessive damage to habitats and other species. Invasive/non-native species include American Signal Crayfish, American Mink, Himalayan Balsam, grey squirrels, and some deer. Some native deer species have also reached such large population sizes that they present a key challenge for biodiversity by causing excessive levels of damage to other species. Not all non-native species carry the same risks or threats to biodiversity but those that do can exterminate local populations of species or cause significant damage to habitats across the country. This pressure from invasive species is expected to change over time as weather patterns and species compositions change. Local actions will need to adapt quickly in response to these pressures.

Pressures on Oxfordshire's rivers and waterways

- **Habitat Degradation**: Historic alterations have been carried out on most of Oxfordshire's watercourses such as dredging, embanking, straightening channels, building obstruction in the river channels such as weirs, and drainage of the adjacent floodplains, as well as building on these floodplains which puts these developments at risk. The cumulative effect of these actions across the landscape disrupts natural in-river and

floodplain processes, diminish habitat diversity, and impede the movement of freshwater species, degrading rivers and freshwater habitats across the county. Although much has been done to restore our rivers and remove or bypass barriers in the last few decades, there is still much more to do to restore habitat quality and properly reconnect rivers with their floodplains.

- **Water Abstraction**: the high demand for water for conventional agriculture, industry, and domestic use (which will increase as more homes are built) means that a significant amount of water has to be abstracted from our groundwaters and watercourses to meet this need. This water is taken partly from groundwater sources such as the Cotswold limestone aquifer that feeds some of the headwaters of the rivers that flow into Oxfordshire, and also the major surface water abstraction at Farmoor, west of Oxford, from the River Thames. Abstraction from groundwater and surface waters can result in low water levels and reduced flows in our rivers, changing and degrading the habitat that aquatic species rely on. Much has been done to alleviate these impacts in the county and wider Thames catchment as far as possible without jeopardising supply, but further reductions in abstraction pressure (particularly from the Thames at Farmoor during the summer) will require the development of new sustainable water resources. Careful water management, including reducing personal consumption, re-use of grey water and installing water butts to capture rainwater for garden use, and improved leakage control and demand management by water companies are all important in reducing future abstraction need.

- **Pollution**: Pollution from various sources, including agricultural runoff, urban runoff, and untreated sewage storm discharges, contaminates water bodies with nutrients, chemicals, and pathogens, degrading water quality and threatening freshwater ecosystems and biodiversity. Across the county rivers will be expected to take on the increased wastewater from any new housing developments and this should be carefully considered around areas that are already pushed to their limit, highly polluted, or are upstream of others who are already liable to flooding. Within the Thames there are 31 major sewage treatment works in the catchment area and the pressure to develop new homes is placing increased pressure on these sewage works, especially in the light of the infrastructure replacement which is needed to combat the growing problem of the ingress of groundwater and flood waters into sewerage systems. Continued investment into improving the quality of treated effluent, and an upsurge in funding to address storm discharges, are expected to have positive benefit for biodiversity river health, freshwater habitats, and people, but it also important that measures continue to be taken to address diffuse pollution from agriculture and urban areas.

Summary of pressures

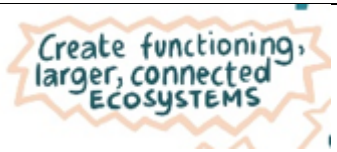
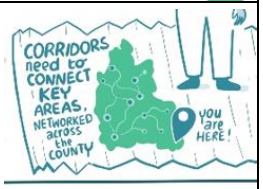
The LNRS identifies some specific measures to reduce some of these pressures and overall aims for a biodiversity-rich network for nature which is bigger, better, and more joined up; achievement of such a network will help increase nature's resilience to many of the pressures mentioned. However, many of the pressures above relate to wider issues including how people treat the environment, the perceived value of nature, practical problems that need improvements such as infrastructure and sewage systems, and the influence of climate change.

Addressing the causes of these pressures requires collaborative efforts from everyone including authorities, policymakers, researchers, conservation organisations, farmers and landowners, utilities companies, developers, minerals and waste operators, businesses and local communities to implement sustainable land management practices, sustainable water resource management, habitat restoration initiatives, invasive species management strategies, and to reduce greenhouse gas emissions and help to mitigate the impacts on nature. Steps now towards relieving the pressures on biodiversity could safeguard nature in Oxfordshire to create large, functioning and healthy ecosystems to pass on for generations to come. This is important for nature's own sake as well as for all the natural resources that we rely on nature to provide from clean air, clean water, food, shelter, medicines, and much more.

The Oxfordshire LNRS vision - A well-connected, biodiversity-rich, network of nature that is resilient into the future, restored for the health and wellbeing of future generations, and for nature's own sake

It's clear that Oxfordshire is home to a diverse array of habitats and wildlife, but that many of these are decling rapidly due to pressures such as development, pollution, and agricultural intensification. It is important that Oxfordshire restores the local environment both for nature's own sake, and for the health and wellbeing of people and wildlife. The LNRS is based on three following principles that guide the species actions, habitat actions, and the locations that the LNRS has mapped out as focused areas for nature recovery work.

LNRS Principles

1. **Enhance what we have**	Take action to enhance and manage the areas that are already important for biodiversity in Oxfordshire. This must be the foundation of nature recovery efforts so that wildlife does not further decline and has biodiversity-rich core sites to disperse out from. 
2. Create more habitats to achieve a connected network of nature	Focus local efforts and resources towards the creation of a strategic network of habitats that prioritises connectivity. Ensure that environmental improvement considers nature as a connected set of habitats and species. Create and enahnce habitats to achieve a wide ranage of biodiversity-rich habitat types that are joined by corridors and together, create a resilient network of nature that will be resilient to pressures such as climate change.  
3. Make space for nature everywhere	Take action to create spaces for wildlife across the county thorugh individual or group actions at home, at work, in local community spaces, and in schools to make nature part of daily life for everyone helping both biodiversity and addressing unequal access to nature across Oxfordshire. Take actions to support species to survive and spread across the county in all areas, both urban and rural. Across the rural landscape, managers of agricultulral land must be supported and incentivised to deliver sustainable agricultural practices to help wildlife flourish across the wider landscape of Oxfordshire. Focus on healthy soils, low/no chemical inputs, setting aside space for wildlife to help with pests and pollintion, improve water quality, create space for water to be held across the landscape, minmise soil erosion, and create high nature-value food and fibre production systems.

This image was produced during one of the early LNRS workshops with local community members. It tells a story that was repeated by groups and people throughout Oxfordshire and represents the local ambition for ecological recovery. It displays core ambitions, actions, and priorities that have shaped the LNRS and acts as a call-to-action for both individual and community involvement in environmental stewardship.

