West of England Nature Partnership

WEST OF ENGLAND | MAYORAL COMBINED AUTHORITY

WEST OF ENGLAND STATE OF NATURE REPORT 2026


The West of England
is a region rich in
natural assets.

Contents

Foreword

The West of England is a region rich in natural assets.

Our rivers, landscapes, and green spaces shape not only our environment, but our economy, our health, and our shared sense of place. They are fundamental to what makes this region successful and distinctive.

Our first State of Nature report sets out the clearest picture we have ever had of those assets: where nature is thriving, where it is under pressure, and where action is most urgently needed. It does not shy away from the reality. Across much of the region, habitats are fragmented, species are in decline, and the systems that support our prosperity are under strain.

But this is not just a story of loss. It is a moment of opportunity. Across the UK and globally, there is a profound shift underway. Nature is increasingly recognised as essential infrastructure; supporting economic resilience, enabling sustainable growth, improving public health, and helping us adapt to a changing climate.

The West of England is exceptionally well-placed to continue to lead on protecting and enhancing the environment. We have strong partnerships, a clear strategic direction through the Local Nature Recovery Strategy, and a growing track record of innovation, from nature-based solutions to emerging models for private investment.

Across our region, there is energy, ambition, and expertise to build something genuinely transformative.

This report provides a shared foundation for that next phase. It gives us the evidence we need to act with confidence, to target effort where it will have the greatest impact, and to make the case that investing in nature is investing in our future. We have recently announced a new £5m Nature Fund for the West of England, funded by the West of England Mayoral Combined Authority. This fund will complement and strengthen other investment already going into nature recovery across the region.

The task ahead is to turn this momentum into delivery at scale. That means working differently: aligning growth with nature recovery, unlocking new sources of investment, and embedding nature into the decisions that shape our places and our economy.

If we get this right, the prize is significant. We will have a more resilient, more prosperous region, where communities are healthier, businesses are stronger, and nature is recovering. Together, we can all shape that future.

Helen Godwin
Mayor of the West of England

Sumita Hutchison
Chair, West of England Nature Partnership

Headline findings

These findings are derived from the West of England Wildlife Index analysis – a new way of estimating trends for different species over time, otherwise known as 'species abundance.'

The observations used were collected between the years 2000 and 2025. More information can be found in the methodology section.

Our species population analysis shows that in the West of England region, since 2000:

15% are declining

9% are stable

4% are increasing

The remainder are statistically uncertain, although many are indicating potential declines.

62% of fish species we analysed are declining

Only 1% of insects are increasing

Fewer than 1% of moths are increasing

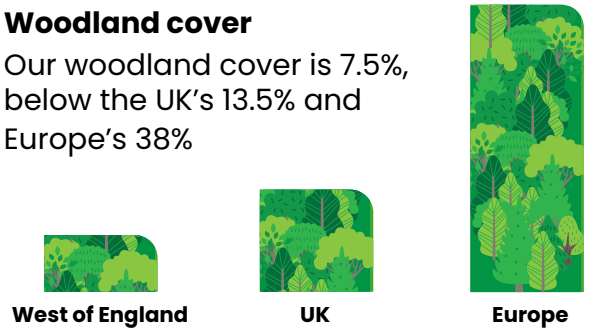
44% of birds are declining

Only 2% of woodland associated species are increasing

Wider findings

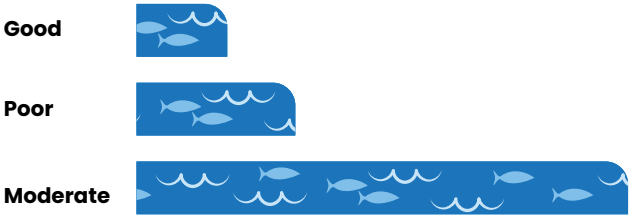
Woodland cover

Our woodland cover is 7.5%, below the UK's 13.5% and Europe's 38%



Waterbody status

In 2022, no River Avon* waterbody reached 'high' status, only 12% were classed as 'good', and 21% as 'poor', with most in moderate condition (65%).



* For the purpose of this report, the 'River Avon' refers to the Bristol Avon river

1,803ha

There are 1,803 hectares of parks and urban green spaces across our cities and towns in the West of England.

Introduction

Nature underpins the health, resilience, and prosperity of the West of England.[a]

Our wildlife and habitats provide essential services that underpin every aspect of our lives and the economy, but they are often taken for granted. Nature cleans our water and air, produces food and raw materials, protects us from the impacts of extreme weather, and supports healthy lives through places of calm, connection and exploration.

Our stunning landscapes, in proximity to where we live, are also what attract people to our region and keep us here.

When nature thrives, so do our communities and our economy.

From woodlands and waterways to towns and cities, this report shows both where nature is struggling and where recovery is possible.

It highlights where habitats are under pressure and where urgent action is needed to reverse species decline. It explores the forces that continue to shape our region, from climate change to urban growth, and how nature itself offers solutions to many of the challenges we face.

Although we have chosen to show the state of our landscapes and habitat in separate sections, it is important to remember that all landscapes and habitats are interconnected. For example, woodlands often incorporate a mosaic of glades and wetlands, and rivers often have trees along their banks.

Our analysis shows 15% of species are declining in the region, and 4% are increasing. Whilst this reflects losses since 2000 – the focus period of this report – it does not capture the full scale, with greater historic losses documented in regional and national studies. Every species group assessed – birds, mammals, insects and fish – signals potential decline with more monitoring needed to be confident. Only 9% of species are stable. The true picture is likely to be worse still, with some species now too scarce to monitor reliably.

A testament to collaboration across the region.

This report is the product of collaboration between organisations across the West of England Nature Partnership. This includes the local authorities across the West of England who declared an ecological emergency in 2020, recognising the severity of the degradation of the natural environment and loss of wildlife.

a For the purpose of this report, the 'West of England' refers to the area covered by the West of England Mayoral Combined Authority and North Somerset, in line with the Local Nature Recovery Strategy for the region.

Through this partnership, inspiring stories are emerging from all corners of the region – examples of nature organisations, local authorities, communities, farmers, businesses and volunteers reconnecting natural corridors and restoring habitats.

This is the most ambitious and comprehensive evaluation of the West of England's wildlife ever undertaken.

The West of England Wildlife Index, a measure of species abundance, lies at the heart of the analysis of this report and has been developed in partnership with the University of Bristol. More information on the analysis can be found in the methodology section. Building on the 2024 State of Nature report[1] published by Bristol Regional Environmental Records Centre, this report provides for the first time a statistically viable view of nature's trajectory.

The core data underpinning this report exists thanks to the passion and persistence of

volunteers and local recorders, supported by the natural history community, dedicating thousands of hours of work to make this possible.

In tandem with our Local Nature Recovery Strategy, the evidence in this report is intended to provide a baseline to support action across the public, private and community sectors: informing policy, guiding investment, shaping land management, and helping organisations target effort where it can deliver the greatest impact.

By showing where nature is declining, where pressures are greatest, and where recovery is already happening, it provides a shared foundation for collective action across national, regional and local government, business, land management and civil society. Its purpose is not only to document loss, but to help the region make better choices about growth, investment, and stewardship so that nature recovery becomes part of the West of England's future success.

"Estimating how biodiversity is changing through time is hard – some species are doing better, others are doing worse, and this can change based on where those species are, eg in urban areas, in farmland and on the coast. We need really robust statistics to estimate how biodiversity is changing across space and through time.

"The cutting-edge method we helped develop with the Wildlife Index allows us to better estimate how uncertain we are in our conclusions, and therefore helps us to say more definitely what species are doing badly, and what species are doing well. That allows us to make better decisions about what species to target for conservation action."

Dr Chris Clements
The University of Bristol

West of England Growth Strategy

The West of England Mayoral Combined Authority was set up in 2017 to make decisions and investments that benefit people living and working in Bath and North East Somerset, Bristol, and South Gloucestershire. The West of England Growth Strategy, published in 2025, identifies tangible action over the next 10 years to deliver economic growth and improve the lives of people in this region, including North Somerset.

Climate and nature are threaded through the Growth Strategy. Nature is recognised as a high-value economic asset for our region. It attracts millions of tourists each year to our rural and coastal communities, sustains agriculture and food production, and underpins health, productivity and quality of life. By reducing impacts from flooding, drought, and other climate impacts, our natural assets can cut avoidable costs to infrastructure, health and business, while enhancing the long-term asset values of housing and infrastructure. Embedding nature in the Growth Strategy can strengthen housing delivery, improve transport resilience, and boost workforce skills and wellbeing – helping to solve systemic challenges rather than add to them. Nature also plays a crucial role in the health and wellbeing of residents. It is central to our growth ambitions.

The West of England Nature Partnership

The West of England Nature Partnership (WENP), established in 2012, brings together local authorities, statutory agencies, businesses, charities, land managers and community partners to drive nature's recovery. WENP's 2021–30 strategy focuses on strategic nature recovery projects, unlocking public and private investment, embedding nature into policy and decision making, strengthening the regional evidence base and building wider support through communications and advocacy. It is the principal delivery partnership for the Local Nature Recovery Strategy.

By combining the expertise, influence and capacity of partners across sectors, WENP helps turn regional ambition into coordinated action on the ground.

Our landscapes and habitats

Despite being relatively small in size, the West of England is a region of remarkable contrasts: from the World Heritage Site of Bath to the internationally important Severn Estuary. From the North Somerset Levels and Moors to the rolling hills of the Cotswolds and the Mendips national landscapes.

Our region is home to Chew Valley Lake, the largest lake in south-west England and one of Britain's most important sites for wildfowl. The River Avon is home to a variety of fish, from sea trout and Atlantic salmon to bream, roach, and perch.[2] In Avonmouth, the River Avon flows into the Severn Estuary[3] which is designated as a European Marine Site due its international

ecological importance as a Special Area of Conservation (SAC), a Special Protection Area, a Site of Special Scientific Interest, and a Ramsar site (a wetland recognised as having international importance). Its waters sustain more than 100 fish species and spectacular numbers of invertebrates. Every winter, more than 74,000 migratory birds flock to its saltmarshes and mudflats, including 6 internationally important species and 11 species of national importance.[4]

"The River Avon is home to a variety of fish, from sea trout and Atlantic salmon to bream, roach, and perch."

"Every winter, more than 74,000 migratory birds flock to the saltmarshes and mudflats of the Severn Estuary."

Upstream, the Avon Gorge is one of the UK's most diverse woodlands,[5] sheltering endemic, rare and threatened species as well as the world's greatest diversity of whitebeam trees.

Peregrine falcons nest in the gorge, whilst the silky wave moth, found in only two other sites nationally,[6] depends on the gorge's limestone slopes. Overlooking the gorge is Clifton and Durdham Downs, an urban but rich limestone meadow alive with 35 of the UK's 59 butterfly species, more than 20 different grasses, and abundant wildflowers.[7]

Our calcareous grasslands also stretch into the Mendip Hills SAC. A rare stronghold for adders, these ancient hills also support dramatic gorges and ancient woodland and are home to 57 other priority species for conservation.[8]

The West of England is also an exceptional area for bats: 15 of the UK's 18 bat species have been found in our region, with 15% of the UK's greater horseshoe bats hibernating in the Bath and Bradford-on-Avon SAC[9] and 3% of the UK population found in the North Somerset and Mendip Bats SAC.[10] Significant numbers of lesser horseshoe bats also huddle deep in the Mendips' limestone caves.[8] The Mendip Hills, together with North Somerset's Leigh Woods, also support important populations of elusive hazel dormice. Lower Woods, one of the largest ancient woodlands in the south-west, is renowned for its bluebells, early purple orchids, and 32 butterfly species, including the white admiral.[11]

It is no surprise that more people than ever want to live, work, and invest in the West of England. Our working-age population is growing, companies continue to relocate here, and our GDP has risen 22% in a decade.[12] Many locations are consistently ranked among the best places to live in the UK,[13] and public concern for the environment is especially strong across the south-west.[14]

Together, our wild places and urban opportunities make the West of England a truly attractive place to be. Without a careful balance, however, we risk losing the very things that can draw people here. Protecting and restoring our biodiversity is critical to ensuring our region remains a place where both nature and people can thrive.