Shaping the vision for nature

Throughout its preparation, the strategy was shaped by input from local people and organisations. We heard from people through surveys, workshops, in-person meetings, and map data shared by **more than 3,000 people and organisations** in Oxfordshire. Throughout this process, the decisions made were overseen by the LNRS Partnership, a group of authorities and representatives for Oxfordshire's environment (see page X).

Outline of the engagement process

1. Early 2024 - Asking people what the biodiversity priorites Oxfordshire's LNRS should be. The LNRS held 14 workshops with around 400 people and held an online survey with around 650 responses.
2. Mid 2024 - Inviting people to tell us about locations where they are recoving nature using a map tool with around 200 responses.
3. Late 2024 – Presenting a first draft version of the strategy to local people and inviting the public to suggest changes to the draft LNRS thorugh a formal public consultation. We had around 2,100 responses showing strong, positive engagement with the strategy.
4. 2025 – Publishing what we heard from the consultation responses, making changes to the strategy based on public responses, and finalising the strategy to invite local authorities to approve its publication.

In addition to the farmers, landowners, businesses, schools, local community groups, nature recovery orgnaistions and many other who were part of shaping the strategy, the LNRS also held consistent meetings with neighbouring auhtorities to ensure that our six neighbouring LNRS authorities were informed of our progress, and vice-versa. This enabled us to modify the LNRS map at our boundaries to create smooth, continouous corridors for nature across beaurocratic borders.

A summary of the full engagement process, demographics of those who engaged, and the data we captured from the different steps is available to download and view on our LNRS webpage.

[request for design to please insert images of quotes direct from the surveys/workshops/etc as images on this page]

LNRS Nature recovery actions – How to achieve the LNRS vision

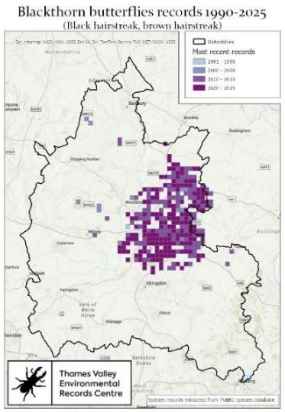
Habitat actions

Having reviewed habitats that are important for biodiversity in the county and hearing the priorities held by local people and organisations in Oxfordshire, this LNRS created a list of important biodiversity actions to deliver in Oxfordshire. These are listed in the LNRS '**Statement of Biodiversity Priorites'** which states an agreed set of **84 important actions** to deliver in the county to achieve biodiversity priorites like improved water quality, improved connectivity between habitats, improving the condition of our existing habtiats of importance, creating new habitats, and enhancing areas for nature in both the urban and agricultural environments across the county. You can view the full list of actions here.

By delivering any of the actions on this list, you can be confident that your project is contributing towards a widely agreed set of local nature recovery priorities. A diverse range of projects will be required to achieve nature recovery and achieve all of the priorities.

Species-specific actions

Many species in the county will benefit from the broad habitat improvements described in the Statement of Biodviersity Priorites (above). However, some species in Oxfordshire will need more bespoke actions to recover. For example, some species may need to be introduced into the county (like the beaver), some certain ground-nesting birds may require fencing or help to protect their nests whilst their chicks hatch and fledge (like the Curlew), and fish across the county need suitable fish passes to be created to enable them to move throughout rivers and streams to breed and disperse. In cases like these, creating a broadly good habitat is not, by itself sufficient to recover those species who need an additional bespoke action. The LNRS has therefore identified **63 bespoke species actions** on the LNRS '**Species Priorities List**'. You can view the full list of species actions here.



All of these actions are needed to help recover species that need more bespoke actions in addition to the general enhancement of habitats across the wider environment. The 63 actions focus on species such as hedgehogs, swifts and house martins, bats, juniper, and many more. By taking these actions you can be confident that you are helping to halt the loss of biodiversity in Oxfordshire. The list also shows you where those species have recently been recorded in the county help if you're not sure whether you're in the right area to support those species (see image).

[design to insert small images of species from the list]

LNRS Nature recovery locations – where to deliver the LNRS

In the case of both species and habitats, many people and organisations in the county told us that they are willing and able to take action to support nature but many people reported to the LNRS that they were unsure where to act or what to do. The LNRS supports you through the 'Local Habitat Map'.

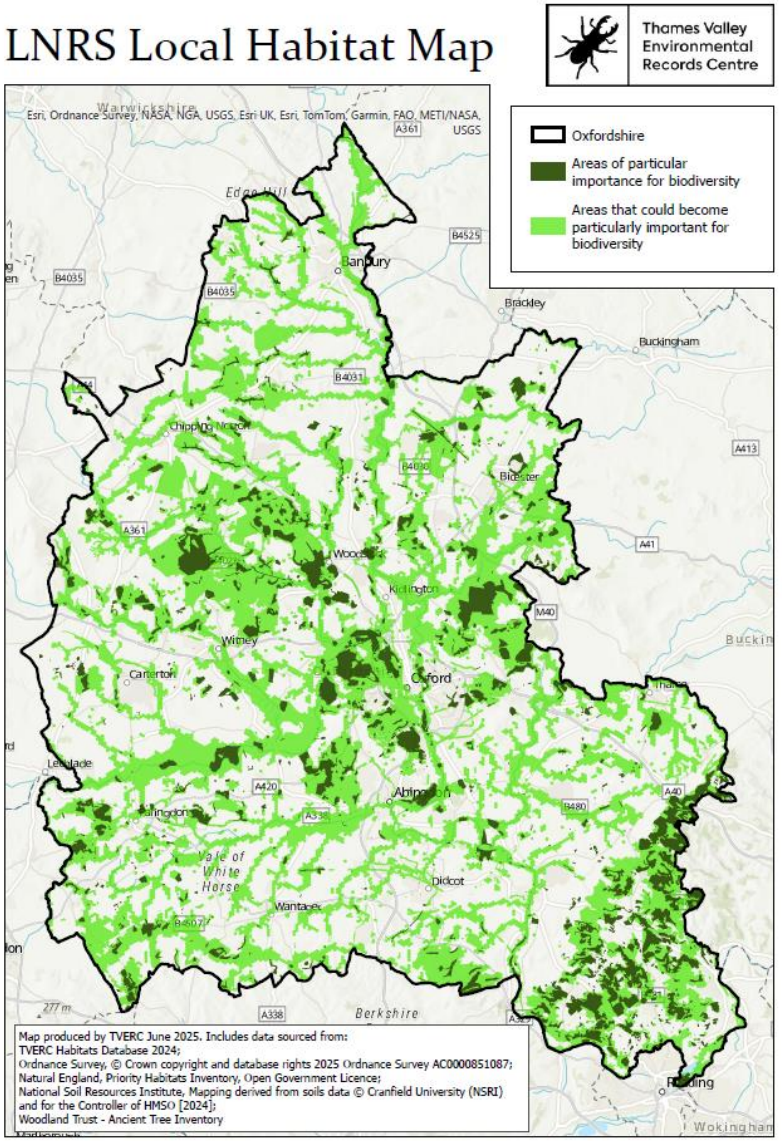
The Local Habitat Map

The Local Habitat Map sets out a collaboratively created vision for which areas of the county could become of particular importance for biodiversity in the future. This map offers a blueprint that organisations, landowners, and individuals across the county can contribute towards and can deliver, together. Together these areas show where the vision of the LNRS could be achieved. If Oxfordshire can deliver nature recovery actions in the majority of these areas we would all have achieved a bigger, better, more connected and resilient network of nature to share with future generations.

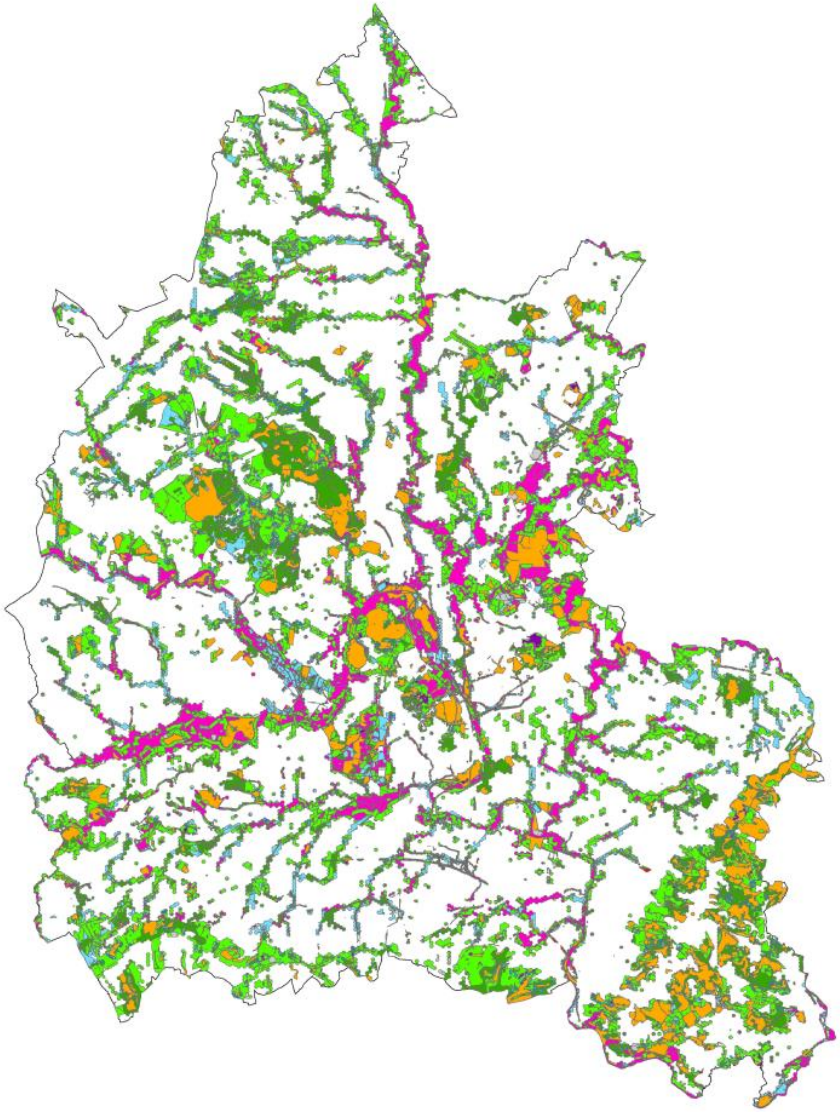
The dark green areas show the existing areas that are particularly important for biodiversity. The light green areas are the areas that the LNRS recommends for targeted nature recovery actions. They are areas that could become important for biodiversity if nature recovery actions can be delivered in those locations. Together, the green areas cover 40% of Oxfordshire and show the overall network that could be achieved.

Within that overall area, the LNRS has picked out which different actions are recommended in which locations of the county (e.g. where to create woodland, restore fens, manage scrub, or create ponds). See the multicoloured image below to get a sense of this variety. The map is designed to be viewed and used online as an interactive tool to enable you to view which actions to take in your local area. Please click here to view the online map.

Even if you're not in the green network, there are still countywide (unmapped) actions that you can take to support nature recovery in any part of Oxfordshire.



Users of the strategy can use the LNRS's interactive 'Local Habitat Map' tool to see which areas of the county have been recommended for which nature recovery actions (e.g. woodland creation, fen restoration, pond creation or any of the other mapped actions for habitats or species).



Key

Light green – grassland creation/enhancement
Dark green – woodland, orchard, parkland creation/enhancement
Pink – wetland creation and enhancement
Purple – heathland and scrub creation/enhancement
Light blue – rivers, ponds, lakes and riparian habitat creation/enhancement
Orange – Enhance existing areas of particular importance for biodiversity.
Red – urban habitats to create/enhance

This image is designed to a give a sense of the range of actions being recommended in various areas of the county but it does not exactly prescribe what must be done in those locations. There are further actions that overlap in various areas, or which are too small-scale to see at this county-view (e.g. actions for particular species). All sites must undergo 'on the ground' assessments to ensure that they are suitably ground-truthed before taking actions. To best view these, please zoom into areas using the 'Local Habitat Map' and read the LNRS 'Before you Start' guide on the webpage.

How was the Local Habitat Map made?

The mapped areas were informed by local ambition, guidance, and data from more than 3,000 local people and organisations in Oxfordshire during workshops, surveys, meetings, and more. These mapped areas create a targeted set of locations where focused habitat creation or enhancement actions are recommended.