"Without a careful balance, we risk losing the very things that can draw people here."


KEY
Grassland
Woodland
Wetland
Water
Urban
Charfield Meadow
Thornbury
Lower Woods
Yate
Cotswolds
Severn Estuary
Portishead
Avon Gorge
Bristol
Gordano Valley
Clevedon
North Somerset Levels and Moors
Keynsham
Bath
Weston-super-Mare
Chew Valley Lake
Mendip Hills

The value of nature

Nature underpins the economy; it is not separate from it. It provides the essential services we depend on, from clean air to crop pollination.

As the HM Treasury-commissioned review 'The Economics of Biodiversity'[15] made clear, long-term prosperity depends on recognising nature as a foundational asset in economic decision making.

The Office for National Statistics values England's natural capital at £1.8 trillion, with annual service flows (a continuous provision of service over a year) worth £87 billion.[16] If unchecked, environmental degradation at current rates could reduce UK GDP by 12% by 2050,[17] a greater economic shock than COVID-19 or the 2008 financial crisis.

A recent UK National Security Assessment[18] on biodiversity loss concluded that ecosystem degradation threatens the UK's national security, particularly through impacts on food security, economic stability and geopolitical competition for resources. While global biodiversity loss and food system dynamics sit largely beyond regional control, the West of England can strengthen its resilience by restoring the ecosystems that underpin food production, water security and climate adaptation.

Reversing the declines in nature, as set out in this report, is integral to delivering the West of England's growth ambitions. Doing so will require policymakers, businesses, investors, land managers, and communities to use every policy, planning, investment and delivery lever available to ensure growth protects and restores the natural systems on which long-term prosperity depends.

The benefits provided by the region's nature are already known to be tangible and economically significant.

The West of England's woodlands contribute £717 million annually[19] in carbon sequestration, improving air quality and regulating impacts of extreme weather hazards.

Regionally, trees and green spaces provide £3.63 million annually in cooling services for businesses[19], whilst Bristol's 600,000 trees alone remove 14,000 tonnes of carbon dioxide and 100 tonnes of air pollution from the atmosphere annually,[19] equating to a value of £1.6 million.[19]

"Reversing the declines in nature, as set out in this report, is integral to delivering the West of England's growth ambitions."

The region's natural beauty also underpins many leisure and tourism activities, with Bath and its surrounding landscape receiving 5 million visitors each year,[20] and the Mendip Activity Centre – a major economic driver for North Somerset – generating £3.26 million for the local economy between 2024 and 2025.[21]

In North Somerset, coastal visitor destinations such as Weston-super-Mare also play an important role in the relationship between nature, access and the local economy, reinforcing the need to align nature recovery with visitor management and town edge green infrastructure.

Underpinning many of these habitats and services is soil. Healthy soils are equally fundamental, supporting food production, water regulation, carbon storage and biodiversity. Yet soil degradation already costs the UK economy £1.2 billion each year,[22] demonstrating the cost of failing to treat nature as essential infrastructure.

The economic case extends beyond environmental services alone. Evidence from Greater Manchester shows that green infrastructure can increase workplace productivity by 15%,[23] cut sick leave by up to 23%,[23] and reduce peak rainfall runoff by up to 80%.[24] These are core economic and infrastructure benefits, not secondary environmental gains.

Recognising the value of nature helps decision-makers make better choices: protecting high-value assets, targeting restoration where it delivers the greatest return, reducing infrastructure risk, and ensuring growth strengthens rather than erodes the natural systems on which the regional economy depends. It also helps create the conditions for future investment models and income streams that reward farmers, land managers, Non Government Organisations (NGOs) and communities for managing land in ways that support nature recovery.

Biodiversity Net Gain

Biodiversity Net Gain, or BNG, is a planning policy in England that requires most new building developments to leave biodiversity in a measurably better state than before the development came along. It focuses on habitats rather than individual species, and requires at least a 10% increase in biodiversity, secured for a minimum of 30 years.

Developers can deliver BNG on the development site ('on-site'), in a different area ('off-site'), or by purchasing the government's statutory biodiversity credits as a last resort. BNG is now mandatory for many new residential and commercial developments in England, and it is expected to apply to nationally significant infrastructure projects, or NSIPs, from May 2026.[25]

The West of England currently has five sellers of BNG registered with the Department for Environment, Food & Rural Affairs (Defra) that are creating wildlife-rich habitats, helping to deliver strategic nature recovery at scale. The biodiversity units generated could then be sold to developers to meet their BNG obligations.

The Local Nature Recovery Strategy

The West of England was the first region in England to publish its Local Nature Recovery Strategy[26] also known as LNRS in 2024.

This strategy sets out the local priorities for nature, and maps 'focus areas' where action for nature would have the biggest impact. This helps to inform where funding and resources for nature recovery would be best allocated.

The strategy is an important tool in delivering the best outcomes for nature through development. It has a statutory role in the planning system and ensures that local plans take better account of opportunities for nature recovery, as well as incentivising developers to focus on delivering off-site BNG[27] in the LNRS focus areas.

The LNRS online toolkit[28] has been designed to enable everyone to find out the best way to take action for nature recovery. It allows businesses, communities, local government, farmers and landowners to understand what the most impactful actions are to take for nature locally, and to find guidance and funding to carry out these actions.

The LNRS forms the foundation for nature recovery work in the West of England, including North Somerset, in the years ahead. Over time, it will combine with similar strategies across England to create a national nature recovery network, which will better support national decision making and help prioritise investment into nature recovery.

The strategy is an important tool in delivering the best outcomes for nature through development.

The pipeline of nature recovery programmes and projects

Within the West of England, we are developing a mechanism for identifying, prioritising and developing a set of landscape-scale nature recovery opportunities that can deliver the LNRS priorities at scale. It focuses on multi-partner, multi-benefit opportunities that:

- align strongly with the strategy's priorities at scale;
- deliver additional ecosystem services such as flood resilience, water quality, climate mitigation or benefits to health; and
- have the potential to access appropriate public, private or blended funding and investment.

Our important sites for nature

The UK has committed to protecting 30% of its land and sea for nature by 2030[29] or 30by30, as part of a global initiative to reverse biodiversity decline and strengthen resilience to climate change.

In the West of England, delivering this target depends on an up-to-date understanding of our most important sites for wildlife, alongside a clear pathway for bringing more land into long-term positive management for nature.

This includes nationally-designated sites such as Ramsar sites, National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs).[30,31] It also includes the region's network of more than 850 Local Wildlife Sites (LWS), also known as Sites of Nature Conservation Interest (SNCIs), which cover around 13% of the West of England's land area. These sites form a mosaic of vital sanctuaries for wildlife, which act as stepping stones for wildlife across the landscape, whilst playing important roles in managing air quality, water quality and climate resilience.

As well as being core ecological assets of the region, they provide critical evidence for nature-positive growth. Reliable survey data and clear site boundaries enable constraints and opportunities to be identified early in both strategic and local planning, improving policymaking, reducing delays, supporting better development decisions and giving greater certainty to developers, local authorities and communities.

The West of England Mayoral Combined Authority, in partnership with WENP and the Bristol Regional Environmental Records Centre, is developing a programme to systematically resurvey SNCI sites across the region, strengthen the evidence base, and work with landowners to bring these sites into active monitoring and management.

This creates a practical system for recovery: better data supports better planning, which supports better management, which in turn strengthens the case for additional sites to be designated as their value for wildlife increases. Over time, this will help expand the LWS network and make a significant contribution to regional and national 30by30 ambitions.

However, these sites alone will not reverse the declines set out in this report. They are the backbone of nature recovery, but not the whole system. The wider landscape – including farmland, urban green infrastructure, transport corridors, river catchments and development sites – must also be managed more positively for nature.

This is where the Local Nature Recovery Strategy is essential: providing the wider spatial framework to guide investment, land management, and planning decisions so that growth supports a more connected and resilient ecological network.

Bristol Regional Environmental Records Centre

The Bristol Regional Environmental Records Centre (BRERC) plays a crucial role in the West of England by collecting, managing, and distributing biodiversity and geodiversity data. It serves as a central repository for wildlife and geological records, supporting voluntary recorders and providing data for various environmental applications.

In the last year, the equivalent of over 30 million records have been downloaded from the BRERC dataset on the National Biodiversity Network Atlas. Over 27,000 recorders and organisations have voluntarily contributed data.

Somer Valley Rediscovered

The Somer Valley lies to the south of Bath and encompasses the Cam and Wellow river catchments, and the towns of Radstock, Midsomer Norton, and Westfield. The area has been shaped by the former coal industry, and includes a network of disused railway lines, some of which are now cycle paths.

Somer Valley Rediscovered, led by Bath & North East Somerset Council, is working with the three local parish and town councils to improve habitats on several SNCIs in the area, and improve biodiversity and resilience of these important community assets. The project involves engaging residents to help protect the diverse wildlife on these sites, which includes bats, birds, bees, reptiles, and rare orchids, while also helping to improve people's health and wellbeing.

“The fields were full of cowslips and water crowfoot. There were curlews nesting everywhere. Gradually the demands of agriculture took over and everything became drained. And I’m just really sorry on a personal level that my favourite cowslip field no longer has a cowslip.”

Christabelle Tymko, South Gloucestershire resident

“As a keen amateur gardener I have noticed a serious decline in urban wild birds and also with butterflies and moths.”

Grenville Johnson, Founder of St George in Bloom

“In the Malago River in Manor Woods Valley, teal, coots and mallards were common sights until recent years but are now no longer seen.”

Martin Grant, volunteer for Manor Woods Valley group

The state of our woodlands

Our woodlands are home to countless species and provide essential services that we depend on.

Well-managed woodlands absorb and store carbon, filter our water and air, reduce flood risk and soil erosion, and provide shade and timber. Spending time in woodlands improves our wellbeing,[32] and can relieve symptoms of depression, stress, and high blood pressure.[32]

The West of England hosts some incredible woodlands. Lower Woods in South Gloucestershire is one of the largest ancient woodlands in the south-west, famous for its butterflies, including the elusive marsh fritillary.[11] Further south, the Avon Gorge habitats are one of three leading sites for rare plants in England and home to five whitebeams[33] that are found nowhere else in the world.

The West of England's woodland cover stands at 7.5%,[b] which is below the UK's 13.5%[34] and far below Europe's 38%.[35] Our woodlands are mostly native broadleaved, with pockets of commercial conifer.[36] Around 20% of our regional woodland cover is ancient,[36] with a notable concentration of veteran trees at Ashton Court Estate. A further 7% is plantations on ancient woodland sites[36] which have the potential to be restored. Some 45% of our woodlands are managed,[19] which tend to have greater diversity of structure and age of trees.