1. Step 1 – Ask people to tell us about important habitats and priorities that the LNRS map should focus on
    - We heard a huge amount including the priority to create connectivity, and particular features that should be mapped like chalk streams, fens, scrub, rivers, and areas to enhance urban biodiversity.
2. Step 2 – Collect data to understand where the important features are, or where they could be in future.
    - The LNRS used 62 different datasets that helped us to map different, important features in the county. See the full list in Appendix D.
    - For example, we had map data that told us where Oxfordshire's existing habitats are (orchards, woodlands, ponds and so on) and others that told us where the urban greenspaces are, where the high productivity farmland is, and so on.
    - Some datasets, like the Cranfield Soil data helped inform our mapping of where future habitats could be created.
3. Step 3 - Agree which important features we could include in the map, which we may need to avoid, and how much of them we could include
    - For example, it was agreed to include 100% of all the chalk streams and fens in Oxfordshire. Some habitats that were less rare had lower targets. This is the process of prioritising, we could not select every area of every habitat otherwise we would not be prioritising.
    - We set some areas of the county to be more suitable for nature recovery action (like the National Landscapes), we set other areas of the county, like the best and most productive farmland to be less suitable for habitat creation actions, and we also set a goal to spread nature recovery actions across the county, to ensure that each district had a certain amount to deliver.
    - These targets and settings were tweaked based on engagement with local people and organisations and the decisions were made by the LNRS Partnership including nature recovery organisations and authorities from across Oxfordshire.
4. Step 4 – A draft version of the map was presented to the public for oversight and we had strong participation from people across the county
    - We received nearly 2,000 comments across the map with agreement, ideas, and suggestions for changes from individuals, developers, farmers, local authorities, and more.
5. Step 5 – we made changes to the mapping to produce the final version of the Local Habitat Map
    - Where we heard requests for minor changes we made these (e.g. adjusting the boundaries of the mapping slightly)
    - Where we heard about any errors, these were corrected
    - Where we received evidence of nature recovery projects underway, these were built into the mapping.

This is a high-level summary of an in-depth process. For the full technical detail of how the map was created, please see the report in Appendix E.

Building on previous work in the county

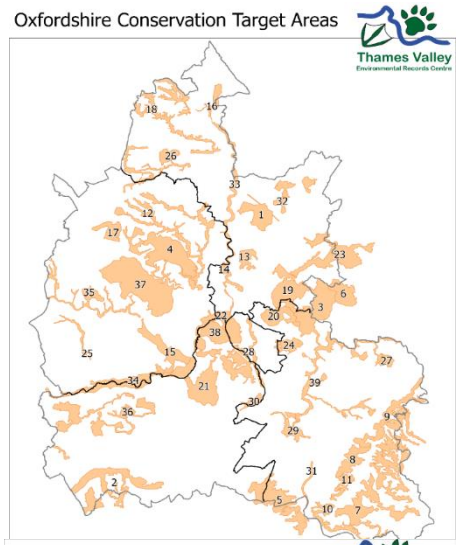
Identifying target areas for nature recovery is not new for Oxfordshire. Groups across the county had worked on a number of previous initiatives to prioritise where habitat creation and enhancement work should be targeted. Local people and organisations made a clear case that the LNRS should build on this previous work, using the areas as a foundation for the LNRS map to amplify the previous work whilst also bringing in wider audiences and the latest local information and knowledge. The Oxfordshire Local Nature Recovery Strategy builds upon a rich history of conservation efforts within the county, leveraging past initiatives such as the Conservation Target Areas (CTAs) and the draft Nature Recovery Network (NRN).

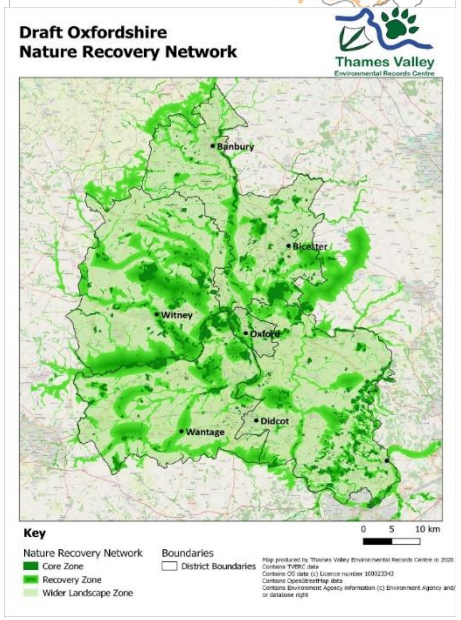
The Conservation Target Areas (CTAs) began in 2006 and were a pivotal tool for mapping out which areas of the county hold significant ecological value. As of 2025, there are now 39 such CTA areas in Oxfordshire that cover about 20% of the county. Their purpose has been to identify which areas of the county should be prioritised for nature recovery actions. This targeted mapping aimed to preserve existing habitats, enhance their quality, and create better-connections between them to help wildlife thrive. See more about CTAs on Wild Oxfordshire's webpage here. These areas continue to be managed and the areas are evolving over time.

After the momentum of the CTAs, ecologists and environmental organisations came together in Oxfordshire to develop local mapping further. They produced a draft Nature Recovery Network (NRN) - read more here on Wild Oxfordshire's website. The draft NRN aimed to identify which places are 'core' habitats that should be enhanced, and which areas could be 'recovery' areas where habitats could be created to link up the 'core' sites. It aimed to expand conservation efforts, seeking to create a more extensive and interconnected system of natural spaces, promoting the idea that nature recovery needs to be a county-wide endeavour. The NRN emphasized the importance of spatial targeting.

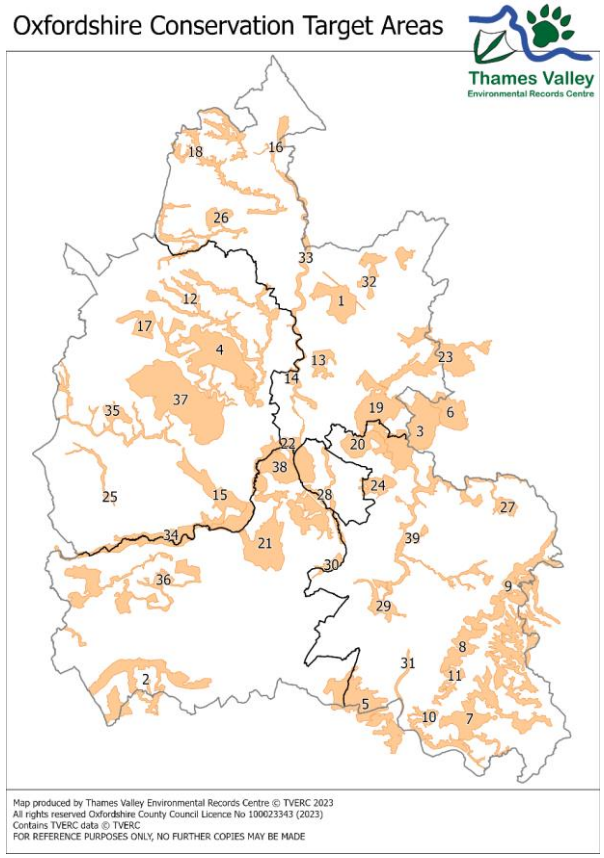
In essence, the LNRS Local Habitat Map represents an evolution of past conservation efforts, combining the targeted approach of the CTAs with the expansive, interconnected vision of the NRN, whilst ensuring that there are opportunities a wide range of people and organisations across the county to input into the creation of the strategy. The LNRS incorporated both the CTAs and the NRN areas into the LNRS Local Habitat Map. It mapped the CTA areas to ensure that conservation efforts would still be targeted towards these locations and it covers the majority of the draft NRN area but with further corridors and connections shaped by local input.