Our woodland cover has remained relatively stable in recent decades. However, it is fragmented in many areas and generally not well-managed, losing its suitability for specialist species such as nightingales, absent since the 2010s. These woodlands are vital habitats for rare and protected greater and lesser horseshoe bats who rely on connected networks of woodlands to forage and move across the landscape.[37,38]

"Our woodlands face escalating, interconnected pressures. Climate change is likely to make conditions in the West of England unviable for some common tree species by 2080"

b Woodland cover calculated using the National Forest Inventory England 2024 dataset, with forest and woodland area over 0.5 hectares with a minimum of 20% canopy cover, or the potential to achieve it, and a minimum width of 20 metres.

Our woodlands face escalating, interconnected pressures. Climate change is likely to make conditions in the West of England unviable for some common tree species by 2080,[39] whilst intensifying the negative impact made by pests and diseases. Ash is a common species within our region, however up to 85% of these trees are expected to be lost to ash dieback.[19] Additional national threats include European spruce bark beetle, oak processionary moth, sweet chestnut blight and overpopulations of deer,[40] along with the spread of increasingly dominant invasive species including cherry laurel.[1]

Of the 148 woodland associated species analysed, only three are increasing: gatekeeper butterfly, greater horseshoe bat, and robin. Regionally, 6 species of woodland associated birds are declining, including goldcrest and coal tit, which follows UK-wide declines in woodland bird populations.[40]

Several butterfly and moth species associated with woodlands are becoming a rarer sight locally, including Blair's Shoulder-knot moth, marbled beauty moth and ringlet butterfly. Nationally, woodland habitat specialist butterflies have declined by 55% since 1990[41] owing to habitat loss, fragmentation, and degradation, alongside loss of traditional woodland management. A decline in our insects has knock-on impacts within the food chain including amphibians, birds, and mammals.

Regionally, the abundance of greater horseshoe bats has increased 76% per decade since 2000. The lesser horseshoe bat is showing as stable since 2000. However, the noctule bat is still declining, owing to declines in insect prey numbers, loss of feeding habitats and the loss of roost sites in mature trees.[42]

Larger woodlands that are connected, with more layers and diversity, will have greater resilience to threats,[35] and therefore it is critical that better woodland management to achieve this is supported and incentivised. Use of sustainable timber principles like selective felling, thinning and coppicing – in use at Leigh Woods - can generate income whilst simultaneously supporting wildlife.

The Forest of Avon, set up over three decades ago, is England's Community Forest for the West of England. Since 2020, it has distributed Defra's Trees for Climate grant fund, supporting local tree planting and maintenance for both nature and people.

The launch of the Western Forest[43] in 2025, hosted by the Forest of Avon, is a big step towards further restoring and reconnecting our woodlands. Restoration of 1,500 hectares of existing woodland and planting of 2,500 hectares[44] will transform the landscape and surrounding counties on a scale not seen for generations.

Woodland cover

West of England

UK

Europe

Our woodland cover is 7.5%, below the UK's 13.5% and Europe's 38%

Western Forest

The Western Forest is the UK's first new national forest in 30 years, spanning Gloucestershire, Wiltshire and the West of England. Its vision is a thriving landscape of woodlands, farms and communities connected by trees. By 2050, the project will plant 20 million trees, delivering transformative, landscape-scale change, and major green investment. Through collaboration with landowners, businesses and communities, the Western Forest will create a connected, coherent and resilient landscape that celebrates heritage, supports growth, enhances access, and provides public benefits, making the region a healthy place to live, work, and visit.

Ancient woodland

Ancient woodlands are woods that have existed continuously since at least 1600, and are amongst the most ecologically, historically, and culturally valuable woodlands in England.[45] They are living links to our past and part of our cultural heritage, steeped in myth and folklore. Their gnarled and weathered wood shelters thousands of species, including saproxylic insects, one of Europe's most threatened insect communities.[46] Ashton Court's veteran trees shelter violet ground beetles and click beetles,[47] whilst the western wood-vase hoverfly[48] is found in only three locations nationally, one of them being the ancient woodland at North Somerset's Tickenham Ridge.[49] Ancient woodlands also support complex communities of lichen, which need a long time to develop, growing only 1mm to 2mm a year. There are more than 530 lichen species associated with ash trees. Lichens offer numerous ecological, medicinal and practical benefits.

Ash dieback

In the early 1990s, a few ash saplings were brought to Europe from Asia, and the fate of millions of ash trees was set. Those small saplings were infected with a fungus,[50] which then spread and is now expected to kill up to 85% of our region's ash trees. Its spores can be carried for miles in the wind, infecting new trees, causing leaves to wilt and blacken, whilst eventually fatal lesions develop. However, nationally, a small proportion of ash trees are showing a high level of tolerance and, with the right management, this offers hope that our ash population could recover.[51]

The state of our grasslands

A typical meadow can host around 1,400 invertebrate species and more than 700 wild plants, which can feed more than half a million bees per day.[52]

Lowland calcareous grassland, in particular, can support up to 40 plant species per square metre.[53] Grasslands are globally important for fungi,[54] home to nearly half of all the UK's threatened fungi species.[55]

Grassland is the dominant habitat type across much of the West of England but its quality and value to wildlife varies considerably. The region has 2,153 hectares of priority grassland, covering just 1.55% of the region. The majority of this is lowland calcareous grassland.

The West of England contains areas of grassland of outstanding ecological importance.

Among others, the following species are supported:

- Chalkhill blue butterfly
- Small blue butterfly
- Rare white rock-rose
- Somerset hair-grass
- Honewort
- Dartford warbler
- Nightjars

Bathscape at the Cotswolds' border is home to one of our biggest concentrations of species-rich grassland, home to uncommon plants, specialist butterflies and fungi. Other important areas include Lower Woods, Chew Valley Lake, and the North Somerset Levels and Moors. Ashton Court's SSSI grasslands shelter breeding skylarks, bats and the increasingly scarce green-winged orchid.[56]

"Regionally, 30% of grassland associated butterfly species analysed are declining"

While historic regional data is limited, the UK's grasslands have suffered from significant losses since the 1940s due to development, agricultural intensification, inappropriate management, woodland expansion, and neglect.[57]

Artificial fertilisers turn grasslands that were once species-rich into pastures dominated by a handful of species, whilst reduction or removal of grazing allows grasslands to be easily engulfed by scrub and woodland.[1] While tree planting can help restore nature and address climate change, a tree planted in the wrong place can damage species-rich grasslands and lead to biodiversity loss.

Nationally, more than half of all UK butterfly species are in long-term decline[58] and 2024 was the worst year on record for several species, caused by fluctuating weather extremes.

Regionally, 14% of grassland associated moth species are stable with 4% declining, including the conservation priority species buff ermine, along with marbled minor and the flame moths. 30% of the grassland associated butterfly species analysed are declining, including chalkhill blue, ringlet and small blue butterflies. The strongest declines are seen in chalkhill blue and dingy skipper.

Local records for adders are lacking, however, of those records, the Mendip Hills are shown as a rare stronghold, home to one of the largest populations in Somerset. Threatened by intense habitat loss, adders could be restricted to just a few UK sites by 2032, making them increasingly vulnerable to extinction.[59]

47% of grassland associated birds that we analysed are declining, including rook and starling. Modern grassland management is often cited as a key driver for declines in grassland associated birds, as it has made the landscape too uniform and too intensively used.

The loss of wildflowers, tussocks, wet patches,[60] and varied vegetation means fewer insects can survive there,[61] and birds in turn lose both the places they need to nest and the food they need to raise chicks.

Species-rich grasslands can return, but enabling this requires active management and the right conditions. Conservation grazing, hay cutting, and controlling scrub will help restoration. Natural seeding from nearby flower-rich meadows will preserve local character, while protecting existing grasslands. Stronger incentives for farmers to undertake these measures would increase uptake.

Local records for adders are lacking, however, of those records, the Mendip Hills are shown as a rare stronghold, home to one of the largest populations in Somerset.

Fungi

Fungi play a vital role in nutrient cycling by breaking down dead plants and other organic matter, and releasing nutrients back into the soil, which in turn helps to store carbon. Many fungi form symbiotic relationships with plants, providing nutrients in exchange for sugars, helping plants to grow, and stabilising ecosystems.

In our region, fungi continue to surprise us; in 2025 the club fungus *Clavaria calabrica* was recorded for the first time in Great Britain[62] during surveys at Haydon Batch near Radstock.

Pollinator Pathways project

Avon Wildlife Trust is working with landowners, businesses, farmers and community groups to survey land, whilst providing habitat management advice and small grants, and supporting volunteers who can restore habitats.

The project is targeting land between the Mendips and the Cotswolds which is a biodiversity or 'B'-line. Designed by Buglife, these mapped pathways criss-cross the country, creating wildflower meadow stepping stones that help pollinators move across the landscape.

Scrub habitat

Scrub includes low-growing shrubs, bushes, and saplings that can turn open grassland into woodland if left unmanaged.[63] Scrub is an essential habitat for invertebrates, reptiles, and bird species such as bullfinch, linnet, song thrush, and nightingale. It provides shelter and food sources to a range of species; however, scrub sometimes needs to be controlled to avoid loss of higher-value habitats.

Historic scrub encroachment in the Avon Gorge has swallowed large areas of limestone grassland, eliminating many rare plants. Ongoing conservation work[64] is required to manage this scrub, including conservation grazing with goats which has opened up the grassland in the gully, supporting the recovery of rare plants and insects.

The state of our coast, levels and moors

Estuaries are highly productive natural habitats.

Their shifting mudflats and saltmarshes link fish breeding and spawning grounds, they shelter migratory birds, and provide abundant food. The surrounding brackish wetlands cover just 3% of the UK but support 10% of species.[65]

Coastal wetlands can reduce flood risk, dissipate storm energy, improve water quality, and absorb carbon. Yet, historically, coastal habitats were seen as waste land, drained for settlements and agriculture, with 90% of England's wetlands becoming lost over the past 500 years.[66] They are also at risk from sea level rise associated with climate change.

The Severn Estuary spans 74,000 hectares – roughly 113,000 football pitches – and has the second largest tidal range in the world. Its vast mudflats, sandbanks, and saltmarshes support internationally important flocks of wintering and migratory birds and abundant fish. The surrounding levels and moors of North Somerset and South Gloucestershire contain nationally significant areas of lowland peat and grazing marsh habitat, and a National Nature Reserve. Important fragments of lowland fen, purple moor grass, and rush pasture are home to lapwing, redshank, snipe, water voles, rare insects, and horseshoe bats. Birds constantly move between mudflats and inland moors, demonstrating how our coast is not a narrow strip on the water's edge but part of a wide, interconnected and international living system.

The condition of the Severn Estuary and the levels and moors reflects long-term historic land use changes and growing modern pressures. Intertidal habitat areas are being squeezed between fixed flood defences and rising sea levels, made worse by low flows during drier summers, and preventing movement of saltmarsh inland.

Since the 1980s, large wetland corridors have been lost between the M5 and Royal Portbury Docks, due to industrial use, and around Portishead, due to development. Recreational pressure on the coast[67] is a key challenge with a range of activities causing disturbance of nesting and feeding birds, including dog walking.

In coastal destinations, recreational pressure is often concentrated and seasonal.

"The Severn Estuary spans 74,000 hectares – roughly 113,000 football pitches – and has the second largest tidal range in the world."

Managing this requires a combination of habitat buffering, clearly defined access routes, targeted signage and visitor messaging, particularly in areas where popular seafronts and sensitive habitats sit in close proximity.

Much of the North Somerset Levels and Moors were wetlands which have been drained and are now used for agriculture. Water quality issues resulting from sewerage outlets and agriculture runoff upstream, and within the levels and moors, have resulted in excessive nutrients.