The LNRS is not expected to map every nature recovery action that could happen in every part of the county. The government guidance tasked LNRSs to prioritise and consider trade offs understanding that there are a range of pressures and expectations on Oxfordshire's land, from food production to space for housing and the LNRS aimed to identify the most beneficial areas to target nature recovery whilst balancing other needs e.g. by choosing land with lower agricultural value.

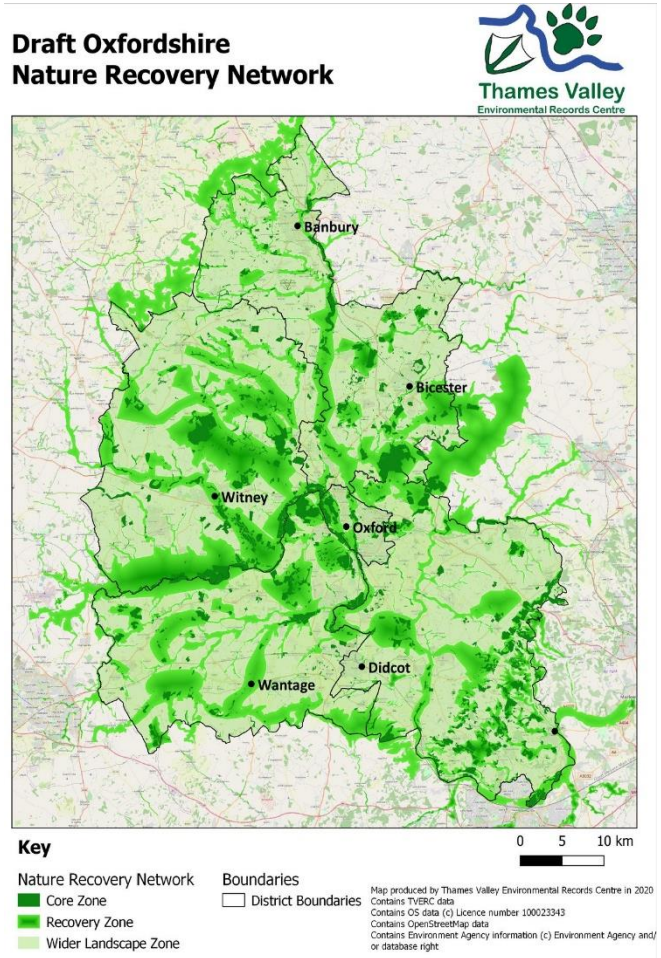




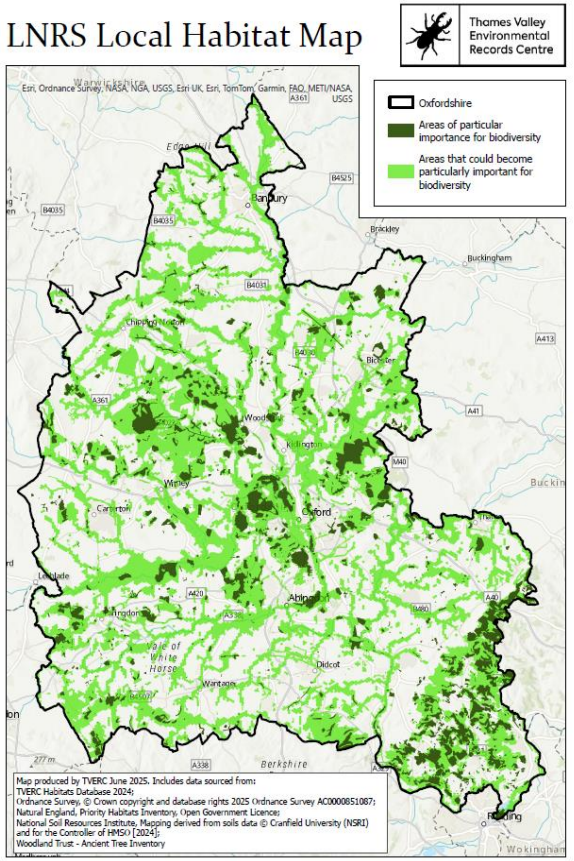
This shows the evolution from the CTAs, the draft NRN, through to the LNRS Local Habitat Map.



Conservation target areas began in 2006 and covers about 20% of the county.



Draft NRN areas developed in 2020 and covers about 30% of the county.



The LNRS areas developed in 2025 covering about 40% of the county.

What are the key differences in the LNRS Local Habitat Map compared with previous spatial strategies?

- A wide range of around 3,000 responses went into shaping the strategy from people and organisations across Oxfordshire. These contributions of local knowledge and data helped to create the actions, species, and locations recommended for recovery. This is the largest audience contributing to a countywide biodiversity strategy in Oxfordshire to-date.
- Greater focus was put into freshwater habitats and using the watercourses as natural opportunities to enhance connectivity and prioritise freshwater habitat improvements.
- Within the LNRS Local Habitat Map network, there are specific actions mapped to each of those locations. This has not been done in previous mapping.
- Map users can interact with the map and click on any area of the map to see which nature recovery actions are recommended in that area.
- There are still actions to take in the wider landscape outside the network for habitats, farmland, rural areas, and the urban environment.
- There are actions to take for both habitats and for specific species to promote their recovery with a particular process followed to identify the species that would benefit most from bespoke actions.
- More urban habitats and community land are included for specific biodiversity enhancements in the LNRS. The LNRS not only aims to reverse the decline of biodiversity but also to foster a sense of pride and stewardship among the community, empowering everyone to do their bit in their local area to contribute towards a joined-up, healthy, environment in Oxfordshire.
- The Responsible Authorities will have a requirement to monitor nature recovery actions taken in the future, to report on these, and to review and republish this strategy (including the map) during the next 3 – 10 years.

How to deliver the LNRS?

How can nature recovery actions be rolled out across Oxfordshire

If Oxfordshire delivers the majority of the LNRS's mapped actions, the total area of nature-rich habitats would more than double benefitting future generations and for nature's own sake. This will:

- **Enhance biodiversity**, halting the loss of species
- **Boost resilience** against climate change
- **Provide public benefits**, helping to alleviate flooding and extreme heat, and providing clean water, recreation spaces, and improving health and wellbeing.

The mission of the LNRS is to empower everyone in Oxfordshire to do something for nature recovery and contribute towards the creation of a more resilient network of nature. With this strategy, Oxfordshire is in a better position to know what needs to happen, and where those actions could be delivered.

Who is expected to deliver the LNRS?