This has reduced plant diversity, and the abundance of insects, affecting birds and mammals that rely on these food sources. Invasive species, such as Himalayan Balsam are an added pressure as they can worsen bank erosion[68] which has knock-on effects of increasing flood risks,[68] and degrading the riverbed habitats used by invertebrates and fish.[68]

Our analysis shows declines in a range of coast and wetland associated species. Black-headed gull and little grebe are declining, along with wintering species such as barnacle goose, goldeneye, and wigeons. These trends broadly reflect national concern for breeding waders and wetland birds.[69] Twenty four of the UK's 25 breeding seabird species are now red or amber listed.[69] This pattern is reflected locally, with declines seen in amber listed species black-headed gull and goosander.

"Our analysis shows declines in a range of coast and wetland associated species"

Water voles continue to be recorded across watercourses in the Gordano Valley and North Somerset Levels. Reintroductions have taken place and a recent survey has identified new connecting corridors and mink-free areas, improving prospects for this

threatened species[70]. Adders, common lizards, grass snakes, and slow worms are still present in relatively low numbers and are vulnerable to disturbance. Recent surveys have also found glow worms returning to sites not previously seen at since the 1990s, and important gatherings of Red List farmland and wet grassland birds, including curlews, lapwings, and skylarks.[70]

Avon Wildlife Trust has worked alongside farmers in North Somerset to restore five kilometres of ditches to improve spaces for nature. Changes to grazing, creating shallow pools for nesting lapwings, and careful hedgerow management, have seen breeding waders return. Water levels in parts of the Gordano Valley have been raised to rewet peat soils, improving conditions for wet meadows and reedbeds to form.[71]

"Changes to grazing, creating shallow pools for nesting lapwings, and careful hedgerow management, have seen breeding waders return"

Creating additional high-tide roosts, such as coastal lagoons, wet grasslands and shallow wetlands gives waterbirds safe places to rest during extreme tides. Tackling invasive species is also essential, along with improvements in signage, defined paths, and seasonal restrictions in key areas to balance visitor enjoyment with the needs of vulnerable ground-nesting birds.

Linking the Levels

Linking the Levels is a landscape-scale nature recovery programme spanning 17,000 hectares between the Severn Estuary and the M5,[73] led by South Gloucestershire Council, Bristol Avon Rivers Trust and Bristol Zoological Society. The programme is working to restore nature across the levels with the help of local communities. Wildlife surveying and engagement of landowners and local communities is also underway, with proposals for projects to restore nature, tackle invasive species and support community action for nature.

The Gordano Valley

The Gordano Valley sits within a National Nature Reserve and Site of Special Scientific Interest and is a mixed landscape of species-rich fen meadows, lowland peat, rhynes, carr (wet) woodland, and reedbeds. Recent surveys found more than 130 flowering plant species, 16 dragonfly species and 23 butterfly species.[72] Otters, brown hares, water shrews, and long-eared owls can also be spotted hidden amongst the grassland.

Saltmarshes

Saltmarshes are a type of coastal wetland found where land meets the sea,[74] for example, Sand Bay in North Somerset. They are home to an incredible abundance of life, including plants and animals uniquely adapted to these salty and dynamic conditions. Saltmarshes never freeze, which allows long flowering seasons and reliable foraging throughout the year. The rapid growth of plants in summer and subsequent burial at high tides during autumn means that saltmarshes are the largest intertidal blue-carbon store in the UK.[75]

The state of our rivers and lakes

Rivers, streams, lakes, and ponds are home to some of the most diverse wildlife in our landscape.

By connecting habitats, rivers are ecological arteries allowing species to migrate, find food, spawn, and breed. Our waterways also provide most of our tap water, remove flood water and waste water, carry boats and irrigate crops, whilst providing jobs and leisure activities.[76]

The River Avon is our defining waterway, supporting sea trout, sea lamprey and, in recent years, endangered Atlantic salmon. It flows 75 miles from South Gloucestershire, fed by the River Chew, River Frome, River Trym and other tributaries, to the Severn Estuary, home to endangered twaite shad and endangered European eels migrating between the estuary and river. Along its course are kingfishers, grey herons, white clawed crayfish, beavers, otters, water voles, scarce chaser dragonflies and white-legged damselflies.

Other rivers provide important biodiversity corridors such as the Land Yeo and Congresbury Yeo which influence biodiversity on the North Somerset Levels and Moors.[77] Inland, nationally important flocks of wildfowl breed at Chew Valley[49] – the largest lake in the south-west – and Blagdon lake, both Sites of Special Scientific Interest.

The River Avon has been straightened, dredged, and confined[78] for navigation, industry, and agriculture. Watercourse modification can intensify flood risk, particularly in increasingly extreme climatic conditions. Hundreds of barriers, such as weirs and culverts, prevent fish migrating to spawning and feeding areas. Some progress has been made in removing a few of these obstructions, but much more is needed.[79]

Under the Water Framework Directive (WFD), water bodies are required to reach 'good' status by meeting both ecological and chemical standards. Since 2019, none of the region's rivers met good chemical status[80] and local testing in Saltford, Keynsham, and the River Frome found around 22 pharmaceutical chemicals in a single day.[81]

Ecological condition is also poor. In 2022, no River Avon waterbody reached 'high' status, only 12% were classed as 'good', and 21% as 'poor', with most in moderate condition (65%).[82,83]

"The River Avon has been straightened, dredged, and confined for navigation, industry, and agriculture."

Based on interpretations of the unpublished 2025 WFD data, little has changed, with one new failing waterbody, and only one waterbody improving to good ecological status.[84]

Most rivers remain degraded due to physical modifications to river channels and pollution from multiple sources, including septic tanks, litter, urban run-off, and agriculture. Sewage discharges are a major pressure on river health. Both treated and untreated sewage enter our rivers daily and contribute significantly to phosphate pollution, one of the main reasons why our waterbodies fail to meet 'good' status.[85] Currently, 69% of waterbodies in the Avon catchment fail phosphate standards, with 63% linked to sewage discharges.[83,84]

Storm overflows, which release untreated wastewater during heavy rainfall, spilled for over 40,161 hours in the region in 2025.[86] Although 43% lower than 2024,[87] levels remain alarmingly high.

Climate change is intensifying these pressures. In 2024,

70% of River Avon sites had high nutrient levels,[88] linked to drought and low flows concentrating pollution. Conversely, January 2026 was the wettest on record in southern England,[89] increasing storm overflow use, and the risk of sewage discharge. Wessex Water recognised that while higher rainfall helps explain recent pollution, significantly more action is needed.[90]

Despite this, some species are making remarkable recoveries. Otters have returned to rivers that were once uninhabitable, including the Congresbury Yeo and River Avon, at the Chew, Cam, Wellow, and Bristol Harbour. Bans on industrial chemicals helped their recovery, but toxic pollutants[91] are still recorded in these animals.[92]

Beavers officially returned to the River Avon around 2021,[93] though likely earlier,[94] and numbers are probably underestimated.

"We've confirmed brown trout, have trail cam footage of visits from otters, and our sampling shows improving riverfly populations, including olive mayflies and caddisflies. Fantastic!"

Peter Coleman-Smith, volunteer, Trout in the Trym

Most occur in the River Avon sub-catchments. The River Avon also has five species of water crowfoot,[95] sheltering fish and invertebrates.

Bristol Harbour contains Atlantic herring, European plaice, Dover sole, and sea lamprey, although population trends are unclear. However, since 2000, brown trout, common roach, gudgeon, and European perch have all declined 16-19% per decade, while eel numbers have declined by 21% per decade. Nationally, eel populations have fallen to just 1% of 1980s levels by 2012.[96] Salmon populations are also at critically low levels in the River Avon.[97] Nationally, salmon could disappear from 88% of England's rivers, with 2023 recording the lowest numbers.[98]

Overall, river health remains poor and requires sustained, catchment-scale restoration. Progress is underway: since 2016, the Bristol Avon Catchment Partnership Fund has supported 29 partnership projects[99] involving restoring riparian habitats, nature-based solutions on farms, and community engagement. In 2023, the Bristol Avon Rivers Trust improved 16.9km of rivers and created five wetlands.[100] Whilst incredibly valuable, these efforts remain small-scale compared to the extent of restoration needed.

Between 2015 and 2020, Wessex Water completed 48 major investment projects[101] across the River Avon catchment to strengthen sewerage treatment and network resilience. Future work will support habitat improvements for swallows, swifts and martins, alongside sustainable woodland management, and priority habitat restoration across the whole Wessex Water area.

River health scorecards and the Riverhub[102] portal will also guide investment and action using data from Wessex Water and citizen scientists. We must recognise rivers as vital assets in planning and land management, and the importance of river and estuary connectivity at the catchment scale.

Bristol Avon Catchment Partnership

Bristol Avon Catchment Partnership (BACP) is one of over 100 catchment partnerships across England working at a catchment scale to deliver improvements to the water environment. It brings together partners with interests and influence around water quality, water flows and aquatic ecology to share information and expertise, and to co-ordinate and facilitate action to improve our region's waterways. BACP, in collaboration with Bristol Avon Rivers Trust, is developing innovative water health scorecards to better evaluate the quality of rivers and streams in the River Avon catchment.

Riverfly monitoring

Riverflies are sensitive to environmental change, so their populations can indicate water quality, habitat availability, and water flow. They form the basis of the aquatic food chain, feeding on organic matter which keeps the water clean, and are an important food source for fish, birds, and mammals. Bristol Avon Rivers Trust is the Riverfly Partnership hub for the River Avon catchment, coordinating riverfly monitoring and training sessions. Around 100 volunteers collect vital information on the health of our waterways every month.

White-clawed crayfish

The endangered, white-clawed crayfish are ecosystem engineers that help maintain healthy, clean rivers, and are an important food source for otters, heron, and fish. However, they are threatened by habitat loss, pollution, and invasive North American signal crayfish. These larger crayfish damage riverbank habitats, displace native individuals, and spread lethal crayfish plague. Bristol Zoological Society is helping to protect white-clawed crayfish by breeding and releasing captive populations at carefully selected sites across the south-west free from signal crayfish.

The state of nature in our towns and cities

While urbanisation is a leading cause of biodiversity loss,[103] urban areas can still be surprisingly biodiverse.

Urban wildflower patches can be as effective as natural meadows at supporting pollinators[104] and garden ponds can support wildlife in a similar way to larger lakes.[105]

Red foxes, hedgehogs, badgers, song thrushes, and dunnocks all reside within inner cities and suburbs. Slow worms shelter on allotments and railway embankments, whilst buildings house nesting herring gulls and lesser black-backed gulls. Bristol Docks' wetland and saltmarsh vegetation attracts cormorants and mute swans, whilst otters and kingfishers can be found along the waterways in Bath.

Green spaces in urban environments are often the most accessible natural spaces for people, bringing nature to those who might otherwise be unable to access it. They offer wider benefits too, having been shown to reduce anxiety,[106] increase happiness, improve health,[107] support community cohesion and reduce loneliness.[108] Green spaces[109] and urban trees[110] can soak surface water and cool our streets, whilst removing harmful pollutants from the air.

There are 1,803 hectares of parks and urban green spaces across our cities and towns in the West of England. Bristol, our largest urban area, is one of the most geologically diverse UK cities which supports rich biodiversity.