All of us. All people and organisations across Oxfordshire are the delivery partners of the Local Nature Recovery Strategy and many are already delivering brilliant work to help nature recover. The LNRS helps us to build on this. Some people may contribute through direct actions on the ground, others may be enabling actions by offering funding or providing the land to take action on.

These are actions that individuals, communities, nature recovery organisations, landowners, farmers, businesses, utilities companies, developers, minerals and waste teams, and authorities can be taking and enabling to enhance the local environment to benefit both people and wildlife. Some people may be able to enable others through funding, or volunteering for example, others may have land or areas of land that they wish to dedicate towards biodiversity, others may be writing policies that help these priorities and actions to be delivered or building visitor centres and preparing educational materials to help people access and learn about the environment. There is no single person or organisation who is expected to deliver the LNRS alone, everyone has something they can do to support biodiversity to recover.

Delivery of actions is expected to happen by a large range of people including local communities, landscape partnerships, owners of local wildlife sites, managers of other designated sites, local authorities, nature-friendly farmers, and by project teams working across county borders. Actions in the LNRS are expected to be delivered and enabled by the following people (including but not limited to):

Regional and national bodies	Local organisations/groups/authorities	Communities/individuals
Government, Natural England, Forestry Commission, Environment Agency, Health and social services, Utilities companies, minerals operators, developers, National Farmers Union, Country Land and Business Association, land and business advisors, national businesses, the three National Landscapes, Canal and River Trust, neighbouring counties and authorities, British Association for Shooting and Conservation, Game & Wildlife Conservation Trust, RSPB	Local Authorities (County, District, and City councils), Oxfordshire's Local Nature Partnership, BBOWT, Wild Oxfordshire, CAG Oxfordshire, farm cluster groups, catchment partnerships, Freshwater Habitats Trust, Thames 21, Trust for Oxfordshire's Environment, Earth Trust, partnership projects for nature recovery.	You and other individuals at home/work/university/school/community spaces, farmers, landowners, land managers, parish and town councils, local community action groups, local businesses.

Cross-border working and delivery projects

Some projects will need to be particularly large scale to ensure that England's future environment is fit to support wildlife. These include cross-border, regional, and national projects. Often these regional and cross-border projects will contain a programme of activity working across varied landscapes and bringing together a range of partners, seeking to enhance ecological networks. Projects may also look for opportunities to support the northward movement of species in response to changing climates, and Oxfordshire is situated between a large number of counties meaning it has a key strategic role to allow species to move, into, across, and up through the county.

Landscape scale projects should aim to

- Unite partners across political and institutional boundaries
- Set clear priorities that guide funders and policymakers
- Plan to enable species to move and adapt in response to climate change over the next 10, 50 and 100 years

The LNRS encourages people to consider delivering projects of scale and there are regional projects that cross into Oxfordshire that are proposing landscape-scale benefits for biodiversity. See the State of Nature in Oxfordshire 2017 for a more detailed description of a range of ongoing projects in Oxfordshire. Some of the larger scale proposals include Big Chalk, initiatives underway in the Bernwood, Otmoor Ray area, and landscape recovery work being delivered in partnership often with support from farm clusters, and catchment partnerships. For a sense of the scale of these projects, Big Chalk aims to create a robust ecological network of all habitats found on calcareous landscapes across 19% of England (24,000 kilometres squared) a scale hitherto unimagined. There has also been a bold proposal to create a '100 square mile Regional Nature Park' across Buckinghamshire and Oxfordshire which can be read about here. This LNRS has also been shared with neighbouring counties to foster cross-border opportunities for nature recovery. Collaborative efforts are crucial for ensuring a cohesive approach to habitat restoration and wildlife conservation.

Monitoring the delivery of the LNRS

As actions are deliverd across the county, the LNRS will need to record what has happened, and where. This will help us monitor the delivery and effectiveness of the strategy.

- **Cyclical monitoring:** Every 3-10 years Defra will instruct authorites to review and republish their LNRSs in a repeating cyle.
- **Reporting**: Authorities will be asked to report which nature recovery actions have been delivered for habitats and species and to map out the delivery locations.

Further guidance from Defra is expected to be shared with authorities to enable them to prepare their monitoring process in accordance with national plans. We expect that we will be asked to monitor and report on the actions that are delivered for habitats and for species across Oxfordshire.

Once we have received guidance on monitoring expectations from Defra, we plan to develop monitoring processes and create local targets during the delivery phase. The targets will be SMART Oxfordshire targets created in collaboration with Oxfordshire's Local Nature Partnership and will link to national objectives.

Funding and support

For some actions such as making your garden hedgehog friendly, creating a small orchard, making a pond, or putting up bird boxes on farms or at home, some people will be able to deliver these without additional funding. Some others may have enough resources themselves to start surveying their sites, talking to the relevant organisations, and getting the okay to deliver those actions. However, for the majority of larger-scale nature recovery projects, community projects, and landscape-scale actions significant financial investment (grants an payments) will be required to enable people in Oxfordshire to deliver landscape scale changes. Typically, such funding and payments currently comes from local authority schemes, national charities, Biodiversity Net Gain developments, agri-environment and land management schemes, government grants, and local or regional funding bodies.

The LNRS webpage has a section called 'How to help nature now' with a range of links to organisations and support to help you take action. A range of organisations already offer funding and investment to support nature recovery efforts and you can make a case to these funders and highlight how your project will deliver LNRS actions.

Whilst LNRSs do lay out a clear blueprint for action, plans alone won't stop biodiversity loss. The recommended actions must be funded and supported by a diverse range of people, organisations, and partnerships. LNRSs are intended to guide national, regional and local funders (via mechanisms such as Biodiversity Net Gain, green finance and future agri-environment schemes) to channel resources into creating larger, better-connected networks for nature, though government has yet to clarify exactly how LNRSs will link with agri-environment payments.

Advice and engagement

After the publication fo the LNRS, it is expected that many local people and organisations will need some help to understand, use, and deliver the LNRS. Many local nature recovery organisations and authorities are already helping lcoal people take actions that align with the LNRS and they will continue to provide support. Additionally, those working on the LNRS intend to engage and meet directly with people who want to deliver nature recovery actions. This may include creating opportunities such as a forum for local people to access advice on how to deliver LNRS actions and how to report any actions they take. This is particularly relevant to farmers since agricultural land accounts for more than 70% of the county. However there needs to be a range of advice for all audiences across Oxfordshire such as parish and town councils, catchment partnerships, community groups, and businesses to enable them to understand and deliver actions for species and habitats in appropraite locations using LNRS recommendations combined with professional advice.