The West of England's urban areas have grown by 10% since 2012,[1] with ambitious plans for a further 7,750 new homes each year over the next decade to tackle the temporary accommodation crisis, alongside necessary new transport links to improve access to jobs and education.[111] Whilst urban areas can be biodiverse, urbanisation can mean natural habitat loss, soil damage, increased run-off, splintered habitats, and increased levels of light, air, and noise pollution.[112]

"Green spaces in urban environments offer wider benefits, having been shown to reduce anxiety, increase happiness, improve health, support community cohesion and reduce loneliness."

"The West of England's urban areas have grown by 10% since 2012"

Artificial lighting, in particular, can disrupt normal wildlife behaviour,[113] with several bat species found to avoid lit areas entirely.[114] Noctule, serotine, and pipistrelle bats may feed around streetlights,[115] but lighting also disrupts insect breeding, reducing food availability, with 52% fewer caterpillars in hedgerows and verges under streetlights.[116]

There are around 20.6 million gardens in Britain, but almost half are buried under paving.[117] In our region, we have 11,235 hectares of gardens spanning over 8% of the region, representing a vast opportunity for nature recovery. Improving urban river quality is also important given that 18% of UK water bodies are polluted by urban run-off,[118] including the River Frome, Malago, and Brislington Brook.[119]

Generalist, adaptable species, including red foxes, brown rats, and magpies, tend to thrive in urban areas,[120] taking advantage of food scraps in bins and on streets. Our analysis shows the red fox is likely to be increasing. In our region, hedgehog numbers are stable, which reflects national trends for urban hedgehog numbers[121] – with amenity grassland, green spaces and gardens highlighted as potential refuges, so long as they remain free to move safely between them.[121]

Garden bird feeding has boosted goldfinch numbers. Our populations have increased 146% per decade since 2000, mirroring national trends.[122] However, poor feeder hygiene can spread trichomonosis,[123] a disease that has affected several bird species locally and nationally, and attributed to declines in populations of greenfinches and chaffinches.[123]

Birds that commonly use gardens are declining overall, particularly chaffinches, blue tits, and greenfinches. Swifts have declined sharply both locally and nationally, falling locally by 32% per decade since 2000. The cause for the decline is unclear but may be due to fewer insects and/or the loss of nesting sites. Changes in climate may also have affected their wintering grounds and migration routes.

Regionally, we need more data to understand the picture for urban associated insect species. National research suggests a complex picture, with some species stable and some expanding, reshaped at a local level by climate change and urban development,[124] such as loss of planting in paved front gardens and increases in artificial street lighting.[125] Brownfield sites can support insects now rarely seen in the countryside.[126,127] Our analysis has shown lunar underwing moth and the red admiral are increasing.

Reducing and dimming street lighting is improving light pollution for greater horseshoe bats in Clevedon and Nailsea,[128,129] with similar measures being implemented in Bath and North East Somerset.

"Supporting wildlife in a highly urbanised setting depends less upon protecting rare species and more upon preventing common species from becoming rare"

Ben Barker, Chair, BS3 Wildlife Group

In Bristol, around 15% of council land is managed for nature.[130] Bristol City Council's 'Managing for Nature' project aims to increase this to 18% by 2027, through £1 million investment in local green space.[130,131] A floating ecosystem in Bristol Harbour is providing important habitats whilst helping improve water quality.[132]

Since 2021, Bath & North East Somerset Council has stopped using glyphosate weed killer[133] and it has launched a Neighbourhood Nature Area Scheme,[134] helping communities redesign local spaces for wildlife.

New homes are necessary to tackle the housing crisis, with regional population growth outpacing the UK average at 6.4% since 2020.[12] With careful design and planning, we can build better places, with sustainable communities supported by nature.

The NHBC's 'Biodiversity in new housing developments'[135] shows how simple solutions like bee, bat and swift bricks, ponds, green roofs, hedgehog holes in fences, and better tree and shrub planting support wildlife, whilst creating more attractive places.

As the West of England creates new towns and districts in key growth locations, we will ensure our nature and biodiversity are protected, and identify opportunities to support nature recovery. This will create new places that are more resilient to climate change and supportive of the wellbeing of our communities.

"New developments are necessary to provide additional homes...With careful and sensible planning, this should be viewed as an opportunity for better places, with sustainable communities supported by nature."

Emersons Green Community Nature Reserve

In 2023, Emersons Green Town Council launched a Community Nature Reserve whereby residents commit to improving their own gardens and community spaces for wildlife. By working with neighbours, these efforts will connect gardens and green spaces, forming a continuous wildlife corridor across Emersons Green. After declaring a climate and nature emergency in 2021, Emersons Green Town Council has encouraged residents to help wildlife, including providing training on using iNaturalist, and by encouraging volunteers to plant drought-tolerant perennial plants. The council is producing a new local climate and nature action plan, with consultation underway.[136]

Open mosaic habitats on previously developed land

Open mosaic habitats on previously developed land are a priority conservation habitat which consists of bare ground, grassland, wet areas, and scrub.[137] Created by disturbance, these habitats can be amongst the richest areas for wildlife in cities. Often found on 'brownfield sites', our region has 538 hectares,[138] including Long Cross Tip and Lamplighter's Marsh in Bristol where management has increased[139] moth mullein, viper's bugloss, and rare hawkweed oxtongue plants, and habitat for six-belted clearwing moths.

Bristol's Nature Together project

Eastside Community Trust, Bristol Older People's Forum, and Lockleaze Neighbourhood Trust have each secured £100,000 to deliver community-led nature projects by 2027.[140] This funding will support urban wildlife and improve access to local green spaces as part of Bristol's Nature Together Project, which is being delivered in partnership with Avon Wildlife Trust, Bristol City Council, Bristol Climate and Nature Partnership, and Your Park Bristol and Bath. A new scheme for community planting in council-owned spaces is also planned.[140]

Nature divided by transport networks

Our region's transport network allows people to move around but has consequences for wildlife.

Our roads, railways, and cycle paths fragment habitats, interrupt wildlife movement, and affect behaviour, causing 'transport severance'.

Wildlife populations become fragmented, reducing their genetic diversity, losing access to food and water sources, and increasing their vulnerability to the impacts of a changing climate. These impacts increase the risk of local extinction.[141]

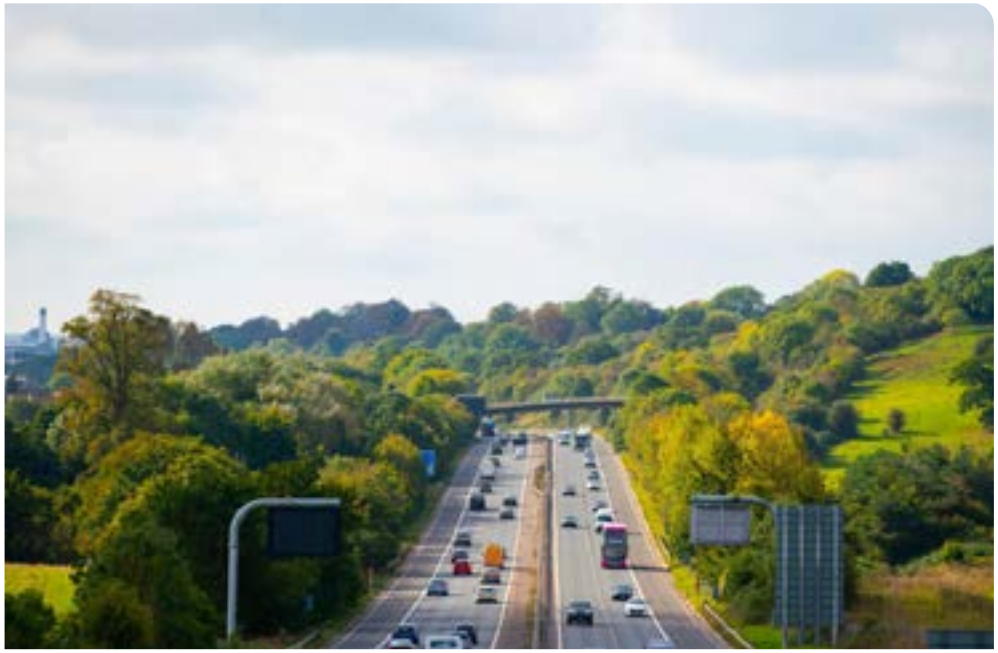
Some bird species, like gulls and blackbirds, are able to re-adjust and can survive along roads, while others, like reed warblers and wheatears, become confined to shrinking land fragments.[142] The negative impact of roads has been shown to extend over 700 metres into the surrounding landscape, through noise, collisions, pollution, and lighting – with around 70% of Britain falling within this range.[142]

Wildlife vehicle collisions are the second greatest direct cause of wildlife deaths worldwide.[143] In the UK alone, between 167,000 and 335,000 hedgehogs are killed on our roads each year,[144] with 9% of roads posing a significant risk to hedgehogs.[145]

Nationally, the highest recorded density of roadkill is along major roads[146]– those exceeding 10,000 vehicles per day - which in our region includes the M4, M5, and M32 motorways, and A-roads such as the A37 Farrington Gurney to Bristol and A4174 ring road.

In total, the West of England has more than 3,000 miles of road[147] and an expanding rail network, highlighting the risk to wildlife from transport severance and vehicle collisions.

South Gloucestershire Council is leading the way in the region for understanding the impacts of and finding solutions to this problem.



"Vehicle collisions are the second greatest direct cause of wildlife deaths worldwide. In the UK alone, between 167,000 and 335,000 hedgehogs are killed on our roads each year."

Its analysis shows the combination of railways, motorways, and A, B, and C roads have split South Gloucestershire into 209 fragments. Even with good quality habitat, this land will struggle to provide enough food, water, and shelter for wildlife or allow it freedom to move. Across these fragments, there are just 25 wildlife crossings, compared with 736 crossings for people.

Wildlife crossings take many forms, depending on species and landscape. They commonly include bridges and overpasses, tunnels, viaducts, and culverts. When implemented well, these structures reconnect divided habitats,[148] while providing safe passage for wildlife,[149] including rare and protected species. Amphibians, hedgehogs, badgers, otters, and bats have all been recorded using crossings in South Gloucestershire.

Identifying where animals must cross transport networks, and the crossings they use, is an important first step, and this is already underway in South

Gloucestershire. This evidence can guide the design of crossings on new and existing routes to reduce wildlife vehicle collisions, for example, by reducing lighting and installing road quietening measures,[150] which in turn improves road safety.[146] Restoring hedgerows, wildflower verges and native tree corridors along roads will also help limit wider ecological impacts.

These climate and ecological emergencies present profound and increasing challenges for the planning, design and delivery of transport infrastructure. In response, the West of England Growth Strategy[111] and the West of England Transport Vision[151] have established a strategic commitment to sustainable, inclusive growth, positioning better public transport and active travel, nature recovery and climate resilience as central drivers of regional prosperity. Within this context, the West of England Mayoral Combined Authority is developing a clear set of requirements for embedding climate and ecological objectives into the design and construction of transport schemes.

“Restoring hedgerows, wildflower verges and native tree corridors along roads will help limit wider ecological impacts.“

Toad crossings

Our landscape is becoming more inhospitable to toads and other amphibians. Nationally, food sources such as earthworms are declining,[152] warmer winters are reducing toad egg production,[153] and ponds are being lost or heavily polluted[154] – for example, since the 1900s over half of the ponds in the Severn Vale have been lost.[155] Added to this is road mortality, with 20 tonnes of toads killed every year,[156] many when they attempt to reach ancestral breeding ponds. This is where toad patrols can help. In 22 years, over 50,000 toads, frogs, and newts have been helped cross Charlcombe Lane[157] - a half mile stretch of road near Bath. Charlcombe Lane is one of 200 national toad patrol locations happening through Froglife's Toads on Roads project,[157,158] and is one of just five roads nationally that closes annually during the amphibian breeding season.[157]

Mobilising nature

The West of England Nature Partnership has mapped five locations along the region's motorways as high-impact wildlife crossings, to help connect the critical wildlife corridors identified in our Local Nature Recovery Strategy.