Influencing planning policy

All public authorities will have a duty to have regard to the LNRS which will be another way that the LNRS helps to deliver nature recovery actions and influence planning policy. The recent update to the Planning Practice Guidance contains a new legislative requirement for all Local Planning Authorities (LPAs) to "have regard" to LNRSs. A meeting was convened between the Responsible Authority (Oxfordshire County Council), Natural England and representatives from Oxfordshire's Local Planning Authorities (Cherwell, West Oxfordshire, Oxford City, South Oxfordshire, and Vale of White Horse, and Oxfordshire County Council). The authorities agreed that:

It is important to recognise that some of the Local Planning Authorities in Oxfordshire were at an advanced stage in plan preparation when this LNRS was being developed. For Local Plans being prepared whilst the LNRS was still in draft form (before October 2025), it was clearly not possible for the individual LPAs to fully consider and describe how their plans should *'have regard'* to this final version of the LNRS.

Local Planning Authorities in the early stages of plan preparation should be able to fully consider how their plans and policies interact with the LNRS and should seek to take a positive approach, where possible identifying opportunities to help delivery of the LNRS. It may not always be possible to avoid situations where allocations for alternative uses overlap with the mapped extent of the LNRS, particularly where land suitable for development is in very short supply. In these circumstances, LPAs should seek to plan positively for the delivery of the potential measures identified in the LNRS within the proposed development and use this as a driver for the delivery of on-site BNG and green infrastructure networks.

Where existing or proposed allocations within more advanced Local Plans overlap with the mapped extent of the LNRS, this can be viewed as a positive opportunity for the potential measures identified for that part of the network to be delivered. This could include targeting on-site BNG at delivery of the potential habitat measures identified in the LNRS and integrating appropriate habitats into green-infrastructure networks and landscaping for the proposed development. It may not always be possible to accommodate the exact mapped extent of the LNRS within the developments but opportunities to link and connect habitats within the sites green infrastructure should be taken.

NATIONAL OBJECTIVES: How would the delivery of the LNRS contribute towards national objectives and targets?

There are some national obejctives and targets that we know the LNRS is expected to contribute to and these are laid out below along with information about how the Oxfordshire LNRS contributes towards these. The overarching ambition of DEFRA's 25 Year Environment Plan is to 'leave our environment in a better state than we found it and to pass on to the next generation a natural environment protected and enhanced for the future'. The plan highlights six key areas for action, one being to establish a **Nature Recovery Network**. The LNRS's Local Habitat Map is one of the 48 local habitat maps that will be joined together across England to produce the national 'Nature Recovery Network'. It is expected that the national Nature Recovery Network will offer a tool to drive the strategic protection and restoration of nature and wildlife, as well as providing greater public enjoyment of the countryside; increased carbon capture; and improvements in water quality and flood management. This section summarises the relevant national environmental objectives (NEOs) that Local Nature Recovery Strategies seek to contribute towards.

ENVIRONMENT ACT (2021) - The Environment Act sets new legally binding targets for nature, water, air quality and waste reduction in England.

National objectives	How the strategy contributes
Biodiversity on land - Restore or create in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels	Oxfordshire's LNRS identifies locations where 'potential measures' (actions) could be taken to create or enhance habitats. Oxfordshire's share of the national target is to deliver at least 10,000 hectares.
Biodiversity on land – Halt the decline of species abundance by 2030. Ensure that species abundance in 2042 is greater than in 2022, and at least 10% greater than 2030	All habitat actions proposed in Oxfordshire's LNRS are designed to make a positive contribution for a huge number of species. Additionally, targeted measures have been created to address species needing bespoke support.
Biodiversity on land - Reduce the risk of species' extinction by 2042, when compared to the risk of species' extinction in 2022	The strategy recommends and identifies targeted habitat creation and enhancement actions to support the recovery of threatened and near threatened local species.
Woodland cover - Increase total tree and woodland cover from 14.5% of land area now to 16.5% by 2050	The strategy identifies where new woodland and trees can be planted, where existing woodlands can be expanded, and where to create or enhance areas of trees outside of woodlands to benefit nature and deliver other environmental outcomes. This includes recommended actions to plant trees in urban environments to people and biodiversity.

Improve water quality and availability - Reduce nitrogen (N), phosphorus (P) and sediment pollution from agriculture into the water environment by at least 40% by 2038, compared to a 2018 baseline	Actions suggested by the strategy can help improve the water environment. For example, by creating riparian buffers along water courses it is possible to reduce the surface water input of pollution to watercourses whilst also creating wildlife corridors.

ENVIRONMENTAL IMPROVEMENT PLAN (2023)

The Environmental Improvement Plan introduced several additional commitments in addition to the aims and objectives in the Environment Act to guide government's approach to restoring the environment.

Objective	How this LNRS can contribute
Work to ensure that everyone in England lives within 15 minutes' walk of a green or blue space	Oxfordshire's LNRS identifies opportunities to create and enhance habitats and greenspaces near to homes to support access, biodiversity, and wellbeing as well as a range of other benefits.
Restore 75% of our water bodies to good ecological status	Oxfordshire's LNRS establishes county priorities to improve water quality and the structural diversity of rivers with some additional measures focused on particular species such as beavers, fish, and water voles. These habitat and specie actions would make a significant, positive contribution to the water environment.
Protect 30% of land and of sea in the UK for nature's recovery by 2030	Oxfordshire's LNRS identifies opportunities to create and enhance wildlife-rich habitat across 40% of the county including National Landscapes and new habitat areas that could meet 30by30.
Support farmers to create or restore 30,000 miles of hedgerows by 2037 and 45,000 miles of hedgerows by 2050	Oxfordshire's LNRS establishes a priority to enhance and create hedgerows, recommending countywide delivery of hedgerow planting as well as the sensitive management of all existing hedgerows. This LNRS supports this action wherever it is possible. The map does have some species locations identified where certain species may particularly benefit from hedgerow creation or management.
Manage our woodlands for biodiversity, climate and sustainable forestry.	Oxfordshire's LNRS identifies sites for woodland management to enhance woodland condition and offer benefits for nature as well as wider benefits.

Restore 75% of Sites of Special Scientific Interest to favourable condition by 2042. By 31 January 2028 50% of SSSIs will have actions on track to achieve favourable condition.	Oxfordshire's LNRS targets habitat creation and enhancement near to SSSIs and recommends appropriate management to enhance the condition of all designated sites.
Ensure delivery & management of actions & policies that contribute towards our 25YEP goals are suitable & adaptive to a changing climate	Oxfordshire's LNRS focuses on creating more, larger, better-connected habitat areas to support climate resilience and to enable species to move and respond to climate change. Creating a resilient network of good quality habitats is our best opportunity to defend nature.
Make sure LNRSs include proposals for Nature-based Solutions which improve flood risk management where appropriate	Oxfordshire's LNRS has mapped and prioritised habitat measures in flood-prone areas and provided information about natural flood management actions across the county as well as specific locations. The LNRS also incentivises sustainable drainage systems in settlements in Oxfordshire to manage rainwater. The LNRS Local Habitat Map recommends many potential measures near to waterbodies and within flood risk zones to improve flood risk management.
Reduce emissions of nitrogen oxides by 73% and ammonia by 16% by 2030 relative to 2005 levels	Oxfordshire's LNRS Statement of Biodiversity Priorities promotes the creation of buffers around habitats and sensitive sites to support emission reduction indirectly through land use changes. Whilst we have done this to try to support sensitive habitats, the LNRS itself has a limited ability to influence nitrogen oxide emissions.
Reducing the rates of introduction and establishment of invasive non-native species by at least 50%, by 2030	Restoration of habitats may sometimes involve the removal of invasive non-native species and this LNRS has recommended management of such species where necessary as a priority and an unmapped, countywide potential measure.