South Gloucestershire Council and Bristol Zoological Society have been recording animals using wildlife corridors to better understand our regional nature connectivity, and a full monitoring programme and data hub will help record effectiveness of existing wildlife corridors.

In Britain, 80% of land falls within half a mile of a road, making it one of the most road-dense countries in the world,[142] and traffic is expected to increase by up to 54% by 2060.[159]

Climate change

Climate change is one of the biggest drivers in the loss of biodiversity and it poses one of the greatest long-term threats[160] to our ecosystems.

Rising temperatures, shifting rainfall patterns, rising sea levels, the risk of wildfires, and extreme weather are all altering the conditions needed for species to succeed, and our region is currently not well prepared to manage these risks.[161]

Climate change and the loss of biodiversity are interlinked: a changing climate is leading to declines in species, whilst the loss of quality natural habitats reduces the ability of our ecosystems to absorb carbon and undermines our capacity to adapt to a changing climate.[162] Given the multiple complex pressures on species, there is currently insufficient data in the region to assess the exact impact that climate is having on changes to wildlife, but it is undoubtably one of the most significant factors that will become increasingly impactful over time.

Increasing temperatures are warming our ponds and drying our rivers and wetlands. They are concentrating pollution, and affecting aquatic invertebrates, as suggested in the River Avon, after a prolonged drought during 2025.[88] At the other extreme, flooding degrades and destroys habitats that species rely on[163–165] and aids the spread of invasive species,[166] which can also establish themselves more easily due to warmer temperatures. Invasive species that are now present in our region, such as signal crayfish,[167] are likely to be further aided by increased temperatures.

"When nature recovery is planned well, it can support both climate mitigation and adaptation, whilst increasing the connectivity and resilience of habitats."

Climate change is rapidly shifting nature's calendar in the UK. In 2024, 12 of 13 spring events happened earlier than before,[168] including record early frogspawn and blackbird nesting, alongside significant early hazel flowering. This is causing species to fall out of sync with usual breeding cycles and food availability,[169] risking the need for species to use more energy to find food when it is scarce.

Many species shift their range and distribution in response to climate change,[169] but other, less mobile, species may simply become extinct.[170] Several new species are gaining a foothold in our region, including the wasp spider, now colonised in Yatton and central Bristol, and the long-winged cone-head and Roesel's bush-cricket, both widely seen in this area since 2023.[1]

It's important to note that new species can increase pressure and competition on existing, native species.

Furthermore, the number and abundance of new arrivals of insects extending their range is far less than the losses of resident species and their abundance.

The increasing frequency of intense storms and rising sea levels is expected to erode and disrupt the Severn Estuary's intertidal mudflats,[171] harming its wading bird populations. Changing weather patterns impacts both habitats and species regionally.

"Climate change is one of the biggest drivers in the loss of biodiversity, and it poses one of the greatest long-term threats to our ecosystems."

Several new species are gaining a foothold in our region, including the wasp spider, now colonised in Yatton and central Bristol.

Addressing the issues of climate change and biodiversity loss together will reap the greatest benefit. When nature recovery is planned well, it can support both climate mitigation and adaptation, whilst increasing the connectivity and resilience of habitats.[172] Healthy habitats store vast amounts of carbon in plants,[173] and importantly, in soil, which globally holds three to five times more carbon than vegetation.[174,175] And peatlands, a type of wetland, store twice as much carbon as all the world's forests combined.[176]

Restored habitats in the right location can moderate floods[177] and droughts[178] by slowing water flow,[179] whilst also enhancing water quality.[180] They can also provide shade to keep our rivers and urban areas cool.[19] However, we must create the resilient habitats in the right place to avoid further biodiversity loss.

"Peatlands, a type of wetland, store twice as much carbon as all the world's forests combined."

Climate change poses one of the greatest long-term threats to our ecosystems. Strengthening habitat connectivity, restoring richer habitats, and reducing other pressures – as guided by the Local Nature Recovery Strategy – will help many species adapt.

Revitalising North Somerset's Peatlands

Revitalising North Somerset's Peatlands is a collaborative programme led by North Somerset Council, with technical partners, farmers, landowners, regulators, and conservation bodies coming together to protect the area's remaining peat. The project has mapped peat loss, tested options to rewet and conserve peat, examined flood risk, and explored how wetter land management could support viable farm businesses and wider benefits for carbon, biodiversity and climate resilience. It is building the evidence, tools and partnerships needed for informed future action across Gordano, Tickenham, Nailsea and Kenn. Project findings will be published for local communities and project delivery partners alike.[186]

Nature-based solutions

The International Union for Conservation of Nature (IUCN) defines nature-based solutions as: "Actions to protect, sustainably manage, and restore natural and modified ecosystems, benefiting people and nature at the same time".[181] Rather than relying solely on conventional infrastructure, like seawalls and concrete dams, these solutions use natural elements that are often more sustainable and cost-effective, like saltmarshes, oyster reefs, and rain gardens.

Case Study: River Frome Reconnected project

The River Frome Reconnected Project was set up in 2018. South Gloucestershire Council is working with the Bristol Avon Catchment Partnership, Wessex Water, and the Environment Agency to coordinate project partners to manage flood risk on the River Frome as well as improving biodiversity and connecting local communities to the river. The project aims to make improvements across four main themes: adaptation and resilience to a changing climate; responding to and managing flood risk; reconnecting people and communities; and reconnecting the Frome to nature.

Case study: Warming cities

The Keep Bristol Cool project[182] analysed factors which make people vulnerable to heatwaves, including sensitivity to heat due to age and health, ability to adapt, and overall exposure to outdoor and indoor temperatures. The Lawrence Hill ward was identified as the most vulnerable area due to deprivation levels, number of homes at risk of overheating and a dense urban environment with limited greenspace.

This mirrors a national study[183] which found that homes at greatest risk of overheating are often occupied by lower-income households, minority ethnic communities, and families with young children and older people. Trees and green spaces offer one solution for urban spaces, being up to 3-5 degrees cooler.[184] Regionally, our urban tree canopy cover varies from 2% to 37%, with a regional average of 15.9%. The Keep Bristol Cool framework[185] provides practical actions for cooling the city and has a specific goal on using nature for cooling streets and public spaces.

Nature and health

Only 46% of adults in England report a high connection to nature.[187]

We are seeing an intergenerational loss of nature connection; if young people cannot relate to the natural world,[188] they won't feel strongly about protecting it.

In 2022, 1.1 million fewer people experienced health benefits from spending time in nature, compared with 2020;[189] this equates to 22,000 years of healthy life lost across the UK, and this is estimated to cost the NHS £390 million to replace what nature can offer us.[189]

Spending time in nature increases happiness and optimism,[190] reduces fixation on negative thoughts,[191] and supports social connections.[192] Between 2022 and 2025, 2.5 million people participated in community gardening projects nationally,[117] with 85% agreeing these spaces bring people together.[117] Nature's benefits extend to physical health too. Lower blood pressure and resting heart rate,[193] improved immune function and reduced inflammation[194] are all linked to time outdoors, whilst physical exercise in green space may even feel easier and more enjoyable.[195]

Access to nature varies across the region. Many communities that could benefit the most are losing out. Whilst, as a region, our tree equity scores[196] are generally high, more affluent neighbourhoods such as central Bath, Clifton, Stoke Bishop, and Westbury-on-Trym score better, while denser or more deprived areas score lower. This includes Speedwell, Easton, Knowle, and Weston-super-Mare, notably Haywood Village. South Gloucestershire scores moderately well, though scoring is lower in Filton and Bradley Stoke. This broadly mirrors deprivation, highlighting priority areas for urban greening investment. A healthy environment is vital to tackling child poverty: poor housing, polluted air and limited access to nature all damage children's health, and widen inequalities.

Access to green and blue space within a 15-minute walk also varies from around 80% of households in Bristol, 88% in North Somerset, 91% in Bath, and 77% in South Gloucestershire. However, even when parks are nearby, access is not always equal.

"Spending time in nature increases happiness and optimism, reduces fixation on negative thoughts, and supports social connections."

Research from Bristol found ethnic minority communities are 40% less likely to use local parks,[197] despite living nearby, often due to feeling unsafe, unwelcome, or that spaces are not designed for them. Nationally, Black and Black British adults are also significantly less likely than White adults to live within five minutes of a green space.[198]

Outdoor swimming is becoming increasingly popular for its mental and physical health benefits,[199,200] and increased feelings of connectedness to nature.[201] However, more than 70% of people say outdoor swimming has increased their concerns about water pollution.[201]

Our regional bathing water quality, for designated bathing waters, shows a mixed picture.[202] The private Henleaze Lake achieved 'good' and 'excellent' status since 2014, while the water in Weston Bay ("Weston Main") repeatedly scored 'poor' from 2022 to 2025.[203]

In contrast, Clevedon Beach has improved significantly, moving from frequent 'fails' in 1980s to a consistent 'good' status after 2015.

The West of England is well-placed to strengthen the connection between health and nature through its Growth Strategy, Child Poverty Action Plan, and Bristol's Nature Together project.

Bristol's Nature Together project will build community capacity to take action for nature, improve access to and connection with nature, and bring partners together to test new ways of funding community-led nature projects.

Between 2024 and 2026, the Nature Health Hub project, funded by the West of England Mayoral Combined Authority, developed nature-rich green spaces in primary care settings. Another initiative, the Healthier with Nature Green Social Prescribing pilot project,[204] connected people to nature-based activities, including through NHS social prescribing pathways.

This is to improve mental and physical health, reduce loneliness, and help ease demand on health services and improve equitable access to nature. Green Social Prescribing is an initiative that commonly involves organisations supporting people with complex health needs to develop green skills and opportunities for volunteering or paid work.

In a study of 14 European countries, Britain was ranked bottom for its 'nature connectedness'[205] and is one of the most nature depleted countries on the planet.[206]

Nature Health West and Healthier with Nature

Nature Health West[204] is a partnership of organisations across the West of England with the shared vision that everyone should have the opportunity to engage with nature in order to stay well, and as part of their healthcare.

The partnership worked together on the national Healthier with Nature programme, which is funded by the UK Government and the NHS, delivered across 7 test and learn sites in England. The programme helped people improve their health and wellbeing by connecting them to nature-based activities through social prescribing. In Bristol, North Somerset, and South Gloucestershire, it funded more than 90 projects and supported more than 4,000 people to take part in activities such as walking, outdoor swimming, and the creative arts for outdoor connection.

Case study: Avon and Wiltshire Mental Health Partnership NHS Trust

The Trust's green social prescribing activities are helping patients connect with nature as part of their recovery. One individual's story saw him getting involved with the programme while receiving care in a psychiatric intensive care unit. Through taking part in nature-based activities and regular guided walks, he showed steady improvements in his wellbeing and engagement. As his recovery progressed, he moved from intensive care to the acute ward, and later to a rehabilitation ward.

Trust staff observed that the nature walks had a particularly positive impact, helping him reflect on his wellbeing and develop practical ways to support his own self-care. Nature is now expected to remain an important part of his ongoing recovery. Recognising his progress and enthusiasm, the team has identified this person as a potential peer nature worker, and he has expressed interest in supporting similar activities for others in the future. He said: "It's like the Natural Health Service, I always feel better for being outside… being here in nature is more therapy than therapy".

“Working as a volunteer here gives me a real sense that it’s possible to get nature to come back, for it to recover.”

Juliette Millard, volunteer for Somer Valley Rediscovered

“People get quite frustrated with the amount of rubbish and damage that’s been caused to the environment in recent years. What we say to them is just start to make it better. Just do something small and it will grow from there. And you’ll see that you’re making a difference very quickly.”

Liz Viggars, volunteer for Trout in the Trym

“We now have an abundant population of slow worms, more diverse wildflower meadows, a thriving community orchard, and a community so proud of the place they call their ‘local gem’”

Martin Grant, volunteer for Manor Woods Valley Group

The power of communities

Widespread local action by individuals and communities can reshape the future for our wildlife, and pave the way for landscape-scale, systematic change.

Regardless of its size, any garden can help wildlife.[207] Avoiding pesticides, choosing pollinator-friendly plants, or using peat-free compost are all small wins for nature. Adding features like wildlife ponds, compost heaps, log piles, and holes in fences will encourage wildlife to return - from dragonflies and newts to slow worms, song thrushes, and hedgehogs.

Taking part in campaigns like Do Nothing for Nature and No Mow May mean sometimes doing less is best. Leaving stems, seed heads, and leaf litter over winter will benefit beetles, insects, and help improve the soil in time for spring.[208]

Everyday choices have a powerful, if often unnoticed, impact on nature.

Using public transport, composting food, recycling waste, using energy efficient appliances, and conserving water can help reduce pollution and pressure on natural systems. Consumer purchasing power also has real influence with growing demand for nature-friendly products,[209] driving businesses towards more sustainable approaches. Where possible, buying pre-loved items or choosing products that don't harm the environment, like cleaning products free from harsh chemicals, also helps to reduce the negative impact on nature.

Volunteers are fundamental to the work of nature charities and conservation organisations. Without voluntary help, many organisations would simply be unable to operate. Irrespective of age, skills, availability, or location, there is a vast number of ways to volunteer and make a meaningful contribution in our region.

The West of England is home to Your Park Bristol and Bath, Avon Wildlife Trust, the Natural History Consortium, and Avon Needs Trees, to name just a few. These charities offer various volunteering roles from habitat creation to wildlife surveying, running events, campaigning, and leading nature walks, all of which help local wildlife in different ways.

Local community groups are also a crucial part of conservation by building stewardship and sharing invaluable knowledge of local habitats and species.

"Taking part in campaigns like Do Nothing for Nature and No Mow May mean sometimes doing less is best."

By injecting fresh ideas, practical action, and community engagement, these groups can transform forgotten spaces into wildlife havens. Across the West of England, wildflower alleyways, pocket parks, and community allotments are flourishing thanks to local communities coming together to take action on their doorstep.

Everyone can play their part in restoring nature across the West of England. Farmers, landowners, charities, community organisations, businesses and residents can all make a difference. The West of England Action for Nature map[210] shows what action is already being taken across the region.

"Across the West of England, wildflower alleyways, pocket parks, and community allotments are flourishing thanks to local communities coming together to take action on their doorstep."

Wildlife data is essential for driving nature recovery, which is why we are developing the West of England Wildlife Index. Without reliable, long-term evidence, it is difficult to understand how species and habitats are changing, or to justify any interventions. Because no single ecologist or organisation can gather data at the scale required, we rely on citizen science and our natural history community.

Long-established specialist groups, such as the Bristol Naturalists' Society, and the Bath Natural History Society, provide high quality, expert verified records that strengthen our understanding of local wildlife. Broader initiatives like the City Nature Challenge[211] and Bristol Avon RiverBlitz[212] enable large scale participation from non specialists, adding breadth to regional data.

Together, these contributions create the robust evidence base needed to support nature's recovery across the West of England.

"Enhancing wildlife for any space - big or small - depends largely on two factors: wildlife friendly features such as trees, water, and no poisons etc in the space itself, and similar features and corridors in the surrounding neighbourhoods."

Ben Barker
Chair, BS3 Wildlife Group

Community action at the Heart of BS13

Heart of BS13 is a Hartcliffe-based charity working in one of the most deprived areas in Bristol and the UK, where fewer than 2% of young people progress to higher education.[213] Founded by residents 36 years ago, it combines environmental action with tackling other issues faced by people in Withywood and Hartcliffe.

To address the ecological emergency, more than 1,000 local young people worked with Heart of BS13 to co-produce a community-led climate action plan.[213] This emphasised the fact that local people know what their community needs, and that any suggestions for changes should come from within the community. This led to the creation of a sustainable flower farm producing native, low-carbon flowers which is supported by local volunteers and offers residents access to training and horticulture qualifications, with a focus on soil health and biodiversity.

Heart of BS13 also has the Roundhouse, a hub for community-led action, and a Closed-Looped Club where volunteers teach residents about composting at Hartcliffe City Farm, a 30-acre, no-dig, plastic and chemical-free site.

Green skills in the West of England

All sectors of industry are now identifying the new green skills and jobs they need to reduce the negative impact they have on the natural environment.

Voluntary and community groups provide an effective way for individuals to develop their knowledge, skills, and confidence within the environmental sector, in an informal setting, which can then prepare them for 'green' jobs.

The Skills Connect directory provides an easy way to search for nature-related volunteering opportunities[214] within the region, and the 'Career Pathways in Nature Recovery' roadmap[215] provides details on the different training routes into green careers available in the region.

The power of businesses

Every business depends on nature, and collectively the private sector can have significant impact on nature's recovery.

Whether directly through land, water and raw materials, or indirectly through supply chains, workforce health, resilient infrastructure and the quality of the places in which people work and invest, nature underpins long-term business success. For a growing number of sectors, understanding these dependencies and impacts is now a core business resilience issue, rather than a voluntary exercise in sustainability.

Current economic and financial systems still incentivise nature degradation,[216] creating material risks for businesses through supply chains, infrastructure, regulation, and market confidence. Companies are increasingly expected to understand, disclose, and respond to their nature-related dependencies and impacts. Frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD), alongside emerging UK and EU reporting standards, are helping embed nature into governance, risk management, and board-level decision making. This direction is also increasingly reflected in UK policy,[217] recognising how business investment in nature is essential to long-term growth, resilience, and productivity.

For businesses that are willing to lead the way, this also represents an opportunity for growth. Analysis from BloombergNEF and TNFD[218] shows that UK nature-based industries already generate £2.2 billion in annual revenue, they support more than 21,000 jobs, and they have attracted £2.8 billion in private investment.

These markets span restoration, biodiversity services, nature technology, finance, reporting, and visitor economies, and have strong potential for growth as demand for nature-positive

solutions increases. Consumer expectations are also shifting, with 62% of UK adults regularly using certification labels to inform purchases, and 38% willing to pay a premium for products that protect UK wildlife and nature,[219] further reinforcing the market advantage of credible nature-positive products and services.

The West of England is well placed to contribute to, and benefit from, this opportunity, with strong links to priority growth sectors including digital, creative, and cultural industries. Existing regional strengths in ecological data, AI-enabled monitoring, remote sensing, and environmental reporting tools provide strong foundations for innovation and enterprise.

As demand grows for biodiversity monitoring, ecological design, green infrastructure, and nature-based finance, this creates practical opportunities for farmers, land managers,

SMEs, and rural enterprises to generate new income alongside existing activity, through land management services, project delivery, environmental reporting, visitor economies, and emerging nature markets.

The business case also extends into workforce performance and the quality of local place. Greener, healthier working environments can improve employee wellbeing, reduce sick leave, and help to attract and retain talent.[24] Investment in local green spaces can improve footfall, and enhance the attractiveness of places for staff, customers, and investors. For many sectors, this is also a form of productivity insurance - reducing long-term climate, infrastructure, and place-based risks, while strengthening trust, reputation, and social licence.

In the West of England, Bristol Business Improvement District is investing in a greener and more resilient city centre through wildflower meadows, green walls, planters, and will publish a new Green and Blue Infrastructure Action Plan in Summer 2026.

These investments improve the city centre environment for workers and visitors, while strengthening the area's identity, resilience, and commercial appeal. Regional businesses can also engage in networks like the Bristol Climate and Nature Partnership for peer-to-peer learning and support, while the West of England Mayoral Combined Authority's Nature and Business Resources Kit[220] is designed to help SMEs begin, or accelerate, their nature-positive transition.

Businesses that act early have a powerful opportunity not only to manage risk, but to unlock innovation, strengthen place, support local communities, and help shape a more resilient regional economy.

UWE Bristol

UWE Bristol has created edible pollinator-friendly planting across its university sites to support insects whilst providing access to free herbs, fruit and vegetables. The award-winning 'Beeline' brings nature into the heart of the campus and focuses on how staff, students, and the public engage with nature to support positive change, and to improve health and wellbeing. The Beeline includes a 'restoration garden' with passive and active opportunities to connect with nature, which is important during students' exam periods.

Storm Consultancy's Co-forest

Storm Consultancy, a digital technology agency based in Bath, created 'Co-forest,' which enables local companies to sponsor plots of land on which native, locally sourced trees are planted. Staff from sponsoring companies, as well as members of the public, take part in planting days. This has seen 10,000 trees planted across 11 acres in South Gloucestershire, with around another 20 acres planned for winter 2026 near Warleigh Weir. Volunteers from local organisations can enjoy the wellbeing benefits of spending time in nature, whilst learning about the importance of native mixed species woodlands for biodiversity.

The power of landowners and farmers

Farmers, landowners, and land managers can play a significant role in reversing the decline of nature across the West of England.

Around 57% of the region is agricultural land, meaning the choices made across farms, estates, and other managed landscapes will be critical to whether nature recovery succeeds.

This transition must be grounded in the realities that farm businesses now face. Recent research[221] shows that many are operating under intense pressure from volatile input costs, climate extremes, changing markets, supply chain pressures and continuing uncertainty around agricultural policy. In this context, nature-positive land management cannot be framed as an optional extra, or as an act of goodwill. It must make sense as a long-term business decision that strengthens resilience, supports productivity, and helps diversify income.

Restoring soil health, integrating trees, protecting watercourses, managing hedgerows and creating space for pollinators can reduce dependence on costly artificial inputs such as pesticides, synthetic fertilisers, and irrigation and drainage infrastructure. It can also improve water retention, reduce erosion, and strengthen resilience to drought, flooding, and temperature extremes. Evidence from recent UK studies[222] shows that nature-friendly farming, such as agroforestry, can improve profitability by up to 45%, depending on farm type, while also strengthening yields and reducing exposure to future risks. This matters not only for individual farm businesses, but also for long-term food security and rural productivity.

Government policy is central to creating these conditions. Schemes such as the Sustainable Farming Incentive (SFI), Countryside Stewardship Higher Tier, and Landscape Recovery are important tools for helping farmers to integrate nature into viable business models. This includes soil health and water management through to habitat restoration and large-scale landscape change.

The overriding needs from the sector are clarity, confidence, and long-term consistency - so that land managers can make decisions that take effect over decades, rather than seasons.

Increasingly, the strongest opportunities come through diversified business models. Alongside food production, farmers and land managers are beginning to generate income through managing habitat, creating woodland, Biodiversity Net Gain, nutrient mitigation, carbon, flood management, eco-tourism, education, and blended finance models.