30 by 30

The UK has committed to protect 30% of land and sea for nature by 2030 (30by30) and government recognise that this vision will require significant investment to deliver. This LNRS has been prepared to help contribute towards 30 by 30, acting as a strategic tool that could be used to drive investment towards nature recovery actions in key locations in Oxfordshire to contribute towards the national and international

30by30 target to protect and manage 30% of land and water for nature by 2030. Projects in the LNRS delivery phase could deliver part of the 30by30 vision if their project sites meet the following three criteria:

- the purpose or management objectives include positive conservation outcomes for nature
- there are long term commitments to biodiversity and protections against loss or damage to biodiversity
- management and monitoring are in place to deliver and evaluate the intended benefits for nature.

To support the creation of such sites, the LNRS local habitat map has mapped a range of locations totalling an area greater than 30% that could be suitable for these criteria although sites will need to be assessed on an individual basis.

What you can do now

Throughout the process of preparing this Local Nature Recovery Strategy (LNRS), it was clear that people are excited and motivated to help nature to recover. When our first survey asked 650 people whether they would like to do more to increase nature in Oxfordshire, 97% (626 people) either agreed or said they were already doing the most that they can. You can see a further breakdown of responses to our survey on the LNRS webpage.

To decide on what to do next, you could:

- **View the Local Habitat Map**, find recommended actions near you
- **Read the Statement of Biodiversity Priorities**, a list of countywide actions that need to be taken to recover the local environment
- **Check the Species Priorities List,** target your project to support species that need extra actions
- **Visit "How to Help Nature Now"** on the LNRS website for toolkits, "Before You Start" guidance, local contacts (BBOWT, Wild Oxfordshire, NFU), and funding links.
- **Do your site assessment** Before you begin creating or changing habitats, remember that all sites must be assessed in person to first ensure the planned actions are appropriate. You will need to contact relevant professionals, survey habitats, check for species, check for any archaeological features, and verify whether the soil type is suitable for the intended actions. The LNRS has created a "Before you Start" guide to support you with these site assessment checks and help you plan your project with confidence.

Together, people and organisations can turn this strategy into reality and secure Oxfordshire's nature for generations to come.

Glossary

Whilst we aim to explain most terms as they are used throughout the strategic documents a number of acronyms are regularly used and this page explains what each acronym stands for.

- **APIB** – areas of particular importance for biodiversity, these are existing sites that meet certain criteria assigned by Defra
- **ACB** – areas that could become of particular importance for biodiversity, these areas are targeted for habitat creation and enhancement work by LNRSs
- **BBOWT** – Berks, Bucks, and Oxon Wildlife Trust
- **CTA** – Conservation Target Area, locations in Oxfordshire that have been identified as target areas for conservation action
- **draft NRN** – draft Nature Recovery Network, a previous spatial plan for recovering nature in Oxfordshire produced in 2020.
- **LCT** – Landscape Character Types, an area in Oxfordshire that has is given a name to describe common shared biodiversity, natural, cultural, or historic features found in that geographical area
- **LNR** – Local Nature Reserve
- **LNRS** – Local Nature Recovery Strategy, which is made up from this document, the Statement of Biodiversity Priorities, the Species Priorities List, and the Local Habitat Map.
- **LNRS Partnership** – a number of organisations and authorities who all regularly and consistently contributed to the development of the LNRS since 2023
- **LWS** – Local Wildlife Site
- **NCA –** National Character Area. These areas each have distinct geological, cultural, and biodiversity characteristics and have unique names.
- **NNR** – National Nature Reserve
- **OCC** – Oxfordshire County Council
- **OLNP** – Oxfordshire Local Nature Partnership, a partnership made up of representatives from the public, private, third, and health sectors. Its purpose is to radically enhance nature, its positive impact on the climate and the priority its given, helping to make Oxfordshire a place where people and nature thrive.
- **OWLS –** Oxfordshire Wildlife and Landscape Study (2004), created 25 different types of Landscape Character Types which cover Oxfordshire
- **PM –** Potential measure. An LNRS-recommended action that could be taken to create/enhance habitats or to benefit particular species
- **RA** – Responsible Authority, the authority appointed by government to lead the preparation of the strategy
- **SA** – Supporting Authority, the local planning authorities and Natural England who have a key role in developing and approving the strategy
- **SAC** – Special Areas of Conservation
- **SBP –** Statement of Biodiversity Priorities, one of the core LNRS documents that lists important actions to deliver to enhance and create habitats in Oxfordshire.
- **SPL** – Species Priorities List, a list bespoke actions needed by certain species in Oxfordshire to enable their recovery
- **SSSI** – Site of Special Scientific Interest
- **TVERC** – Thames Valley Environmental Records Centre, the Local Environmental Records Centre for Oxfordshire

Appendices

- **Appendix A (here) – Report on designated sites, irreplaceable habitats and areas of particular importance for biodiversity.** A detailed report listing the county's designated sites and irreplaceable habitats in Oxfordshire showing how 6.5% of Oxfordshire meets criteria to be an area of particular importance for biodiversity. Produced by TVERC, find it here on the LNRS webpage.
- **Appendix B (here) – Description of the biodiversity features and recovery opportunities associated with each river and catchment in Oxfordshire.** Each river and its catchment has a 1-2 page description of the river's history, modifications, pressures, biodiversity of note, and key opportunities for recovery including maps of each river, headwater streams, any chalk streams, and the boundary of the catchment.
- **Appendix C (here) – Description of the biodiversity features and recovery opportunities associated with each National Character Area (NCA) in Oxfordshire.** Each NCA has a 1-2 page description of the areas geology, landscape character type, biodiversity, cultural land-use, and notable species in the area. Each description gives examples of actions that could be taken in those areas to benefit local species or to create, manage, or enhance habitats. There are maps of the OWLS landscape character types found within each NCA area.
- **Appendix D (here) – A table of over 60 datasets used to inform the LNRS mapping.**
- **Appendix E (here) - The technical report describing how the LNRS Local Habitat Map was created.**