There are encouraging examples already emerging within the region. Lower Chew Landscape Recovery shows how former agricultural land can transition into a more diverse and resilient landscape. This is through a blended income model that combines public funding, private finance, donations, and future Biodiversity Net Gain revenue, while also reducing flood risk, and improving habitat connectivity.

Belmont Estate in North Somerset offers a complementary example, demonstrating how woodland, wetlands, grazing, Biodiversity Net Gain, and corporate partnerships can work together to create a more resilient and diversified long-term rural business model.

Farmers, landowners, and land managers are therefore not simply participants in nature recovery; they are central to shaping the future resilience, productivity and ecological health of the region.

The Chew, Cam, and Wellow Farm Cluster

The Bristol Avon Rivers Trust is bringing farmers and landowners together to share knowledge, receive expert tailored support, and restore nature across the Cam and Wellow, and Chew catchments, as part of their Farm Clusters project, which is funded by the West of England Mayoral Combined Authority.

At New Barn Farm in Whitchurch, fencing and native tree planting along the River Chew has created a natural buffer between grazing livestock and the river, helping to reduce soil erosion and nutrient run-off, and coppicing has created a varied woodland with scattered light that allows wildflowers to grow.

Agroforestry

Agroforestry is the integration of trees into the farming system while maintaining agricultural production.[223] The two main types of agroforestry are in field systems, where trees grow among crops or livestock, and around field systems, including hedgerow trees, windbreaks and riparian buffers.[223]

Agroforestry often provides benefits to farming production and outputs by providing additional income streams, reducing impacts from extreme weather conditions, and enhancing crop production through improving soil health. Wider environmental benefits include carbon capture and storage, improved water and air quality, as well as protecting soil, rivers, and biodiversity.

Working with government

The UK Government has made legal commitments to reverse nature loss.

Under its flagship Environment Act 2021,[224] the UK Government set legally binding targets to halt wildlife loss by 2030 and increase wildlife by at least 10% by 2042.

It also committed to creating local nature recovery strategies across England, forming a connected nature recovery network on land and sea.

Government at national, regional, and local level has a unique ability to shape the conditions in which nature recovery either succeeds or stalls. Through policy, regulation, planning, investment, and the management of public assets, the state sets the rules, incentives, and confidence that influence how businesses, land managers, communities, and investors act.

A core role of government at every level is to manage trade-offs across housing, economic growth, food production, infrastructure, climate resilience, public services, and nature recovery. It will not always be possible to protect every habitat in every location.

The power of government lies in making these choices intentionally, transparently, and based on strong evidence, so that nature recovery is embedded within wider decisions rather than treated as an afterthought. National policies such as the Land Use Framework,[225] alongside the strengthened biodiversity duty[226] on public authorities, signal a shift towards integrating nature into decision making.

At the national level, the priority is to provide clarity, consistency and confidence. This includes the frameworks within which businesses, farmers, infrastructure providers and local government can contribute to the long-term targets set out in the Environment Act. As noted in the previous section, schemes

such as the Sustainable Farming Incentive, Countryside Stewardship, and Landscape Recovery are central to enabling viable nature-positive land management. Planning and infrastructure reforms, including Environmental Delivery Plans[227] and the Nature Restoration Fund,[228] will have major implications for nature recovery, although it is still too early to assess their full impact.

National government also shapes the economic and market conditions for nature recovery.

At the national level, the priority is to provide clarity, consistency and confidence.

Frameworks for Biodiversity Net Gain, nutrient mitigation, carbon, and other nature markets, alongside fiscal incentives, procurement, infrastructure standards, and innovation funding, can all help make nature-positive choices lower risk and more commercially attractive.

Regional government has a particularly important role in aligning nature with growth. In the West of England, the Mayoral Combined Authority can help ensure that the Local Nature Recovery Strategy, Spatial Development Strategy, transport planning, housing delivery and investment pipelines work as part of a coherent system. The Spatial Development Strategy is a major opportunity to align housing, economic growth, climate resilience, and nature recovery through strategic, evidence-led choices about where growth and restoration should happen in the long term. This is where nature becomes recognised as critical infrastructure: by reducing flood risk, improving place quality, supporting health, strengthening rural productivity and de-risking future development.

The regional level is also critical for building the enabling systems that allow action to scale, including shared ecological data, monitoring, green infrastructure standards, and coordinated investment propositions.

Local government has equally powerful practical levers through both its regulatory functions and its own systems and operations. Through local plans, development management, highways, and flood risk management, councils directly shape how land, growth and infrastructure are all managed. Public bodies also have significant influence through their own estates, procurement, commissioning and wider service delivery - creating opportunities to embed nature-positive standards into asset management, public health, schools, transport corridors, and local supply chains. The Biodiversity Duty reinforces the expectation that biodiversity should be considered across all these functions.

The power of government lies in its ability to create the policy certainty, spatial alignment, and market confidence that allow nature recovery to scale.

When these conditions are in place, the actions of businesses, farmers, investors, and communities can move faster and deliver the resilient, nature-positive growth on which the West of England's future depends.

The South Gloucestershire flood demonstrator project

This project aims to develop a business case for a nature-based intervention to reduce flood risk in South Gloucestershire, enhance nature recovery, and deliver benefits for people and the environment. Working with Defra to identify opportunities to improve cross-governmental action, it will test collaborative approaches, unlock funding, and act as a demonstrator for future schemes. The work includes designing and locating nature-based solutions, assessing their impact on flood risk under future climate scenarios, evaluating biodiversity and natural capital benefits, and exploring funding options, including innovative approaches.

Our vision for the West of England

Biodiversity loss, ecosystem collapse, and climate change are multi-generational challenges that will require a societal response - now, and into the future.

This report shows a region at a crossroads. Strong trends in some species populations reflect a landscape that is under pressure and the remaining uncertainty is a warning signal. It tells us that our wildlife is holding on, often in fragmented and strained habitats, but that with the right interventions we can stop declines and tip the balance towards recovery.

The report demonstrates the action that many within our region are already taking and shows the positive impact that sustained collaborative action can have.

Nature's own economy is increasingly being recognised as the foundation that supports our economic resilience, our health, and enables sustainable growth. Our vision is for a region where nature is woven back and restored into the fabric of everyday life — we want the West of England to be a place of reconnected landscapes, where people and nature can thrive side by side, through a joined-up network of natural habitats and wildlife corridors, and greener, more resilient neighbourhoods - wherever we live.

Nature recovery cannot be delivered by any single organisation. It depends on a shared commitment across the region. Communities, land managers, businesses, and government can shape a future in which nature is not simply surviving but thriving.

Communities bring energy, stewardship, and local knowledge. Farmers and landowners play a central role in shaping habitat quality. Businesses contribute innovation and investment.

The West of England is in a great position to bring about this change – we have a clear strategic direction laid out in our Local Nature Recovery Strategy and we have strong partnerships already working together towards large-scale interventions for nature.

We now need to work differently: aligning prosperity with nature recovery, unlocking new sources of investment, creating effective cross-cutting collaborations and embedding nature into the decisions that shape our places and our economy.

We all have a part to play in restoring nature, and we can all reap the benefits.

Methodology

Wildlife Index

To estimate the trends for different species (known as 'abundance') the counts for those species were modelled over time in the West of England. The observations used were collected between the years 2000 and 2025: this time frame was chosen so the analysis reflects present day trends.

The results show the rate of change in abundance per decade. In other words, the models answer the question: "how fast is the population of each species growing or shrinking in our region since the year 2000?". Trends for each species were classified based on how strongly the model indicates that population of a species is changing.

Four models were used in our analysis, one for each group of species: birds, fish, insects and mammal. Each group had the following number of species and observations: birds (165 species, 43,519 observations), fish (8 species, 111 observations), insects (265 species, 7,919 observations), and mammals (18 species, 2,289 observations).

All the data used in the analysis was collected systematically. This means that the surveys were designed to account for biases that can arise from the recording process. Data was required to have a measure of recorder effort, such as the duration of a survey or the distance covered.

We are grateful to the following organisations and their volunteers, whose data is used in the analysis and made this report possible: the British Trust for Ornithology (BTO) for Breeding Bird Survey and Wetland Bird Survey data; the Bumblebee Conservation Trust and their BeeWalk project; Butterfly Conservation's Big Butterfly Count and UK Butterfly Monitoring Scheme, with assistance from the Bristol Regional Environmental Records Centre; the Garden Moth Scheme; the National Bat Monitoring Programme (NBMP), which is run by the Bat Conservation Trust; the People's Trust for Endangered Species (PTES) for their National Dormouse Monitoring Programme (NDMP) and Living with Mammals datasets; the Riverfly Partnership; and Defra for data on freshwater fish and invertebrates.

Species abundance was modelled using Bayesian multi-level models in R. Abundance was modelled as log-transformed counts, with year as the predictor variable and random effects allowing each species to have its own average abundance and trend over time. Differences in survey effort were accounted for when estimating abundance using an offset.

Additional terms were included to account for temporal autocorrelation (observations close together in time being more similar) and spatial autocorrelation (observations from nearby locations being more similar). This modelling approach improves the reliability of the results by accounting for differences among species, variation in survey effort, and similarities between observations collected close together in time or space.

2026 is the first year of analysis for the West of England Wildlife Index. The model will continue to be refined over time to refine outputs and reduce statistical uncertainty.

Regional calculations

(i) Woodland cover

This dataset was clipped in QGIS Version 3.22.8 to the West of England region boundary including North Somerset, and filtered to include only assumed woodland, broadleaved, conifer, low density, mixed mainly broadleaved, mixed mainly conifer, shrub and young trees.

(ii) Grassland cover

The West of England's grassland cover was calculated using the Priority Habitats Inventory (England) dataset [accessed 4 March 2026]. This contains priority habitats identified in the UK Biodiversity Action Plan and listed as being of principal importance for the purpose of conserving or enhancing biodiversity, under Section 41 of the Natural Environment and Rural Communities Act (2006). The dataset was clipped in QGIS Version 3.22.8 to the West of England Mayoral Combined Authority boundary, including North Somerset, and includes Good quality semi-improved grassland, Good quality semi-improved grassland traditional orchard, Lowland calcareous grassland, Lowland calcareous grassland maritime cliff and slope, Lowland dry acid grassland, and Lowland dry acid grassland lowland heathland.

(iii) Urban habitats (Land use)

The West of England's urban greenspace was calculated using the OS NGD Land Theme [accessed 11 March 2026] in QGIS Version 3.22.8. This dataset contains point, line, and polygon features depicting land cover and land use information. Our area of 'parks and urban green spaces' was calculated using the 'Outdoor amenity' OS NGD Land Theme in QGIS and Python. This is defined as 'Locations provided to allow public access to the outdoors, where the majority of the space is not dedicated to sport. Includes play areas, public parks and gardens, paddling pools, picnic areas, pitch and putt courses, and generic amenity and open space sites'. The region's residential garden coverage was calculated using 'Residential Garden' OS NGD Land Theme in QGIS and Python.

(iii) Access to green and blue space in England

Each of the Local Authority's access to green and blue space was calculated using the Department for Environment, Food and Rural Affairs (Defra) dataset 'Access to green and blue space in England' [accessed March 2026]. This dataset shows household access to at least one green or blue space within a 15-minute walking distance, using an improved methodology. The results were filtered by Local Authority Districts (LAD25NM) for Bristol City Council, Bath & North East Somerset Council, North Somerset Council, and South Gloucestershire Council. The percentage of households with access by dividing the total 'uprn_in_commitment' by the total 'total_uprn' and multiplying by 100.

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We all have a part to play
in restoring nature, and we
can all reap the benefits.